

H.P.B.

FOR OFFICIAL USE ONLY.

*Not to be communicated to anyone outside H.M. Service.*

**ADMIRALTY**  
**FLEET ORDER**  
**VOLUME.**

---

**1910—1929**  
**inclusive.**

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FLEET ORDER  
VOLUME.

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(CONTAINING ALL NON-CONFIDENTIAL ORDERS  
PROMULGATED UP TO THE END OF THE  
YEAR 1929, AND REMAINING IN FORCE.)

ADMIRALTY,  
June, 1930.



ADMIRALTY, S.W.I,  
June, 1930.

Those Orders issued up to 31st December, 1929, which it is considered essential to retain in print for reference, are reissued in accordance with the Instructions on the opposite page, to which special attention is directed.

The Orders in this Volume have not been generally revised, but are reprinted from previous issues.

The 1910-1926, 1927 and 1928 Volumes (both Confidential and Non-confidential) and the Weekly Issues during the year 1929 are superseded by this Volume and should be dealt with as directed in para. 30 of the "General Instructions" (opposite).

Amendments to the King's Regulations and Admiralty Instructions are printed in a separate "K.R." series.

By command of Their Lordships,

A handwritten signature in black ink, reading "O. Murray". The signature is written in a cursive style with a long, sweeping tail on the final letter.

*To all Commanders-in-Chief,  
Flag Officers, Senior Naval  
Officers, Captains and  
Commanding Officers of  
H.M. Ships and Vessels,  
Superintendents or Officers  
in charge of H.M. Naval  
Establishments and Ad-  
miralty Overseers concerned.*

# ADMIRALTY FLEET ORDERS.

(New System commenced 1st January, 1921.)

## GENERAL INSTRUCTIONS.

All orders, instructions, or other communications from the Admiralty having application to more than one ship, Squadron or Naval Establishment, or to the various Admiralty Overseers, are promulgated in the Admiralty Fleet Orders (short title A.F.Os).

2. **Specially Urgent Orders.**—Any very urgent order of general interest, which cannot await the next ordinary issue, may be printed and issued specially.

If of such urgency that it cannot be dealt with as above, an order may be sent by letter to Naval Authorities at home, or by telegram if involving danger to H.M. Ships or to life. Any such order, however, will be included in the next issue of A.F.Os.

3. **Every recipient** of the A.F.Os is also to be supplied with the relative annual edition and with the monthly A.F.O. Index, as detailed below (*see* paras. 23–26 for general supply arrangements).

4. **Action.**—The officers concerned are to act upon these orders without waiting for formal directions from their Commander-in-Chief, Superintendent, or Senior Officer, any necessary reports, etc., being forwarded through the usual Service channels.

5. **“For Official Use only.”**—The Admiralty Fleet Orders (except those issued confidentially) are marked “For Official Use only.”

A.F.Os are, therefore, not to be divulged to anyone outside H.M. Service, but the Admiralty reserves the right to communicate to the public press any order of general interest which may be published without detriment to the service. Such orders are distinguished by an asterisk before the A.F.O. serial number.

6. **Confidential A.F.Os** (*i.e.*, Orders which ought to be seen only by Officers) are promulgated in a separate confidential print but are numbered in one series with the A.F.Os, a note “Issued Confidentially,” being inserted in the “Official Use” print.

**“Gunnery,” “Torpedo,” etc., Matters.**—Up-to-date information contained in technical C.A.F.Os is sometimes withheld from the knowledge of ratings of the departments concerned who are serving in ships not directly affected by these orders. Such information should, however, be communicated to a sufficient extent to ensure that ratings so serving should, in the event of transfer to a ship which has been affected by the orders, have an adequate knowledge of recent developments embodied therein.

## WEEKLY EDITIONS.

7. A.F.Os are printed every Friday.

8. **“Fleet Edition.”**—For the convenience of H.M. Ships a weekly “Fleet Edition” is printed. Orders applicable only to civilians or which affect only Civil Establishments (*i.e.*, those printed under the “Civil Establishments” heading) are omitted from this edition.

9. **Diagram Issue.**—Drawings and diagrams referred to in the Admiralty Fleet Orders (O.U. Series) are issued separately and given a serial number, those referred to in C.A.F.Os being attached to the Orders.

10. **Notice Board Copies.**—Orders dealing with pay, allowances, uniform or other matters of general interest to the Fleet are reprinted in poster form for display on Ships' Notice Boards. Certain Orders such as the disposal of canteen funds are printed in this issue only.

11. **"S" Series.**—Orders relating to Signal matters are printed in a separate series numbered S 1, S 2, etc., and are issued separately each Friday as necessary. A.F.Os in this series still remaining in force are reprinted each year except certain corrections to Signal Publications which remain in force until definitely cancelled.

12. **"A" Series.**—Admiralty decisions upon proposed alterations and additions to ships are promulgated in the "A" Series of A.F.Os. These are printed every Friday and issued to H.M. Dockyards, Repair Bases, and the Admiralty Repair Overseers only.

13. **Sale Copies.**—A separate quarterly edition containing only Orders marked \* (*see* para. 5) is made public and placed on sale. Copies can be obtained through any bookseller or direct from H.M. Stationery Office.

#### ANNUAL VOLUMES.

14. All A.F.Os which it is considered essential to retain in print for reference at the end of each calendar year and which have not been incorporated in the King's Regulations or other books of Instruction by means of Addenda or otherwise, are reissued in volume form; the Confidential A.F.Os being bound separately.

15. The titles Confidential Monthly Order (C.M.O.), Monthly Order (M.O.), Gunnery Order (G.O.) and Torpedo Order (T.O.) are abolished, all Orders now being known as Admiralty Fleet Orders (A.F.Os) and Confidential Admiralty Fleet Orders (C.A.F.Os).

16. To bring the old system of C.M.Os into line with the new procedure all old C.M.Os still in force have been reissued with the letter "C" placed after the serial number; thus, A.F.O. 1246C/1919 would be old C.M.O. 1246/1919.

#### INDEXES.

17. **Annual Volume.**—The index is printed at the end of this volume.

18. **"Admiralty Fleet Order Index"**—revised and reissued every month—includes all A.F.Os and C.A.F.Os promulgated since the latest annual volume, and a list of the Orders superseded, and therefore cancelled, by a later Order on the same subject.

19. **"S" Series.**—The alphabetical index of all A.F.Os of the "S" series remaining in force is revised and reissued from time to time as necessary.

#### CANCELLED AND REVISED ORDERS.

20. **Cancelled Orders.**—Lists of Orders superseded by later Orders on the same subject (and therefore cancelled), are printed and bound with the current A.F.O. Index.

21. **Revised Orders.**—When a lengthy A.F.O. is superseded by a revised Order, any new or altered matter in the latter is indicated by a heavy line in the margin.

22. This procedure is not used for Admiralty Fleet Orders reissued in a consolidated form without substantive addition, nor to indicate merely verbal amendments, and it does not apply to short Orders.

SUPPLIES, ETC.

23. **Number of Copies.**—The A.F.Os, C.A.F.Os, and Monthly A.F.O. Index are issued in numbers sufficient to allow all Officers in charge of Departments in H.M. Ships to maintain a complete series, and are to be distributed in accordance with the scales of distribution shown below. Scales of distribution are also shown for the "S" series and for the "A" series. Any failure to receive supplies, or the receipt of copies in excess of requirements, should be reported to the Secretary of the Admiralty (E.F.O.).

**A.F.Os, Monthly Index, Diagram Issue and C.A.F.Os.**

	Number of Copies.		
	<i>A.F.Os and Index.</i>	<i>Diagrams.</i>	<i>C.A.F.Os</i>
Flag Officers and Staffs .. .. .	6	4	6
Commodores and Staffs .. .. .	3	3	3
Captains (D) and Staffs .. .. .	4	3	4
Battleships, Battle Cruisers, "Hawkins," "Cumberland" and "London" Class Cruisers, Aircraft Carriers and Depôts for Destroyers or Submarines .. .. .	16*	6	8
Other Cruisers .. .. .	10	5	8
Submarine Depôt Ships—Additional for each Submarine .. .. .	1	1	1
Monitors (Large) and Mercantile Fleet Auxili- aries .. .. .	4	2	4
Destroyers, Monitors (Small), Sloops and Sur- veying Vessels .. .. .	2	1	2
Registered R.F.As .. .. .	2	—	—
Ships in Reserve :—			
Parent Ships .. .. .	10	4	6
Tenders .. .. .	1	1	1
Auxiliary Patrol Vessels .. .. .	1	1	1
Hospital Ships .. .. .	3	1	3
Naval Establishments .. .. .		(as requisite)	
Overseers .. .. .	1	1	1

\* The Commanding Officer is responsible for distribution within the ship as he thinks fit, but the number approved provides one copy for each of the following :—Captain ; Commander ; G, T, N, Engineer, Medical, Accountant and R.M. Officers ; Captain's, Ship's and Victualling Offices ; Accounting Officer for Explosives ; Regulating Office (for Divisional Officers and M.A.A.)—also one copy for Central Store Officer (and for Central Store Office) ; leaving one spare copy.

**"S" Series.**

	Number of Copies.
C.-in-C. Atlantic Fleet .. .. .	7
Flag Officers and Staffs .. .. .	3
Vessels which have a Minelayer's allowance of Signal Books or above .. .. .	4*
(*Note.—The intention is that one copy shall be available for the Visual Department, one for the W/T Office, one for the Cypher Officer, and the fourth for the Captain's Office, or such other place as the Captain may direct.)	
Vessels (except Submarines) which have a Destroyer's allowance of Signal Books .. .. .	2
Submarines .. .. .	1
Vessels which have an A.P. allowance of Signal Books .. .. .	1
Ships in Reserve :—	
Parent Ships .. .. .	2
Tenders .. .. .	1
Naval W/T Stations (Home and Abroad) .. .. .	1
R/S Stations .. .. .	1

" A " Series.	Number of Copies.
Technical Departments of Dockyards and Repair Bases	} Sufficient for use by the Technical Officers concerned.
Naval Store Officers	
Admiralty Repair Overseers	} 1 each.

24. **Dispatch from Admiralty.**—To enable each local distribution to be effected, if possible, under one operation, all A.F.Os of the same date (whether confidential or not) are dispatched from the Admiralty in the same cover, so far as this is practicable, to each distributing authority at home, and to each ship supplied direct.

The " Official Use only " and " Confidential " prints for squadrons, ships, and establishments abroad will, however, be made up and dispatched from the Admiralty separately, so that the " Official Use only " prints may not be delayed through lack of opportunity for conveyance of confidential prints.

25. **New Ships on Commissioning** are to receive copies, according to the scale of distribution operative on that date, of all Orders still in force, *i.e.* :—

Annual volumes—

A.F.Os (non-confidential).

„ (confidential).

Weekly editions continuing from last annual Volume—

A.F.Os.

C.A.F.Os.

A.F.O. Index.—Latest monthly edition.

" S " Series of A.F.Os.—Complete set to date.

" S " Index.—Latest edition.

26. **R.F.A.s.**—R.F.A. Oilers and Store Carriers are supplied with A.F.Os (" Official Use only " prints) directly from the Admiralty. Other registered R.F.A.s (*i.e.*, excluding yard craft) are to be supplied by the parent ship to which they are attached, or, if not attached to a parent ship, by the Port upon which they are based.

27. **Disposal on Paying off.**—All A.F.Os remaining in force are to be retained on board until the ship is finally paid off, when they are to be forwarded to the Commander-in-Chief at the paying-off port, the confidential prints being forwarded confidentially.

28. **Flag Officers and Captains Unemployed.**—Weekly editions of A.F.Os and C.A.F.Os will be forwarded direct from the Admiralty to Flag Officers and Captains who are unemployed whilst on the Active List and who desire to be supplied with them.

**Officers below Captain's rank unemployed.**—A.F.Os (but not C.A.F.Os) will be supplied if desired.

An Officer desiring to receive copies should forward an application on going on unemployed or half-pay, addressing it to the Secretary of the Admiralty (Editor of Fleet Orders), and should give the address at which he will be.

Only the Officer's real address can be accepted. The documents cannot be forwarded to banker's or club addresses. If an Officer proceeds abroad, the documents will be retained until his return. The issue will cease as soon as an Officer takes up a Naval appointment or is placed on the Retired List.

It must be clearly recognised that C.A.F.Os are strictly confidential, and that A.F.Os are for " Official Use only." An Officer, when forwarding the application for copies, must give an assurance that all will be kept under lock and key, that every precaution will be taken against their being

mislaid, and that their confidential or official nature will be preserved by him. Further, on each 1st January he will be required to forward a certificate to the Secretary of the Admiralty (Editor of Fleet Orders) that the documents are in safe custody. When recipients take up a Naval appointment or go abroad for a lengthy period, or are retired, they are to forward a certificate of destruction of copies that have been supplied personally to them.

#### SUPERSEDED EDITIONS—DISPOSAL.

29. **Weekly Editions.**—Upon receipt of the annual volume, the weekly editions of A.F.Os and C.A.F.Os (except the "S" and "A" series) for that period are to be destroyed, the C.A.F.Os by fire.

30. **Annual Editions.**—On receipt of the revised annual volume the preceding annual edition should be dealt with as follows :—

(a) "For Official Use only" copies—

*By H.M. Ships in Home Waters—*

In the same way as O.U. books of reference, and set aside for return to the Naval Store Officer at the Dockyard next visited, who will report periodically to the Keeper of Stationery and Printing, Admiralty, with a view to arrangements for pulping. They are to be clearly marked "O.U. Publications for pulping."

*Shore Establishments at Home—*

Should collect and forward their copies marked as directed in (a) to the Naval Store Officer at the nearest Dockyard.

*By H.M. Ships and Establishments Abroad—*

All superseded copies should be destroyed by fire.

(b) "Confidential" copies are to be destroyed by fire. Formal certificates of destruction are not required.

Notwithstanding the above instruction, Officers may retain, with the permission of the Commanding Officer, and if it is considered desirable for them to do so, copies which have been annotated or cut up and placed with books, correspondence, etc., for convenience of reference.

31. The respective Commanders-in-Chief, Superintendents, and Senior Officers are to take steps to ensure that the instructions in para. 30 are duly observed.

#### AMENDMENTS TO REGULATIONS, ETC.

32. **Amendments to the King's Regulations and Admiralty Instructions** are promulgated monthly in a separate numbered series (K.R. 1, K.R. 2, etc.), and supplied to all ships, etc., in numbers sufficient to allow of one copy being kept with each authorised copy of the K.R. & A.I. The amendments are incorporated in Vol. II, K.R. & A.I., which is reissued annually. These amendments are also on sale.

33. **Amendments to other books** of Regulations or Instructions are printed in the first weekly edition of A.F.Os made during each month.

#### ABBREVIATED REFERENCES.

34. **References to previous Orders** are made in the following abbreviated form :—

Confidential Admiralty Fleet Orders - C.A.F.O. *Serial No./Year.*

Admiralty Fleet Orders - - A.F.O. *Serial No./Year.*

" " " ("S" series) - A.F.O. S. *Serial No./Year.*

" " " ("A" series) - A.F.O. A. *Serial No./Year.*

When it is necessary to refer to previous letters, orders, regulations, etc., the reference is shown within brackets at the end of the order.

ADMIRALTY,

June, 1930.

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Orders marked \* have been communicated to the Press.

## 1910.

### 287.—Repairing Damage done to Colliers by H.M. Ships.

(C.N. 39032/10.—9.9.1910.)

In future, when the work of repairing damage done to Colliers by H.M. Ships is undertaken by Fleet artificers, it should be confined only to minor repairs such as are within the capabilities of ships' artificers with the limited means and time at their disposal. Repairs to side or bulwark plating and other portions of the main structure of the Colliers should not be attempted, except in cases where temporary repairs are absolutely necessary for the seaworthiness of the vessels, to enable them to proceed to their Home Port.

## 1913.

### 698.—H.M. Vessels—Loan.

(N.L. 15507/13.—5.12.1913.)

The loan of H.M. Ships, Fleet vessels and boats, to private persons or associations, and their use for the conveyance or otherwise for the convenience of private persons or associations, is in future to be governed by the following rules :—

- (a) In cases where it is clear that the interests of the Naval Service will be served by so doing, such facilities may be granted free of charge provided that no extraordinary expenditure from public funds is involved, and that no expenditure of any kind is allowed to fall on Dockyard votes.
- (b) In other cases where there is no direct Naval utility, facilities should only be granted if the purposes are held to be worthy of Naval support, and on condition that any out-of-pocket expenses are paid by the persons concerned, and that no expense whatever to the Crown is involved.
- (c) In all cases of the actual loan of any vessel (except to a Government department) an undertaking is to be obtained of indemnity to the Crown against any loss or accident not directly attributable to the negligence of its employees.

Reference should be made to the Admiralty in any case where doubt exists as to the application of the foregoing rules.

The loan of Dockyard vessels is not dealt with in this Order, the conditions and charges for such loans being governed by rules laid down in the Instructions for Expense Accounts.

## 1914.

### 68C.—*Issued Confidentially.*



## 1915.

### 515.—Explosives in Coal—Detection—REPORT.

(N.S./C.P. 106344/15.—1.9.1915.)

It is of great importance that, whenever coal is being handled, any foreign substances should be detected, and the nature of such fully investigated, to eliminate as far as possible the risk of explosives being introduced into the furnaces with the coal.

The danger of allowing foreign substances to remain in coal should be impressed upon all ratings who handle it during coaling, and, in addition, all stoker ratings should be trained to carry out this important examination, particularly when the coal is spread out before the furnaces ready for firing, and to be constantly on the alert to detect foreign substances in the coal until finally they do so instinctively.

In the event of any explosive substance being found, the fact should be reported at once, in order that ships which have received coal from the same source may be informed.

A report should also be forwarded to the Admiralty.

## 1916.

### 2024.—Officers—Visits to the Admiralty.

(N.L. II. 15429.—25.8.1916.)

Attention has been drawn to the growing practice of Officers attending at the Admiralty on business which could in most cases have been satisfactorily conducted by letter.

This is undesirable, as, besides causing loss of time to Admiralty Departments, it involves the unnecessary absence of an Officer from his ship.

Personal visits to the Admiralty should therefore be avoided unless the matter for discussion is considered urgent. In such cases the permission of the Senior Naval Officer to leave the port should always be obtained, and the Admiralty communicated with, in addition, if time permits.

If the Senior Naval Officer wishes to visit the Admiralty, he should telegraph direct for the necessary approval.

## 1917.

### 320C.—Tanks—Water or Oil Testing.

*Submarines.*

(D. 0868/17.—30.1.1917.)

Where water or oil testing of tanks in H.M. Submarines is being carried out near electrical gear the latter is to be completely covered with tarpaulins so as to prevent damage from oil or water in case of leaky joints.

## 1977.—Poisonous Atmosphere—Apparatus for Entering Compartment Filled.

(N.S. 38190/16.—25.5.1917.)

Attention should be given to the following points when entry into a compartment filled, or supposed to be filled, with a poisonous atmosphere is contemplated :—

- (a) The Antigas Respirator will not protect against carbon monoxide or deoxygenated atmosphere which may be expected in Coal Bunkers and enclosed spaces on board ship.
- (b) The shallow-water diving apparatus (Patt. 200) at present supplied to ships can be made quite efficient for use in a compartment containing carbon monoxide or any noxious gas by simply putting the loose part of the jacket beneath the ordinary uniform trousers as worn by Officers and men, and tying the belt provided with the apparatus firmly over the latter. The rubber trousers employed for diving purposes need not be used.
- (c) One charge of "oxylithe," as supplied with the apparatus, will last for three-quarters of an hour (see Diving Manual, pages 72 and 74).
- (d) The wearer can safely do a limited amount of manual work such as rescue work when wearing the Helmet in the above manner.
- (e) The most satisfactory manner of treating a Compartment containing carbon monoxide gas would be to remove the latter by means of a powerful fan attached to a Hose Pipe of large diameter, the gas being exhausted into the open air of the upper deck and not into any closed compartment. This method has been employed on board a ship in the case of carbon dioxide gas with success. After the pump has been in use, a bird or small animal, such as a mouse, rat, or cat, if available, should be kept in the compartment for half an hour before anyone unprovided with protection should be allowed to enter. Small birds such as canaries are very sensitive to carbon monoxide.
- (f) The Patt. 200 diving apparatus could be used for any rescue work that is necessary during the time that the chamber is being cleared by the above method.

## 2752.—Boat-Lowering Gear—Use of a Lizard.

(N.S. 15639/17.—1.8.1917.)

In a case of lifeboat practice at sea an accident, resulting in loss of life, occurred in the following circumstances :—

When the order was given to slip the boat and the foremost fall cleared, the stern of the boat was water-borne and a lizard which was hitched to the upper ring of the lower block of the after fall brought a side strain thereon which prevented the fall from clearing.

2. It is to be understood that when a lizard is used in connection with the lowering of a boat it is not to be made fast to the lower block of the boat's falls or slings, but is to be held on to by hand only.

## 4042.—Life Floats—Periodical Tests.

(N.S. 32227/17.—9.11.1917.)

All Carley floats are in future to be tested on an average once a month, or as considered necessary by the Commanding Officer, to ensure that they are capable of sustaining the proper number of men.

2. Care should be taken to preserve the floats in good condition.

3. The undermentioned table shows the weights (equivalent to the number of persons the floats should carry) with which the tests should be carried out :—

Patt. No.	Size	No. of Persons.	Test Weight.
17	8' × 12'	45	19½ cwts.
18	9' × 14'	67	29½ "
19	5' × 8'	18	7½ "
20	5' × 10'	20	8½ "

**4128C.—Issued Confidentially.****5881C.—Rangefinders, Rangefinder Mountings, and Fire Control Instruments—Inspection.**

(G. 40438/17.—18.12.1917.)

The procedure as shown in the attached table is to be adopted for the inspection, testing, and acceptance of Rangefinders, Range Clocks, and other Fire Control Instruments, from 1st January, 1918.

Further, all plant, tools, and equipment in the Yards for the testing and repair of rangefinders and mountings, and all staff wholly employed on this work are to be transferred to the Engineer Manager. Arrangements for storage, custody, etc., are to remain as before.

2. Weekly reports of inspection and results of tests of all Rangefinders and instruments are to be forwarded to the Admiralty by the Gunnery Schools, Gun Mounting Overseers, and Engineer Manager's Departments at the Dockyards in accordance with the attached form :—

In cases where the space provided for remarks is not sufficient to insert details as regards the defects discovered, these should be inserted on the back of the form and on sheets attached.

Report for week ending

DOCKYARD OR ESTABLISHMENT.

Instrument.	Type and Mark.	Pattern No.	No. Inspected during Week.	No. passed Inspection.	Contract No. and Date.	Date of Delivery in the Yard.	Remarks, to include reasons for any Instrument failing to pass Inspection.

*Instruments.**Arrangements for inspection and acceptance.*

1. Rangefinders (Barr and Stroud). *All Rangefinders and Mountings to be inspected at Messrs. Barr and Stroud's Works by the Gun Mounting Overseer, Scotstoun, assisted by the Resident Inspector who, at present, only inspects the Rangefinders of 12 ft. base and above at Messrs. Barr and Stroud's Works.*
2. Rangefinder Mountings. *Those delivered to Yards will, in addition, on receipt, be inspected by Engineer Manager's Department, to ensure that no damage has occurred in transit.*
3. Waymouth Cooke Rangefinders. *To be inspected at the works of Messrs. Cooke of York by the Gun Mounting Overseer, Elswick Works, assisted by the Resident Inspector from Barr and Stroud's. When delivered to the Yards the instruments will again be inspected by Engineer Manager's Department, to ensure that no damage has occurred in transit.*

*Instruments.**Arrangements for inspection and acceptance.*

4. Captain Dreyer's Fire Control Tables. To be inspected at Messrs. Elliott Bros. Works by a Representative from H.M.S. "Excellent" in conjunction with the Electrical Overseer. In the case of new ships the instruments to be accepted after testing by Officers of H.M.S. "Excellent" at the Equipment Trials of the ship. In other ships the Commanding Officer of the ship to furnish a Certificate for acceptance, which he will forward to the Admiralty, together with a full report of the result of the tests applied to the table in accordance with programme of tests which will be issued from Admiralty.
5. Dumaresq's Anemometers. Wind Vanes. Range-keeping instruments, Range Clocks, etc. Holland fuze Indicators. The Gunnery Schools at Portsmouth, Chatham, and Devonport, to be responsible for the examination, testing, and acceptance, the invoices being referred to the respective officers by the Surveyors of Stores.
6. Usborne fall of shot Indicators. To be inspected by the Gun Mounting Overseer, Woolwich, at Messrs. Elliott Bros. Works, in conjunction with the Electrical Overseer. When delivered at Yards the Gunnery Schools to be responsible for examination, testing, and acceptance.
7. Range and Deflection dials of Vickers Fire Control Instruments. To be inspected at the Works of Messrs. Vickers by the Gun Mounting Overseer, Erith, in conjunction with the Electrical Overseer.
8. Range Corrector. H.M.S. "Excellent" to be responsible for examination, testing, and acceptance, and to send in tabular statements of errors of each instrument.

## 1918.

### 1409C.—*Issued Confidentially.*

#### 2947.—**Officers' Eyesight—Examination.**

(C.W. 36608.—12.9.1918.)

Cases have been brought to notice of officers suffering from defective vision who have not taken the opportunity of being properly examined until the defect has become serious enough to interfere with the efficient performance of their duties owing to want of efficient remedies. For this reason, it is desirable to impress upon officers that it is in their own interests, as well as those of the Service, that their visual efficiency should be protected and conserved as far as possible.

Although the initiative must rest with the officers themselves, they should be encouraged to apply for examination by the Ophthalmic Surgeon attached to the Hospital Ship or Fleet in the event of their having any reason to suppose that their vision is affected. In the case of small errors of refraction or other remediable conditions, they should make use of such corrective appliances for reading and other close work as may be compatible with the efficient performance of their duties.

Hitherto officers may have refrained from using glasses in the fear that such use might prejudice their future, as being an indication that their eyesight renders them less capable of performing their duties than formerly. Officers for whom suitable glasses have been prescribed under the foregoing conditions need have no fear that any such inference will be drawn from the fact of their wearing them.

### 2959.—Mechanicians, Chief Stokers, and Stoker Petty Officers—Periodical Eyesight Test.

(N. 38592.—12.9.1918.)

Serious damage having been caused to the boilers of one of H.M. Ships due to shortness of water, owing to the Chief Stoker in the boiler room being unable, on account of defective eyesight, to see the level of the water in the gauge glasses, arrangements are to be made to test the vision of all Mechanicians, Chief Stokers, and Stoker Petty Officers who are over 40 years of age, to ascertain whether they can read gauge glasses.

2. If they are unable to do so, the actual visual defect should be ascertained in a Naval Hospital with a view to determining whether they can be retained for other service not entailing the reading of these glasses, and the cases are to be referred to the Admiralty for consideration.

3. The first test should be carried out now and every three years afterwards, the result of the examination being noted on their Service Certificates.

### 3043.—Bituminous Coal—Suggested Methods for Reducing Smoke when Burning.

(N.S. Fuel 01475/18.—19.9.1918.)

In consequence of H.M. Ships being compelled on occasions to use coal of a more bituminous nature than the standard Welsh descriptions, complaints of smokiness are not infrequent, especially from vessels sailing in convoy.

2. The following extract from a report received from one of H.M. Ships refers to the method adopted, with most satisfactory results, in that ship in dealing with Canadian (Dominion) coal, and is promulgated for general information, and guidance, when applicable.

3. The procedure adopted was:—

- (a) Coal (about 6 shovelfuls) was heaped up in front of fires for about 18 inches from deadplates, and the furnace doors left slightly open (after firing, about 3 to 4 inches open, and after raking, just off the catch).
- (b) When this heaped-up coal was thoroughly burnt through it was spread over the furnace, no fire being spread until this coal was thoroughly burnt through. To assist this to burn thoroughly and quickly, after three or four minutes it was lifted up with the shovel.
- (c) The Kilroy was set at 10, and worked as follows:—  
 Fire as above, No. 1.  
 Spread as above, No. 2.  
 Fire as above, No. 3.  
 Spread as above, No. 4, and so on.
- (d) Immediately after raking, if considered necessary, an extra small amount of coal was placed on the fire, just in front, so that when the turn came to fire up there would be a good body of incandescent fire in front to burn the green coal through quickly.
- (e) The fans were run slowly, when considered necessary, with open stoke-holds
- (f) Fires were not cleaned during the day watches—only in the First, Middle and Morning Watches.
- (g) There seemed to be no difficulty in keeping the fires, behind the heaped-up coal, sufficiently bright to consume most of the smoke as it passed over to the Uptakes if the fires were slightly clinkering during the day.
- (h) The draught plates were never allowed to be shut unless absolutely necessary, otherwise the bars and bearers were found to be burnt or bent.
- (i) The main difficulty experienced was in regulating the necessary amount of air above the fires through the furnace doors for burning the coal in moderate quantities and the smoke, since if the doors were opened too wide the coal consumption increased.

- (j) The grate area was about 35 per cent. more than generally used with Welsh coal; this was found to be about right for working the draught plates.
- (k) The coal consumption was about 25 per cent. more, when care was taken, than with Welsh coal at about 10 knots speed.

### 3387.—Night Life Buoys and Life Buoy Lights.

(N.S. 30836/18.—1.11.1918.)

#### GENERAL INSTRUCTIONS AS TO USE AND STOWAGE

The buoy, being properly fixed and suspended by the chain to the tumbler which is fitted to the ship and secured by the trigger bolt, is then ready for letting go.

2. The lights contain phosphide of calcium, chalk, and phosphorus in certain proportions, combined at a high temperature; they emit a flame when immersed in water.

3. This preparation is non-explosive, is not affected by heat, friction, or percussion, and, so long as kept from contact with moisture, does not become impaired by keeping.

4. The case is fitted with a small hole in the top, closed by a copper plug or stopper, slightly soldered in, so as to keep the case watertight.

5. Two cylindrical holders with brass tubes are fitted to the life buoy for the purpose of carrying the cases containing the phosphide of calcium; they are perforated at the bottom to admit water.

6. The steel extracting rods are passed through holes in brackets fitted to receive them down the brass tubes, and screwed into the copper plugs on the ends of the light cases; great care should be taken to see that these rods are properly screwed home. The rods are made sufficiently long to allow the buoy to drop about 6 inches before they are checked by the knobs on their ends; this ensures the tearing away of the copper plugs and the admission of water to the phosphide of calcium.

7. Once a week the buoy should be lowered about a foot, but still be kept on the sliding rod, if at sea. If in harbour, it should be let go, for the purpose of greasing the rod, and applying a little oil to the trigger bolt, so that it may at all times be free from corrosion and ready for use. (In both cases care should be taken to unscrew the steel rods from the plugs on the caps of the phosphide of calcium lights, and in the latter to remove the lights before letting go.) The condition of the buoy is then to be noted in the log book.

8. The buoy should also be tried once every six months with the rods screwed in, and lights in place, the result being noted in the log book.

9. The buoy may easily be put into place again by bending on a rope round the cross arms of the buoy.

10. Phosphide of calcium lights should at all times be in place (except in the case specified in paragraph 7), so that when the buoy is let go its position may be traced by the smoke in the daytime and by the flame at night.

11. Care must be taken when painting the ship, that the trigger bolt and sliding rod are kept free from paint, as for want of attention in this important particular the buoy may be rendered useless.

12. Spare lights are always to be kept in the boxes provided for them, which are not to be stored in the magazine, but kept in a store room where they are not likely to ignite by being damaged and coming into contact with water. Any leak in the cases may readily be detected by a very strong odour of phosphorus. Immediate notice should be taken of this, and any cases found damaged thrown overboard.

13. An accident occasioning loss of life having occurred on board one of H.M. Ships owing to the Night Life Buoys failing to fall on account of coal dust having collected on the guide rods, all Night Life Buoys should be specially examined after coaling and all coal dust removed.

*Cruisers, 5,000 tons and below.*

14. Night life buoys are not to be carried in future in Cruisers of 5,000 tons and below.

15. Life buoys, Patterns 302 or 303 or other smaller type of buoy, with a calcium light attached, should be used instead, in accordance with the arrangements in Destroyers.

**3775C.—Pistol Ammunition—Failures—REPORT.**

(G. 12997/18.—13.8.1918.)

Accidents with pistols, both Webley and Webley Scott, have been reported in which the barrel has split near the muzzle, which is attributed to the bullet of the previous round remaining in the barrel.

2. In the event of slight or no recoil being observed during practice, the firing from the particular pistol concerned is not to be continued until the bore has been examined and found to be clear.

3. Should the accident occur of the barrel splitting, every endeavour is to be made to retain the penultimate cartridge case for return to the nearest Naval Ordnance Depôt for special examination, together with some unfired cartridges of the same make and date.

4. A report of the occurrence is to be forwarded to the Admiralty, in accordance with Article 1235, King's Regulations and Admiralty Instructions.

**4368C.—Issued Confidentially.****4568C.—Battery Tanks—Method of securing Vertical Wooden Battens on sides.**

*Submarines, Dockyards, and Repair Bases.*

(G. 016855/18.—8.10.1918.)

Fires have occurred in the battery tank of a submarine, which, on investigation were found to have been caused by the use of brass screws for securing the vertical wooden battens on the sides of battery tank to the tank plating. These screws were tapped into the latter and the heads were left nearly flush with the outside of the battens. A small amount of acid spilled from the cells allowed currents to pass, which in turn caused the wood to ignite.

2. Brass screws should not be used, but the vertical battens should be dovetailed at the top into the apron and lightly wedged at the lower end against the floor of tank. Screws in beams or aprons should be well recessed at the heads and the recess filled in with hard wax.

3. The attention of Dockyard Officers and Emergency Repair Overseers is drawn to this point, which should be borne in mind when submarines are in hand for refit.

**4651C.—Alterations and Additions involving Modifications to Electric Circuits.**

*H.M. Ships.*

(D. 25546/18.—15.10.1918.)

In future all proposals for alterations and additions to H.M. Ships which involve alterations or additions to the electric circuits should be accompanied by a sketch showing diagrammatically the existing circuits and the proposed modification thereto.

2. Any surplus instruments, junction boxes, etc., on board which could be utilised for carrying out the work should also be enumerated.

# 1919.

**99C.**—*Issued Confidentially.*

## **388C.**—**Turning Trials—Report.**

(C. Sec. S. 2752/19.—14.3.1919.)

In order to permit a more ready comparison between the results of the Turning Trials, reported on Forms S. 347 and D. 500, the speed of 12 knots on the latter Form should be amended to read 14 knots.

**706C.**—*Issued Confidentially.*

## **1325C.**—**Gun Mountings—Renovation of Pedestals and Pivots to eliminate Backlash.**

(G. 9393/19.—17.10.1919.)

The following copy of Admiralty Letter dated the 8th November, 1910, G. 11496/10, in connection with the renovation of pivots and pedestals of transferable mountings, is circulated for information.

In view, however, of the necessity for curtailing as much work as possible, only such renovation as is absolutely necessary is to be carried out.

In order to determine the extent to which such renovation may be waived in each particular case, the matter should be referred to the responsible Gun Mounting Engineer Officer of the Establishment or district concerned.

\* \* \* \* \*

With reference to the Controller of the Navy's letter dated the 19th August, 1910, No. G. 11496/10, relative to the renovation of certain parts of transferable gun mountings, the Admiral Superintendent, etc., is informed that re-bushing of pedestals and skimming of pivots is to be governed by the following rules and the accompanying tabular statements :—

- (1) " A." Where the bush is loose and forms part of the training worm wheel the limit of wear permissible is 0·003 times the square root of the diameter in inches on the external and internal diameters, but not less than 0·010 in.

Thus, for example, in 6 in. Marks P. III, III S. and V mountings the bush of training worm wheel has an external diameter of 15·0 in. and an internal diameter of 13·0 in. and applying the foregoing rule the limits of wear permissible are 0·012 in. and 0·011 in. respectively, so that the worm wheel would be renewed when the sum of clearances external and internal exceeds 0·023 in.

" B."—Where the bush is fixed and independent of the training worm wheel (if any) the limit of wear permissible is 0·005 times the square root of the diameter in inches for top bushes and 0·004 times for bottom bushes. Thus, for example :—

- (i) In the 12 pdr. Mark P. III mountings the top and bottom diameters of the pivot are 7·5 in. and 5·5 in. so that the limits of wear permissible at these two positions are 0·014 and 0·010 in. respectively.



(ii) The lower bush of the 6 in. Marks P. III, III S. and V is of 9.0 in. diameter so that the permissible wear on this diameter is 0.012 in.

“C.”—The 6 in. P. IV and 7.5 in. P. IV mountings have inverted pedestals and the limits of wear permissible are 0.0035 times the square root of the diameter in inches.

- (2) For the mountings under class ‘A’ above, the new training worm wheels will be provided by the Admiralty with the bush portion finished 0.04 in. thicker and the pivots and pedestals should be skimmed to suit them, leaving the final clearance 0.002 to 0.004 in.
- (3) For classes ‘B’ and ‘C’ the bushes are plain and are to be made in the Dockyards. The pivots may be skimmed slightly to improve the surface (but the diameters are not to be reduced more than 0.04 below original size) and the bushes should be bored to suit the pivots, the final clearances being 0.002 to 0.004 in.
- (4) The pivots and pedestals of the mountings are to be gauged before and after refit and the results reported to the Admiralty, quoting in all cases the Admiralty register number of the mounting.
- (5) This system of repair is to come into operation next financial year on ships which undergo quadrennial survey or large refits, *vide* paragraph 3 of the above quoted letter, but where new training worm wheels are involved the machining of pivots and pedestals is not to be undertaken until the supply of the new worm wheels has been arranged.

## CLASS “A.”

Mounting.	Top of Pedestal.		Diameters of new Worm Wheel.		Pivot.				Bottom Bush.	
	Original Diameter.	Limit of Wear.	External.	Internal.	Top Journal.		Bottom Journal.		Original Diameters.	
					Original Diameter.	Limit of Wear.	Original Diameter.	Limit of Wear.	External.	Internal.
6 in. P. II ..	13.6	11	13.64	11.56	11.6	10	7.6	11	9.0	7.6
6 in. P. III ..	15.0	12	15.04	12.96	13.0	11	9.0	12	10.5	9.0
6 in. P. III S										
6 in. P. V										
4.7 in. P. III	11.4	10	11.44	8.96	9.0	10	6.0	10	7.4	6.0
4.7 in. P. IV	11.4	10	11.44	9.36	9.4	10	6.0	10	7.4	6.0
4 in. P. I ..	10.0	10	10.04	7.96	8.0	10	6.0	10	7.4	6.0
4 in. P. I* ..	10.0	10	10.04	7.86	7.9	10	5.9	10	7.4	5.9
4 in. P. II	12.2	11	12.24	9.96	10.0	10	5.4	10	6.4	5.4
4 in. P. II*										
(59-128)										
4 in. P. IV ..	11.0	10	11.04	8.56	8.6	10	4.6	10	5.6	4.6
14 pdr. ("Swiftsure")	8.6	10	8.64	6.56	6.6	10	4.4	10	5.6	4.4
12 pdr. P. IV	7.8	10	7.84	6.56	6.6	10	4.4	10	5.4	4.4
12 pdr. P. IV*										

Note.—The limits of wear in columns 3, 7, and 9 are expressed in thousandths of an inch.

In dealing with slackness at the top of the pedestal, take the sum of the clearances inside and outside of worm-wheel bush and compare them with the sum of the limits in columns 3 and 7

## CLASSES "B" AND "C."

Mounting.	Top Bush. Original Diameters.		Pivot.						Bottom Bush Original Diameters.	
			Top Journal.			Bottom Journal.				
	External.	Internal.	Original Diameter.	Limit of Wear.	Machine to.	Original Diameter.	Limit of Wear.	Machine to.	External.	Internal.
7.5 in. P. III	20.0	18.0	18.0	21	17.96	(Parallel Pivot.)				
7.5 in. P. IV	13.6	12.6	12.6	13	12.56	24.75	18	24.71	25.75	24.75
6 in. P. IV ..	9.8	9.0	9.0	11	8.96	15.0	14	14.96	15.8	15.0
6 in. P. VI ..	14.4	13.0	13.0	18	12.96	9.0	12	8.96	10.2	9.0
4 in. P. II* (129-166)	11.0	10.0	10.0	16	9.96	5.4	10	5.36	6.4	5.4
4 in. P. III	7.7	6.5	6.5	13	6.46	5.5	10	5.46	6.8	5.5
4 in. P. III*										
4 in. P. IV* ..										
4 in. P. V ..	—	—	—	—	—	—	—	—	—	—
14 pdr. ("Triumph")	8.8	7.5	7.5	14	7.46	6.0	10	5.96	7.2	6.0
12 pdr. P. I ..	7.8	6.6	6.6	13	6.56	4.4	10	4.36	5.4	4.4
12 pdr. P. III	9.0	7.5	7.5	14	7.46	5.5	10	5.46	7.0	5.5
12 pdr. P. V..	7.3	6.4	6.4	13	6.36	4.4	10	4.36	5.4	4.4
6 pdr. ("Triumph")	6.75	6.0	6.0	12	5.96	4.0	10	3.96	4.75	4.0
6 pdr. ("Swiftsure")	Solid.	6.0	6.0	12	5.96	4.0	10	3.96	Solid.	4.0
3 pdr. II ..	8.25	7.25	7.25	14	7.21	(Parallel Pivot.)				

Note.—The limits of wear in columns 5 and 8 are expressed in thousandths of an inch.

\* \* \* \* \*

(A.F.O. 1601/29)

### 1417C.—Issued Confidentially.

### 2564.—Oil Fuel Pumping Stations—Precautions.

(N.S./C.P. 182150/18.—26.7.1919.)

A breakdown of the pumping machinery occurred at an Admiralty Oil Fuel Installation, resulting in the bursting of the flywheel.

It is considered that the fracture was due to fatigue of the metal, owing to repeated and probably abnormal shock owing to varying loads being suddenly applied. The failure of the governor was the immediate cause of the accident. With a view to minimising such risks in the future the following precautions are to be observed:—

- (1) When the pumps are in motion the attendant should be always on the alert to apply immediate control in case of racing, &c. ; the governors or other emergency arrangements that may be fitted are not to be solely relied upon.
- (2) If during pumping operations it is necessary to change either the sources of supply, or discharges, the machinery is to be stopped before the operation of opening and shutting the valves is commenced.
- (3) When the pumps are drawing from a tank the contents of which are small, the attendant is to be warned to this effect, and on these occasions should not leave the operating platform so that the machinery may be controlled as necessary by hand when the suction fails.
- (4) When the machinery is in use for loading vessels, arrangements are to be made for warning the attendant when the operation is approaching completion, so that the speed may be reduced and the shock minimised on the closing of the outlet valves.

**3973.—British War Medal.**

(C.W. 26721.—10.12.1919.)

His Majesty the King has been graciously pleased to approve the issue of a Medal to record the bringing of the War to a successful conclusion, and the arduous services rendered by His Majesty's Forces.

1. The Medal will be in silver.
2. The riband will be orange (watered) in the centre with stripes of white and black on each side and with borders of Royal blue.
3. Provided the claims are approved by the Admiralty, the medal will be granted to those of the undermentioned classes who performed 28 days' mobilised service, or lost their lives in active operations before completing that period, between the 5th August 1914 and 11th November 1918, both dates inclusive.
  - (a) Officers, Warrant Officers, Petty Officers, Non-Commissioned Officers and Men of the Royal Navy, Royal Marines, Royal Naval Air Service, Royal Indian Marine, Royal Naval Reserve (including Trawler and Fishery Sections), Royal Naval Volunteer Reserve, and Dominion and Colonial Naval Forces.
  - (b) Mercantile Marine Officers and men serving in His Majesty's Commissioned Ships and Auxiliaries under Special Naval Engagements (T.124 and its variants, including T.299).
  - (c) Officers and enrolled members of the Women's Royal Naval Service who proceeded and served overseas.
  - (d) Members of Queen Alexandra's Royal Naval Nursing Service and Royal Naval Nursing Service Reserve, and recognised official nursing organisations, who served in a hospital ship at sea or proceeded overseas and served in a Naval Hospital abroad.
  - (e) Canteen Staffs who have served in a ship of war at sea.
  - (f) Non-nursing members of medical units, *e.g.*, dispensers, storekeepers, clerks, wardmaids, &c., who served in a Hospital Ship at sea or proceeded overseas and served in a Naval Hospital abroad.
4. Desertion or dismissal with disgrace since the date of the qualifying service forfeits the decoration.
5. The decorations earned by Officers and men deceased will be issued to their legatees or next-of-kin entitled to receive them.
6. A further announcement as to the issue of the medals and riband will be made in due course, and no applications should be made pending such notification.

**3974.—“Victory Medal”—Award.**

(C.W. 35482.—10.12.1919.)

His Majesty the King having been pleased to recognise by the grant of a distinctive medal the services rendered by His Majesty's Forces in operations of war since the 5th August 1914, the following regulations for the award of the medal as regard the Navy are issued for information:—

1. The medal, which will be designated the “Victory Medal,” will be similar in design to that issued by the other Allied and Associated Powers for corresponding services, and will obviate the interchange of Allied Commemorative War Medals. It will be in bronze and will be attached to the riband by a ring. No clasp will be issued with it.
2. The riband will be red in the centre, with green and violet on each side shaded to form the colours of two rainbows.

3. Provided the claims are approved by the Admiralty, the medal will be granted to the under-mentioned classes who were mobilised and rendered approved service either (i) at sea between midnight 4-5th August 1914 and midnight 11-12th November 1918, or (ii) on the establishment of a unit *within a theatre of military operations* :—

- (a) All Officers and men of the R.N., R.M., R.N.A.S., R.I.M., R.N.R., R.N.V.R., R.N.A.S.B.R., and Dominion and Colonial Naval Forces. Trained pilots and observers and men of the R.N.A.S. employed in actual flying from Naval Air Stations at home on oversea patrols will be eligible.
- (b) Mercantile Marine Officers and men serving under special Naval engagements (Form T.124 and its variants, including T.299) in H.M. Ships of War and Commissioned Fleet Auxiliaries.
- (c) Members of Queen Alexandra's Royal Naval Nursing Service, and Royal Naval Nursing Service Reserve.
- (d) Officers and enrolled members of the W.R.N.S.
- (e) Canteen Staffs who served in a Ship of War at sea.

4. The following services are not approved as qualifying :—

- (a) Service in Depôt Ships, except those which go to sea ; Boom Defence Vessels, Examination Vessels, and other craft employed on harbour service.
- (b) Service at Shore Bases and Depôts, except those within theatres of active military operations.
- (c) Services of a temporary and special nature at sea, or in theatres of military operations, *e.g.*, casual inspections and inquiries, purchase of material, trials, passage, &c.
- (d) Service at sea, subsequent to midnight 11-12th November 1918, except in certain specified cases, with regard to which a further announcement will be made.

5. Desertion or dismissal with disgrace since the date of the qualifying service forfeits the decoration.

6. The decorations earned by Officers and men deceased will be issued to their legatees or next-of-kin entitled to receive them.

7. A further announcement as to the issue of the riband will be made in due course, and no application should be made pending such notification.

8. For the purposes of this Order the definition of " theatres of military operations " is as in Appendix A.

#### APPENDIX A.

For the purpose of this order. " theatres of Military Operations " are defined as under :—

1. *Western European Theatre*.—To include all operations in

- (a) France and Belgium, between midnight 4-5th August 1914 and midnight 11-12th November 1918.
- (b) Italy, between midnight 17-18th April 1917 and midnight 4-5th November 1918.

2. *Balkan Theatre*.—To include all operations in

- (a) Greek Macedonia, Serbia, Bulgaria and European Turkey, between midnight 4-5th October 1915 and midnight 11-12th November 1918.
- (b) Gallipoli and islands of Aegean Sea, between midnight 24-25th April 1915 and midnight 9-10th January 1916.

Officers and men of the Plymouth and Chatham Battalions, R.M.L.I., who took part in the landing at Seddul Bahr and Kum Kale on the 4th March 1915 are eligible.

3. *Russian Theatre*.—To include all operations in

Russia since midnight 4-5th August 1914.

4. *Egyptian Theatre*.—To include all operations

- (a) In Egypt, between midnight 4-5th November 1914 and midnight 18-19th March 1916, but excluding operations for which the Sultan's Sudan Medal has been awarded.
- (b) Conducted by the Egyptian Expeditionary Force between midnight 18-19th March 1916 and midnight 31st October-1st November 1918, but excluding operations for which the Sultan's Sudan Medal has been awarded.

5. *African Theatre*.—To include all operations as set forth below but excluding local military operations against native tribes or rebels for which the African G.S. Medal is awarded—
- (a) In British, German, and Portuguese East Africa, Nyasaland and Northern Rhodesia, between midnight 19–20th August 1914 and midnight 25–26th November 1918.
  - (b) In German South-West Africa and on the adjacent borders of the Union of South Africa between midnight 19–20th August 1914 and midnight 9–10th July 1915.
  - (c) In Kamerun and on Eastern and Northern Frontiers of Nigeria between midnight 23rd–24th August 1914 and midnight 18–19th February 1916.
  - (d) In Nigeria between midnight 4–5th January 1917 and midnight 15–16th May 1917.
  - (e) In Togoland between midnight 6–7th August 1914 and midnight 26–27th August 1914.
6. *Asiatic Theatre*.—To include all operations—
- (a) In Hedjaz, between midnight 4–5th November 1914 and midnight 13–14th January 1919.
  - (b) In Mesopotamia, from midnight 5–6th November 1914.
  - (c) In Persia and in the Persian Gulf, from midnight 5–6th November 1914.
  - (d) In trans-Caspia, from midnight 18–19th July 1918.
  - (e) At Shaik Said (South-West Arabia), on 10th and 11th November 1914 and at Perim on 14th and 15th June 1915.
  - (f) Conducted by the Aden Field Force, between midnight 2nd–3rd July 1915 and midnight 13–14th January 1919.
  - (g) In the Frontier regions of India, carried out by forces which actually took the field between 5th August 1914 and the 31st October 1918.
  - (h) At Tsing-Tau, between midnight 22nd–23rd September 1914 and midnight 7–8th November 1914.
7. *Australasian Theatre*.—To include all operations against the German Pacific Dependencies as follows:—
- (a) New Britain, from midnight 10–11th September 1914 to midnight 21st–22nd September 1914.
  - (b) New Ireland, from midnight 15–16th September 1914 to midnight 18–19th October 1914.
  - (c) Kaiser Wilhelm-Land, on 24th September 1914.
  - (d) Admiralty Islands, on 21st November 1914
  - (e) Nauru, on 6th November 1914.
  - (f) German Samoa, on 29th August 1914.

(A.F.O. 2769/20.)

## 1920.

853C. } Issued Confidentially.  
966C. }

### 992.—Machinery and Electrical Spare Gear and Machinery Parts on Deposit for Vessels sold or to be sold.

H.M. Dockyards.

(D. 753/20.—27.3.1920.)

The machinery spare gear and machinery parts on deposit for Battleships, Cruisers, Destroyers and Torpedo Boats sold, may be sold or brought to produce as considered preferable by the Dockyard Officers, when all vessels for which the gear is suitable are actually sold out of the service or otherwise disposed of.

2. Spare propellers and propeller blades suitable for individual vessels may be disposed of by sale, or brought to produce when the vessels for which they are suitable are sold.

3. Spare propellers suitable for classes of vessels should be retained until all the vessels of the class for which they are suitable have been disposed of.

4. When propellers or blades are sold, the original makers, if known, should be invited to tender.

5. In the case of auxiliary vessels which may be sold for use in commercial service, any machinery, spare gear or spare propellers available for any particular vessel should be sold with her.

6. The Admiralty is to be informed in all cases of disposal of spare gear and propellers and particulars of gear so disposed of should be forwarded to enable Admiralty records to be kept up to date.

7. Where electrical spare gear for Battleships, Cruisers, Destroyers, Torpedo Boats and Auxiliary vessels, &c., is still kept on deposit in store, although the vessels have been sold or will be sold, the spare gear should be offered for sale to the purchasers concerned or brought to produce—whichever is the more economical method. It is essential, however, that the spare gear should not be disposed of as stated, unless and until it is confirmed that the spare gear is not required for any vessel or class of vessel fitted with similar gear still retained in Admiralty service.

8. The disposal of any electrical gear in accordance with this Order should be immediately reported to Admiralty, to enable the Report of Spare and Surplus Electrical Equipment to be kept corrected and to date.

### 1731.—Electric Welding.

*H.M. Dockyards.*

(D. 15182/20.—5.6.1920.)

Each item of work on which electrical welding is required is to bear its own proportion of the cost of the electrical energy supplied, and this cost is to be shown separately against the items in question in all future estimates for defects and alterations and additions to H.M. Ships.

### 1845.—Admiralty Tank Wagons—Preservation.

(N.S. Fuel 4708.—16.6.1920.)

Tank Wagons based on Dockyards and Admiralty Depôts should be periodically examined, and any repairs and painting necessary for the preservation of the cars, also repainting of distinguishing numbers and tare weights, carried out as required. An agreement is in existence between the Admiralty and Messrs. Wagon Repairs Ltd., 41A, John Bright Street, Birmingham, whereby any repairs necessary to tank wagons which break down en route from one destination to another are carried out on a cost price basis. Advantage may be taken of this agreement to effect any special repairs which can be carried out more satisfactorily under the agreement than at the Dockyards or Depôts at which the cars are stationed.

The Director of Stores, Admiralty, should be notified of all cars arranged to be repaired in this manner, with a view to payment being effected at the Admiralty.

### 2051.—British War Medal—Award of Naval Clasps.

(C.W. 6154.—7.7.1920.)

His Majesty the King has been graciously pleased to approve of the award of Naval Clasps to the British War Medal under the following conditions, viz. :—

The particular services for which clasps will be awarded are as follows :—

#### (A) GENERAL ACTIONS AT SEA.

Under this head the following clasps will be awarded :—

“ Heligoland, 28 Aug. 14.”—To be awarded to the Officers and men of those ships actually engaged.

“ Falkland Islands, 8 Dec. 14.”—To be awarded to the Officers and men of all ships of Vice Admiral Sir F. C. D. Sturdee's squadron, which left Port Stanley on December 8th 1914, with the intention of engaging the enemy, also to Officers and men of H.M.S. “ Canopus.”

"Dogger Bank, 24 Jan. 15."—To be awarded to all ships which took part in the action resulting in the sinking of the "Blücher," 24th January, 1915.

"Jutland, 31 May 16."—To be awarded to the Officers and men of those ships and vessels named in the list attached to Admiral Sir John Jellicoe's Despatch.

(B) SINGLE SHIP ACTIONS.

Under this head the following clasps will be awarded :—

"'Cap Trafalgar,' 14 Sept. 14."—To be awarded to the Officers and men of H.M.S. "Carmania," present in the action.

"'Emden,' 9 Nov. 14."—To be awarded to the Officers and men of H.M.A.S. "Sydney," present in the action.

"'Königsberg,' July 15."—To be awarded to the Officers and men who served on board the "Severn" and "Mersey," and in the aeroplanes, in the Rufgi River on July 6th and 11th 1915, in the operations resulting in the destruction of the "Königsberg."

"'Leopard,' 16 March 17."—To be awarded to the Officers and men of "Achilles" and "Dundee," present in the action.

"21 April 17."—To be awarded to the Officers and men of H.M. Ships "Swift" and "Broke," present in the action.

(C) FIGHTING AT SEA IN PARTICULAR AREAS.

Under this head the following clasps will be awarded :—

"North Sea 1914," &c., up to 1918.

"Narrow Seas 1914," &c., up to 1918.

"Home Seas 1914," &c., up to 1918.

"Arctic 1914," &c., up to 1918.

"Baltic 1914," &c., up to 1918.

"Mediterranean 1914," &c., up to 1918.

LIMITS OF PARTICULAR AREAS.

*North Sea.*

*Southern Limit.*—A line drawn from Cromer to the Texel.

*Eastern Limit.*—Up the coast of Holland, Germany, and Denmark, down the east coast of Denmark, across the northern exits to the Belts and Sound to the Swedish coast, north along the coasts of Sweden and Norway as far as the meridian of 30° E., and then true north along this meridian.

*Western Limit.*—From Cromer up the east coasts of England and Scotland to Cape Wrath, thence to a position in Lat. 64° N., Long. 30° W., thence true north.

*Narrow Seas.*

*Northern Limit.*—A line drawn from Cromer to the Texel.

*Southern Limit.*—A line drawn from Dungeness to Boulogne. (Ships based on Boulogne will be included.)

*Home Seas.*

*Eastern Limit.*—Line joining Cape Spartel and Cape Trafalgar, thence west and north along the coasts of Spain and Portugal, the coast line of the Bay of Biscay, along the French coast to Boulogne, thence to Dungeness, thence along the south and west coasts of England and Scotland to Cape Wrath.

*Northern Limit.*—From Cape Wrath to a position in Lat. 64° N., Long. 30° W.

*Southern Limit.*—From Cape Spartel west true to the meridian of 30° W.

*Western Limit.*—The meridian of 30° W. as far as Lat. 64° N.

*Arctic.*

*Southern Limit.*—Along the parallel of 60° N. between the meridians of 30° E. and 50° E.

*Eastern Limit.*—The meridian of 50° E.

*Western Limit.*—The meridian of 30° E.

**Baltic.**

Within the Baltic inside the Northern exits to the Belts and Sound.

**Mediterranean.**—The whole Mediterranean within a line joining Cape Spartel and Cape Trafalgar, including the Black Sea, Sea of Marmora, and the harbour of Port Said, but excluding the Suez Canal.

QUALIFYING SERVICE FOR " AREA " OR " SERVICE " CLASPS.

- (a) One clasp to be given for each calendar year, 1914–1918.
- (b) Qualifying service to be one month for 1914, and three months for the other years. Service in *bonâ fide* seagoing ships only to count. Service in Depot ships and other vessels which occasionally go to sea from port to port not to be regarded as qualifying service.
- (c) Service within the calendar year need not be continuous.
- (d) Only one " Area " or " Service " clasp to be given for any one year. If an Officer or man qualifies in more than one area in any one year, he shall receive the clasp for the area in which he has served the longest.
- (e) In the case of any Officer or man who has been killed or mortally wounded in action, the clasp for that year will be granted irrespective of the length of service.

(D) SPECIAL SERVICES NOT CONFINED TO PARTICULAR AREAS.

Under this head the following clasps will be awarded :—

" *Minesweeping*."—To be awarded as follows :—

- (a) To each rank and rating who formed one of the official crew of a vessel employed regularly as a minesweeper between 4th August 1914 and 11th November 1918, provided that the applicant's vessel formed one of a Minesweeping Unit which swept up enemy's moored mines when the applicant was present in that vessel.
- (b) To each rank and rating who formed one of the crew of a vessel temporarily employed on minesweeping for clearing or ensuring a passage in the Dardanelles.

NOTE.—Auxiliary Patrol and other vessels fitted for minesweeping who occasionally passed their sweeps in conjunction with their patrol duties not to be entitled to the *Minesweeping* clasp.

" *Minelaying*."—To be awarded to Officers and men who made ten minelaying trips within the undermentioned areas, including Officers and men serving in Submarine E.24 when that vessel was lost :—

1. Within the British Notified Area, *i.e.*, the area comprising all the waters except the Netherlands and Danish territorial waters lying to the southward and eastward of a line commencing 3 miles from the Coast of Jutland on the parallel of Lat. 57° 08' N., and passing through the following positions :—

- (1) Lat. 57° 08' N., Long. 6° 00' E.
- (2) Lat. 56° 00' N., Long. 5° 10' E.
- (3) Lat. 54° 45' N., Long. 4° 17' E.
- (4) Lat. 53° 29' N., Long. 4° 04' E.
- (5) Lat. 53° 00' N., Long. 4° 10' E.

thence along the parallel of Lat. 53° 00' N. to a position 3 miles from the Netherlands coast, thence to the northward and eastward following the limit of Netherlands territorial waters.

2. Within 20 miles of the Belgian coast between Zeebrugge and Nieuport ; also within a radius of 20 miles from (A) Zeebrugge Mole, (B) Nieuport Harbour.

3. Between lines drawn east true from the Skaw and Syr Point, Lasso Island, to the Swedish coast. (Admiralty chart No. 2114.)

4. Within 20 miles of the eastern shore of the Adriatic.

5. The area enclosed between the meridians of 28° 30' E. and 25° 45' E., and the parallels of 36° 50' N. and 40° 30' N.

" *Q' Ships*."—To be awarded to all Officers and men who served during the war in " Q " or " Decoy " ships, employed on anti-submarine duties, and were in action in its widest sense with enemy submarines.



" *Submarines.*"—To be awarded to Officers and men who served in submarines for not less than twelve months during the war.

" *Baltic S/Ms.*"—To be awarded to Officers and men who served in submarines in the Baltic within the limits for the Baltic shown under head (c).

To be held in lieu of and not in addition to " *Submarines* " clasp.

" *Heligoland Bight S/Ms.*"—To be awarded to Officers and men who operated in submarines in the Heligoland Bight within the British Notified Area. (See Area 1, under " *Minelaying.*")

To be held in lieu of and not in addition to " *Submarines* " clasp.

" *Marmora S/Ms.*"—To be awarded to the Officers and men of all submarines who penetrated through into the Sea of Marmora and operated there between midnight, 18th and 19th February 1915 and 8th January 1916. The award to include Officers and men of Submarine " *B.11,*" which torpedoed the " *Messudieh* " on 31st December 1914, and Submarine " *E.15,*" which made the pioneer attempt and grounded on Kephez Point in the Dardanelles on 15th April 1915.

To be held in lieu of and not in addition to " *Submarines* " clasp.

NOTE.—Officers and men of *Minelaying Submarines* to be also eligible for " *Minelaying* " clasp in addition to any submarine clasps, under the conditions laid down above.

#### (E) ACTIONS WITH ENEMY'S LAND FORCES.

Under this head the following clasps will be awarded :—

" *Belgian Coast.*"—To be awarded to the Officers and men serving in ships which operated between 4th August 1914 and midnight 19th–20th October 1918 (the date of the enemy's evacuation) in an area within twenty miles of the Belgian coast between Zeebrugge and Nieuport; also within a radius of 20 miles from (1) Zeebrugge Mole, (2) Nieuport Harbour.

N.B.—The " *Belgian Coast* " clasp not to be awarded for the operations at Zeebrugge, 23rd April 1918, and Ostend, 23rd April and 10th May 1918. (See below.)

" *Dardanelles.*"—To be awarded to the Officers and men of H.M. Ships which took part in the operation in the Dardanelles from midnight, February 18–19th 1915 to midnight, March 18–19th 1915. Those eligible shall be the Officers and men serving in the ships mentioned in the despatches of Vice-Admirals Carden and De Robeck, dated March 17th 1915 and March 26th 1915. (See " *London Gazette,*" 31322, 7th Supplement, April 29th 1919.)

" *Gallipoli Landing.*"—To be awarded to all naval ranks and ratings who left transports with a view to landing; to the Officers and crews of those small ships, vessels, and boats which worked inshore or actually assisted in the disembarkation of troops; and to all ranks and ratings of the Royal Navy and Mercantile Marine on board the " *River Clyde* "; between midnight, April 24–25th and midnight, April 26–27th 1915. Off-shore covering vessels, transports, &c., not to be included.

NOTE.—Transports for this purpose are held to mean all floating craft that carried troops.

" *Gallipoli.*"—To be awarded to the Officers and men of all ships employed off the Gallipoli Peninsula within the area mentioned below from midnight, March 18–19th 1915, to the date of the final evacuation, January 8th 1916.

*Area.*—To the eastward of a line drawn from Yukyeri Point (Lat. 39° 50' 40" N., Long. 26° 9' 45" E. approx.) through a point in Lat. 39° 53' N., Long. 26° 0' E., thence direct to Cape Grenea (Lat. 40° 35' N., Long. 26° 6' E. approx.).

" *Tsingtau.*"—To be awarded to the Officers and men of all ships employed off Tsingtau during the operations resulting in its capture, north of Lat. 35° 30' N. and between the meridians of 120° and 121° E.

" *Suez Canal.*"—To be awarded to the Officers and men of those ships and vessels which took part in the engagement on February 2nd to 4th 1915, resulting in the repulse of the Turkish attack, that is, to ranks and ratings serving in ships which operated between a position 2 miles north of Kantara and the northern end of the Bitter Lakes.

" *Zeebrugge. Ostend.*"—To be awarded to the Officers and men present in the ships and vessels named in Article 45 of Sir Roger Keyes' amended despatch of May 9th 1918, published in " *London Gazette,*" No. 31189, of 19th February 1919.

" *Ostend, 10 May 1918.*"—To be awarded to the Officers and men present in the ships named in the Appendix to Sir Roger Keyes' despatch dated 15th June 1918.

## (F) OPERATIONS IN CONNECTION WITH THOSE ON LAND.

Under this head the following clasps will be awarded :—

" *Mesopotamia.*"—To be awarded to all Naval Officers and men who served in the Persian Gulf within the Straits of Ormuz, from November 1st 1914, the date of Turkey's entry into the War, until noon, October 31st 1918.

" *Red Sea.*"—To be awarded to the Officers and men of H.M. Ships who were actually stationed in the Red Sea or the Suez Canal, north of and including Aden, and south of the Mediterranean, excluding the harbour of Port Said, between November 1st 1914 and noon on October 31st 1918. Ships proceeding through the Suez Canal or Red Sea on passage not to be included in the award.

" *German East Africa.*"—To be awarded to the Officers and men of H.M. Ships employed off the coast and outlying islands of East Africa between Mombasa and Delagoa Bay, both inclusive, throughout the war; also to those Naval ranks and ratings serving on the African Lakes.

" *German S.W. Africa.*"—To be awarded to the Officers and men of H.M. Ships employed on the coast of German S.W. Africa between Luderitz Bay and Swakopmund between 15th September 1914 and July 9th 1915.

" *Pacific Islands.*"—To be awarded to all Naval Officers and men who took part in the following operations :—

New Britain	-	-	-	-	Sept. 11-21st 1914.—
New Ireland	-	-	-	-	Sept. 6-Oct. 8th 1914.
Kaiser Wilhelm Land	-	-	-	-	Sept. 24th 1914.
Admiralty Islands	-	-	-	-	Nov. 21st 1914.
Naura	-	-	-	-	Nov. 6th 1914.
German Samoa	-	-	-	-	Aug. 29th 1914.

" *Cameroons.*"—To be awarded to the Officers and men of all H.M. Ships, vessels, and boats, including the Nigerian Marine personnel, who were present in the Cameroons waters and rivers between 29th August 1914 and 31st January 1916 inclusive.

## (G) SERVICES IN SERBIA AND RUSSIA, AND POST ARMISTICE OPERATIONS.

Under this head the following clasps will be awarded :—

" *North Russia, 1918/19.*"—To be awarded to all naval ranks and ratings who served afloat or ashore in North Russia, within the area specified below, between midnight, 11-12th November 1918 and 12th October 1919.

*Southern Limit.*—Along the parallel of 60° N. between the meridians of 30° E. and 50° E.

*Eastern Limit.*—The meridian of 50° E.

*Western Limit.*—The meridian of 30° E.

" *Eastern Baltic, 1918-19.*"—To be awarded to all naval ranks and ratings who served within the Gulf of Finland and in the Baltic east of 20° E. between midnight, 11-12th November 1918, and midnight, 31st December 1919-1st January 1920.

" *Mine Clearance, 1918-19.*"—To be awarded to those Officers and men who actually signed a Mine Clearance Contract, and were accepted and employed under the terms A.F.O. 972/19. Limiting dates and areas as follows :—

(a) In Home Waters, including North Sea European littoral, between November 11th 1918, and Midnight, September 30th—October 1st 1919.

(b) Within the Mediterranean, between November 11th 1918, and Midnight, November 30th—December 1st 1919.

(c) Within the Baltic, between November 11th 1918, and Midnight, November 30th—December 1st 1919.

(d) In other foreign areas where British vessels have carried out mine clearance, between November 11th 1918, and Midnight, July 31st—August 1st 1919.

" *Serbia.*"—To all those in the Naval contingent, and in the attached hospital, serving under the orders of Rear Admiral Sir E. C. T. Troubridge during the defence of Belgrade, and the subsequent retreat through Serbia across the Albanian frontier to the sea, between December 14th 1914, and January 1st 1916, and who are eligible for no other clasp for the same service.

" *Siberia, 1918-19.*"—(a) To the naval personnel of the British Naval Mission in Siberia under Commander J. Wolfe Murray, up till September 13th 1919, and who are eligible for no other clasp for the same service.

(b) To the personnel of the naval detachment who were employed on the Kama River, Siberia, up till June 28th 1919, and who are eligible for no other clasp for the same service.

" *Russia.*"—(a) To naval ranks and ratings who were employed with the armoured cars serving with the Russian forces throughout the war, and who are eligible for no other clasp for the same service.

(b) To members of the Naval Mission who were serving in South Russia 1919—1920, and who are eligible for no other clasp for the same service. The determining dates in this case will be announced later.

" *Black Sea 1918-20.*"—To be awarded to Officers and men serving on board H.M. Ships and vessels which operated in the Black Sea or in the Bosphorus within the line joining Stefano Point and Farnar Burnu (at the Sea of Marmora exit from the Bosphorus) subsequent to November 11th 1918. The terminal date for services qualifying for the award has been fixed as *4th September 1920.*

This clasp is not to be held in addition to the clasp for " *Russia* " by members of the Naval Mission mentioned in paragraph (b), " *Russia,*" above.

" *Caspian.*"—To be awarded to all Naval Officers and men who were employed in the Caspian Sea, or on the shores thereof, between July 1918 and August 27th 1919.

2. The clasps earned by Officers and men deceased will be issued to their legatees or next of kin entitled to receive them.

3. The only post-armistice operations for which clasps to the British War Medal will be awarded are those specifically referred to in Section (G), and it is to be understood that in the case of all other clasps, the period of qualifying service definitely ends on the 11th November 1918. In particular the final date of qualification for the " *Area* " or " *Service* " clasps referred to in Section (C) is the 11th November 1918.

A further announcement as to the issue of the clasps will be made in due course, and no applications should be made pending such notification.

(A.F.O.s 2769/20 and C.A.F.O. 1456/27.)

## 2157.—Naval Engineering—Method of Selection for Higher Posts —Position of Officers Specialising as Lieutenants.

(C.W. 13055/20.—17.7.1920.)

In the statement of the First Lord of the Admiralty explanatory of the Naval Estimates 1920-21, it was pointed out that final separation between the Officers of the Deck and Engineering sides of the Naval Service was necessary. These words were used :—

" There is a definite distinction both as regards knowledge and capabilities, between those who are to be trained in the science of Naval War, and strategical and tactical methods of fighting, and those who are to deal with the upkeep and maintenance of Engineering and mechanical appliances which are necessitated by the complex machinery and weapons of modern war. Each side requires a special study, and for this reason final separation of the branches is essential."

At the same time in the statement the importance of close co-operation between the Deck and Engineering Branches was emphasised.

2. Separation being accepted, the prospects of each branch should be such as to maintain high efficiency in the personnel composing the branch. So far as the Deck side is concerned, this is allowed for by the prospects of high command opened up to all who enter that side of the profession, but on the Engineering side it cannot be said that this is fully the case, and with the exception of the office of the Engineer-in-Chief, and certain technical appointments, there are comparatively few higher posts. There is a danger, therefore, that under existing conditions the Engineering side may fail to attract its due proportion of Officers of ability, and the Service will suffer in efficiency accordingly. Since the statement of the First Lord this matter has received consideration, and the steps outlined below have been taken.

3. The Engineer-in-Chief at the head of the Naval Engineering profession has up to the present been under the Third Sea Lord and Controller. His primary responsibility was design and supply, his Department being organised to meet the requirements of design and supply.

Whilst retaining his responsibility to the Controller as above, it has been decided that in future the Engineer-in-Chief shall be responsible to the Chief of the Naval Staff for advice on all matters in connection with Naval Engineering policy. He will work in close touch with the Naval Staff, being thus conversant with the trend of Naval policy and being in a position to frame his Engineering plans to meet the requirements of policy.

It has further been decided that the Engineer-in-Chief shall be the Board's principal adviser upon all questions relating to the instruction and training of Engineering personnel, he being for this work directly responsible to the Board through the Second Sea Lord.

Thus the Office of the Engineer-in-Chief as head of the Engineering side of the Naval profession will have extended scope, and the Department of the Engineer-in-Chief will offer posts of the highest administrative importance and responsibility for Senior Engineer Officers.

4. After the Engineer-in-Chief, the most important positions in the Naval Service of a technical and administrative order, are the posts of Admirals Superintendent, responsible for the administration of H.M. Dockyards.

Hitherto, only Officers from the Deck Branch have been eligible for this service, but it is intended that in the future, when Officers of the common entry or special entry systems who have joined the Engineering Branch have attained high rank, that these Officers also should be considered with Deck Officers for these positions.

Should the Admiral Superintendent be such an Officer, the principle would be adhered to that he would not be eligible to command the port, since command of the port in time of war deals with operations, the province of the Deck Officer.

5. In connection with the policy of separation referred to in paragraphs 1 and 2, the Board have also had under consideration the rule under which Lieutenants who have had one year's experience as Watchkeepers before specialising in Engineering are allowed to retain the right of military command till between  $7\frac{1}{2}$ –9 years' seniority as Lieutenants, when they must decide to remain at Engineering or revert to deck duties. The duties of Lieutenant (E) are becoming more and more exacting and it is considered that in the future it will be impracticable to give effect to reversion to deck duties after a number of years spent on Engineering duties. It has consequently been decided that the option of reversion to deck duties should now be withdrawn altogether from Officers who volunteer for Engineering duties in the future. Officers who have already volunteered will remain under the existing rules.

6. To investigate the possibilities of carrying further the separation of the work of strategy and tactics from that of upkeep and maintenance, a Committee is now sitting on the question of transferring the responsibility for upkeep and maintenance of electrical machinery in H.M. Ships from the Torpedo Department on the Deck side to the Engineering Department, and thus, apart from other considerations, opening up further positions both in the Junior and Higher ranks to Officers who have chosen Engineering duties as their career in the Navy. A decision will be promulgated as soon as possible after the report of the Committee has been received and considered.

### **2769.—Victory Medal—Award for Post-Armistice Operations.**

(C.W. 15695/20.—22.9.1920.)

It has been decided that post-Armistice operations which qualify for the award of a Naval Clasp to the British War Medal shall also be regarded as qualifying for the award of the Victory Medal.

2. Services on shore within theatres of military operations, which took place after the Armistice and which qualify for the award of the Victory Medal under the War Office Regulations, will be regarded as qualifying also in the case of Naval personnel serving on shore.

3. The only post-Armistice services which have so far been definitely decided by the Army Council to be qualifying services for the Medal are services in the following theatres of operations, but certain other services, particulars of which have not yet been announced, will also be regarded as qualifying :—

*Russian Theatre.*

All operations in North Russia and Siberia, between midnight 4th–5th August 1914, and midnight 12th–13th October 1919.

*Asiatic Theatres.*

All operations in Trans-Caspia between midnight 18th–19th July 1918, and midnight 16th–17th April 1919.

(*A.F.O.s 3974/19, 2051/20 and 933/21.*)

### **3626.—Coal Reserves at H.M. Naval Establishments in the Vicinity of H.M. Dockyards.**

(N.S. Fuel 10491/20.—15.12.1920.)

The reserves of coal maintained at Dockyards are based on the monthly gross expenditure and it is, therefore, not necessary that separate reserves should be maintained at Establishments which obtain supplies of coal from Dockyards. The actual working stocks to be kept at these Establishments will necessarily vary according to local circumstances, but should not exceed six weeks' normal expenditure except at the discretion of the Commander in Chief.

In the event of difficulty being anticipated in connection with maintenance of coal supplies generally, special action to augment stocks at the Dockyards will be taken by the Admiralty.

### **3657.—Lower Deck Benefit Societies.**

(N.L. 1291.—22.12.1920.)

There is reason to think that it will be of assistance both to Officers and men to have some indication of the views of the Admiralty in regard to the associations known as the Lower Deck Benefit Societies.

2. These Societies were founded for the purpose of promoting thrift by securing to their members, in return for regular contributions, specified benefits for themselves or their representatives in the event of disablement or death. Some of the Societies have been in existence for many years, and they have behind them an honourable record of useful work.

3. The management of such organisations by the men of the Navy on their own behalf is in accord with the policy of the Board, who have at present under their consideration a scheme for the formation of a Royal Naval Benevolent Trust which will provide for various benevolent funds intended for the benefit of the Navy being managed by representatives of the men on behalf of the whole Service.

4. Their Lordships therefore desire it to be known that they fully recognise the great advantages that have accrued to Petty Officers and men by the formation of Benefit Societies, and that such Societies have the full support and approval of the Admiralty so long as they confine themselves to their original and legitimate objects.

5. At the same time the Admiralty think it necessary to point out that a great responsibility rests on those having the management of the Benefit Societies to see that the activities of the Societies are restricted to their proper sphere, and do not develop on lines that are inconsistent with the discipline of the Service.

6. The importance of the maintenance of discipline in any Armed Force is abundantly proved by history, and the experience of the recent war has shown conclusively that discipline is at the root of fighting efficiency. It is no less clear that discipline is essential in peace time to a Force which has always claimed, and with justice, that it is ready to meet any emergency in any part of the world.

7. Discipline, which requires the co-ordination of individual wills in order to achieve a single purpose, can only be brought to a high state of efficiency by Officers and men being in close touch with each other.

8. It is essential, therefore, that Officers should carefully look after the interests of their men in order that discipline may not be impaired by disaffection ; and that the men should have confidence in their Officers not only to direct them in action or the daily routine of the ship, but also to take a personal interest in their welfare.

9. To this end it is provided by the King's Regulations that the requests and grievances of individuals should be represented to their Officers and, in particular, to the Captain of their ship, an appeal to higher authority being in certain cases permitted. Stress has also been laid on the importance of Officers, especially Officers of Divisions, studying the well-being of those under their orders by assisting their men in preferring legitimate requests.

10. The Admiralty have been careful to preserve the same principle of the close association of Officers and men when establishing machinery for enabling general questions (or such as affect large classes of men) to be discussed between Officers and men and reported on by the former for the consideration of the Board. Experience will no doubt make it possible to improve upon this machinery, but whatever form it may take from time to time, the association of Officers with the men in formulating and preferring their requests must be maintained as being essential in a disciplined Service.

11. For this reason, and because of the expressed intention of the Admiralty to make an efficient machinery to enable them to be informed fully as to the aspirations, grievances and disabilities of the Lower Deck from time to time, their Lordships are unable to recognise such matters as coming within the proper sphere of the Lower Deck Benefit Societies. It is of course not to be supposed that when these Societies meet for their legitimate purposes, the opportunity will not be taken by members to exchange views on non-disciplinary Service matters affecting them, and the Admiralty have no wish to apply the strict wording of the King's Regulations to moderate and reasonable discussion of this kind on such occasions. But it would be a clear infringement of the Regulations for such matters to be permitted to become the main concern of the Benefit Societies. In particular, proposals that have appeared in the Press for a general amalgamation of such Societies, or for the establishment of a Periodical in connection therewith could not, in the opinion of the Board, serve any useful object connected with the legitimate purposes of the Benefit Societies, and would be regarded by the Board as contravening both the letter and the spirit of the Regulations.

12. The Admiralty have thought it right to give this clear expression of their views, because they have documentary evidence showing that outside influences which are hostile to the discipline and good order of the Service have fixed upon these Societies as a possible channel through which to work. Their Lordships are satisfied that these influences have had no success whatever, but it is obviously necessary that those connected with the Societies should be on their guard and should see that the activities of their organisations are kept within the proper limits.

### **3680.—Ireland—Ratings not to carry Arms or Military Stores on Railways.**

(N. 65605.—24.12.1920.)

Ratings sent by rail in Ireland are not to carry arms or military stores.

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# 1921.

## 12.—Fumigating and Disinfecting Rooms and Compartments by Means of Formaldehyde Gas.

(M.D.G. 10526/20.—1.1.1921.)

The attention of Medical Officers is called to the following method which may be used as an alternative for fumigating and disinfecting rooms and compartments by means of Formaldehyde Gas :—

- (1) The gas can be evolved from formaldehyde solution by means of chlorinated lime without the use of any heating apparatus.
- (2) The quantities required for the fumigation of every 2,000 cu. ft. of space are as follows :—
 

Formaldehyde solution .. .. .	2 pints.
Chlorinated lime .. .. .	2 lb.
- (3) The compartment to be disinfected is carefully sealed, and in it are distributed a number of buckets, proportionate to the cubic capacity of the compartment, each containing two pints of formaldehyde solution.
- (4) For each of these buckets 2 lb. of chlorinated lime is provided, made up into packets by means of thin paper in which a few slits have been cut to allow access of the fluid to the lime.
- (5) These packets are dropped into the buckets by the operator, who must retire from the compartment as quickly as possible.
- (6) The compartment should remain sealed for a minimum of eight hours, or longer in the case of specially infective diseases.

*Note.*—The lime must not be placed in the formaldehyde solution without previously being wrapped up in paper as described, or the reaction will be excessive and the fluid will froth out of the bucket.

The containers should be placed on trays or metal slabs, as considerable heat is generated by the reaction.

## 215.—Work by Naval Ratings during Refits of H.M. Ships.

*H.M. Dockyards.*

(D. 606/21.—22.1.1921.)

When it appears probable that a ship will be paid off owing to the length of time she will be in Dockyard hands for repairs, etc., it is desired that this factor may be taken into account in considering the amount of work that can be done by Naval ratings, and provision should be made by the Dockyard Officers for the balance of the work to be carried out by Dockyard labour, and estimated for accordingly.

## 232.—Electric Radiators in Shore Establishments.

(D. 38870/20.—26.1.1921.)

Cases have occurred in which applications for electric radiators to be provided for Shore Establishments have been submitted for approval, without furnishing the information required to enable decisions to be given as to whether this method of heating is the most suitable and economical for the particular cases in question.

It is desirable to restrict heating by means of electric radiators in view of the relatively high cost usually incurred with this method of heating.

2. In all such cases the following information is to be furnished when the application is submitted for approval :—

- (a) Full reasons as to the necessity for same.
- (b) Whether any means other than electric, *e.g.*, fire places or stoves, exist, or could be provided for heating the room or building.
- (c) Whether any heating system, *e.g.*, hot water or steam, exists, which could be economically adapted or extended to meet requirements having regard to installation costs and running costs.
- (d) The estimated cost of installing the electric radiators and that of other alternative means of heating.
- (e) The estimated annual cost, including upkeep and maintenance of heating by electric or other alternative means.
- (f) Where the supply of electric radiators is proposed consideration should in all cases be given to the use of those of service pattern. If radiators other than service pattern are proposed to be employed, satisfactory reasons for their use should be given.

3. Proposals for electric radiators should as a rule be inserted in the Annual Yard Machinery Proposals. If a separate submission be made for same, reasons should be furnished why the item was not included in the Annual Yard Machinery Proposals.

### **432.—Electric Generating Stations—Production and Supply of Electric Energy—REPORTS.**

(D. 23418/20.—19.2.1921.)

The Heads of all Admiralty Establishments at which self-contained electric generating stations are installed should arrange for monthly returns of expenditure, in connection with the production and supply of electric light and power, to be forwarded to the Admiralty (Inspector of Dockyard Accounts) on Form D.825.

2. Each Establishment should obtain from the Dockyard concerned details of the expenditure brought to account thereat for the repair and upkeep of the electric generating machinery, and such expenditure should be included in the monthly return, and separately shown.

3. Steps should be taken to ensure that the returns are prepared on the same basis as those rendered by the Dockyard.

4. The returns should include expenditure to the last Saturday in each month, and should be transmitted in time to arrive in the D.A. Department within 14 days after the date to which the returns relate.

### **521.—Boom Defences—Accounting for Stores.**

(N.S. 2893/21.—1.3.1921.)

The following procedure is to be strictly carried out in respect of Supplies, Issues and Returns of the Boom Defence Stores utilised for the construction and upkeep of booms.

#### **A. STORES SUPPLIED FOR BOOM DEFENCE.**

1. Stores supplied for Boom Defence are to be vouched for on Form S.134d. The supply vouchers will be prepared in triplicate by the Dockyard or Boom Depôt supplying the stores. The vouchers are to be signed by the Officer-in-Charge of Stores as receiving the stores.

2. The three copies of the receipted Supply Vouchers (Form S.134d) are to be dealt with as follows :—

- (a) " Original " to be forwarded to Admiralty (Director of Stores).
- (b) " Duplicate " to be retained at the Dockyard or Boom Depôt as a supporting voucher for issuing the stores off charge in the Dockyard or Depôt Store Account.
- (c) " Triplicate " to be retained by the Officer-in-Charge of Stores to whom the stores are issued and used for posting the particulars in Boom Store Ledger. The vouchers are to be guarded in Form S.129 and forwarded with the Boom Store Ledger when closed (*see* para. 11).



3. *Boom Store Ledger*.—A Boom Store Ledger is to be kept by the Officer-in-Charge of Boom Depôt Stores on blank ledger Form D.60, and all supplies from whatever source obtained are to be duly posted in it in order of date of receipt. The headings in the Store Ledger are to be described exactly as in the Standard Boom Store Book and in the same order; the distinguishing numbers of items shown in the Standard Boom Store Book are to be shown under each item. The Officer-in-Charge of Stores in the Store Depôt or Depôt Ship is to keep the Boom Store Ledger.

4. *Issues*.—No stores are to be issued by the Officer-in-Charge of Stores without the production by the Officer-in-Charge of Booms of properly prepared demand vouchers in duplicate on Form D.238. On the stores being supplied, the Officer-in-Charge of Booms is to sign the vouchers as having received them.

5. The Demand Vouchers (D.238) for supply of stores by the Boom Store Officer to the Officer-in-Charge of Booms are to be dealt with as follows :—

- (a) One receipted copy is to be retained by the Officer-in-Charge of Stores for posting the issues in the Boom Depôt Store Ledger.
- (b) One copy is to be returned to the Officer-in-Charge of Booms for use with Inventory (*see B*).

6. The Demand Vouchers on Form D.238 are to be prepared by the Officer-in-Charge of Booms as necessary, the reason for the supply required being given at the foot of the voucher in the space provided for the purpose (*see para. 12*).

7. Consumable stores, *e.g.*, cotton waste, oil, etc., are to be demanded by the Officer-in-Charge of Booms from the Boom Store Officer on Form D.238 as required, and a certificate is to be furnished in the Store Ledger that the expenditure of consumable stores during the period of the account has been reasonable.

8. *Returns*.—All broken or worn out materials are to be returned to the Boom Store Officer, and return vouchers in duplicate on Form D.83A are to be prepared by the Officer-in-Charge of Booms. A receipted copy of D.83A is to be given to the Boom Officer, and a copy is to be retained by the Store Officer for posting the particulars of the gear returned in his Store Ledger. All serviceable gear is to be taken on charge under its proper description and distinguishing number, but unserviceable materials are to be taken on charge as arisings under such general headings as old steel wire, old or broken cross connectors, etc. A statement is to be forwarded to the Admiralty periodically showing the quantities of old material available for disposal. On receipt of instructions as to disposal of old material, vouchers S.331 are to be prepared by the Boom Store Officer for taking the material off Ledger charge.

9. On the booms being dismantled, all the stores comprised in them are to be detailed on return vouchers Form D.83A, which are to be prepared in duplicate by the Officer-in-Charge of Booms. On receipt of the stores by the Boom Store Officer, he will receipt the return vouchers, retaining one copy for use in posting his Store Ledger and handing one copy to the Boom Officer for use in clearing his inventory (*see B*).

10. On clearing a Boom Depôt Ship, the Boom Store Officer is to make out vouchers on Form S.331 in Quadruplicate, which are to be dealt with as follows :—

- (a) "Original," "Duplicate" and "Triplicate" copies to be sent to the Dockyard or Shore Depôt to which the stores are consigned.
- (b) "Quadruplicate" to be retained by the Boom Store Officer for reference purposes.
- (c) "Triplicate" duly receipted by the Dockyard or Shore Depôt to be returned to the Boom Store Officer for the purpose of clearing his Store Ledger and to be forwarded with the ledger (when closed) as a supporting voucher.

11. The Boom Store Ledger is to be closed annually on 31st March, on change of Accounting Officer or on receipt of instructions. On change of Accounting Officer the stores are to be verified by stocktaking and the stocktaking certificate signed by the outgoing and incoming Officers. The Boom Store Ledger is clearly to show the period during which it was running, and is to be signed by the responsible Boom Store Officer, and when closed it is to be forwarded with all supporting vouchers to the Admiralty (Director of Stores).

## B. INVENTORY OF BOOMS.

12. The Officer-in-Charge of Booms is to prepare an inventory of each completed boom modified to show principal items only.

13. Replacements are to be demanded on Form D. 238 (*see* para. 6), the reason for the demand being given at the foot of the form in the space provided, *e.g.*, "in lieu of others lost by accident," etc. The voucher is to be signed by the person receiving the stores, and is to be retained by the Boom Store Officer for use in posting the issues in his Boom Store Ledger (*see* paras. 4 and 5).

14. The quantities shown in the Inventory are not to be altered except in the case of the supply of additional articles or the return of articles to the Boom Store Officer without replacement. In the case of articles supplied in lieu of an equal number of articles of the same description and item number, no entry is to be made in the inventory, for the reason that the description and quantity of the stores as shown in the inventory has not been altered by the transaction. The two vouchers are to be connected together. Similarly, when supplies are made in respect of articles carried away and lost, no alteration is to be made in the inventory when the article is replaced for the same reason, *viz.*, that the quantities shown in the inventory have not been altered. The voucher should, however, be retained with the inventory.

15. When the booms are dismantled, the stores are to be dealt with as directed in para. 8. A list of differences between the quantities on charge in the inventory and those finally returned to the Store Officer at the Shore Depôt is to be attached to the inventory and explanations furnished.

16. All losses are to be recorded on the pages provided in the inventory, together with the date of loss and a brief explanation of the circumstances in which the loss occurred.

17. The inventory is to clearly show the period during which each boom was in existence and is to be signed by the Officer-in-Charge of Booms. On the return of all gear, the inventory, together with the supply and return vouchers relating to it, are to be forwarded to the Admiralty (Director of Stores).

18. *Boom Vessels.*—All demands for supplies are to be made on Forms D. 238 and dealt with as in the case of supplies to the boom.

19. An inventory of all gear on board each boom vessel is to be prepared and signed by the Officer in charge of the vessel as well as the Officer-in-Charge of Booms. The inventories for boom vessels are to be dealt with as in the case of the booms.

## 804.—Fire Bars—Substitution of Wrought Iron for Cast Iron —REPORT.

*Home and Foreign Yards.*

(N.S. 2892/21.—2.4.1921.)

Owing to the considerable number of special purchases which have to be made of special cast iron fire bars, it has been decided that all future cases of renewals required should, where time permits, be reported to the Admiralty stating the requirements together with the following information :—

- (a) Estimated cost of cast iron bars required.
- (b) Estimated cost (labour and materials) for altering the grates where practicable to enable standard pattern bars or bars made from standard materials to be used.
- (c) Estimated cost of wrought iron fire bars, if used.

2. On receipt of the above information, it will be decided in each case whether it will be to the advantage of the Service to carry out the modifications to enable bars made from standard materials to be used or continue the use of cast iron bars.

3. The manufacture of cast iron fire bars when required should be undertaken by the Dockyard concerned as far as practicable.

### 933.—British War Medal—Award for Post-Armistice Operations.

(C.W. 5380/21.—20.4.1921.)

It has been decided that service in a Post-Armistice Operation Area which qualifies for the Award of Clasps to the British War Medal shall also be considered as qualifying for the award of the Medal itself provided that 28 days' service was rendered in the area in respect of which the Medal is claimed.

(A.F.O. 2769/20.)

### 1002.—Soda Water Machines—Protection.

(E.-in-C./N.L. 4210/21.—27.4.1921.)

The bursting of the container of a soda water machine belonging to the canteen of one of H.M. Ships, owing to defective brazing of the copper container, resulted in serious damage to the sight of one of the operators.

2. To avoid accidents from similar causes, careful examination of the pressure parts and fittings should be made periodically, and where practicable, suitable protection should be fitted over the pressure parts of the machines purchased for the use of Officers' messes and canteens.

3. The necessary work is to be carried out by the ship's staff.

### 1128.—Boom Defences—Uniform Procedure in respect of all Matters relating to.

(G. 13759/20.—4.2.1921.)

In order to secure uniformity in Boom design and establish uniform procedure in respect of all matters relating to Boom Defences, including vessels, machinery, stores and personnel, it has been decided that no question connected with Boom Defences and their organisation shall be dealt with without reference to the Director of Torpedo and Mining (D.T.M.), Admiralty.

2. No change is therefore to be made in regard to any question of Boom Defence without reference to the Admiralty. Any work which it is proposed to do in connection therewith should likewise be referred to the Admiralty for the present, though the cost may be within the limits which may be approved locally.

3. The D.T.M. will be in direct communication with the Commanding Officers of Boom Depôts on questions relating to boom vessels, machinery, stores and personnel at the depôts, and Officers on his staff, to whom facilities should be given, will visit the depôts as necessary.

### 1307.—*Issued Confidentially.*

### 1699.—Merchant Ships—Stiffening to Enable an Armament to be Carried.

*Home Dockyards.*

(S. 4331/20.—13.5.1921.)

Arrangements are now being made whereby certain selected Merchant Ships are, during construction, being fitted with stiffening to enable an armament of 6 in. B.L. Mark VII Guns to be carried in event of emergency.

2. For the present the mountings earmarked for this service will be all P. III.

3. The stiffening is being fitted by the shipbuilders, but the cost of the work is being borne by the Admiralty according to tender prices agreed upon.

4. The arrangements provide that the shipbuilders shall fit on the decks the necessary packing rings to take the pedestals, those packing rings being either carried permanently in place or stowed on board the ship. So long as reasonably suitable packing rings are available at the Yards, it is desired to supply and deliver those rings to the shipbuilders' works at Admiralty expense.

5. It is being arranged that the elevation to be provided for at the present time shall be 15 deg. in association with the 15½ in. recoil of the mounting, and if greater elevations are desired in future they will be arranged by means of special liners kept with the mountings.

6. The terms of the Admiralty arrangement with owners and shipbuilders are generally that the Admiralty will supply and deliver, free of charge, packing rings of such *maximum* thickness as is necessary to secure 15 deg. elevation, and if liners are necessary to secure that maximum thickness, those liners are also supplied and delivered with the rings. The shipbuilder is, in general, required under his contract to do all necessary work of machining the underside of the ring or liner and performing all fitting work necessary to suit the sheer and round of the deck. Dockyard work in general will, therefore, be limited to supplying and delivering such rings as may be selected by the Overseeing Staff or supplying and delivering such rings after liners of parallel thickness have been accurately fitted to the underside of the rings.

7. Care should be taken that the rings despatched are in all respects correct as regards positions of the holding-down bolts for the P. III mountings, and it should be borne in mind that the rings and liners supplied by the Admiralty are to have all necessary holes drilled for the rivets securing them to the deck.

8. The cost of such work carried out at the Dockyards will be chargeable to Sections 1 and 2 of Vote 8, the head of charge for Dockyard work will be Head 4 of Account No. 89, and the expenditure should be distinguished separately in the Expense Accounts.

9. An estimate of the cost of such Dockyard work should be forwarded as soon as a demand is received for the supply of packing rings, etc. The actual expenditure should be reported for Admiralty information as soon as possible after the work is complete for any particular ship.

10. A separate communication will be made as regards the proper sum to be charged for the packing rings themselves.

## **2457.—Service Rifles and Revolvers—Losses—REPORTS.**

(D.A.S./N.I.D. 10951.—22.7.1921.)

Instances of loss of service rifles and revolvers have frequently been reported, while, at the same time, the Police occasionally recover service arms from persons who have been in unlawful possession of them.

In order to endeavour to connect the arms so found with those lost or stolen from Government charge, the Police authorities throughout the country have been requested to notify at once to Scotland Yard the loss of any service arms reported to them and also to notify the finding of any service arms in illegal possession of any persons in their jurisdiction.

The theft of service small arms from H.M. Ships and Naval Establishments should be reported to the civil police as soon as discovered, the report to include full details available as to nature of arms, register number and identification marks, and a similar report should be made to the civil police when small arms are lost even though there are no reasons to suspect theft. In losses of small arms from Armament Depôts similar action should be taken as far as possible, but it is not the intention that records should be kept of register numbers of all small arms on charge. When arms, reported as stolen or lost, are subsequently recovered, notification should be at once sent to the civil police.

Special care should be taken to note register numbers or identification marks of arms in possession of H.M. Ships and Naval Establishments, so that, if lost, such details may be available.

In all reports of losses of small arms due to theft, the particulars referred to in Article 1938 of the King's Regulations and Admiralty Instructions are to be furnished. Losses, other than by theft, are to be reported to the Admiralty in detail, as directed in Article 1130, the register numbers of the small arms being reported.

**3433.—Drawings and Fixture Lists—Correction.***H.M. Dockyards.*

(D. 23678/21.—14.10.1921.)

Where estimates for the correction of drawings and fixture lists are forwarded the following particulars should be furnished in the estimates :—

- (a) The date when the drawings or fixture lists were last corrected.
- (b) The number and nature of the drawings to be corrected together with brief particulars of the extent of the correction.
- (c) Whether the preparation of any new drawings is involved.

**1922.****3.—Aaland Islands—Neutralisation.**

(M. 01526/21.—6.1.1922.)

**LEAGUE OF NATIONS CONVENTION FOR THE NEUTRALISATION OF THE AALAND ISLANDS.****ARTICLE 1**

FINLAND, ratifying in so far as she is concerned, the declaration made by Russia in the Convention of the 30th March, 1856, relative to the Aaland Islands, attached to the Treaty of Paris of the same date, undertakes not to fortify that part of the Finnish Archipelago known as the "Aaland Islands."

**ARTICLE 2.**

By the denomination, "Aaland Islands," the present Convention includes the whole of the islands, islets and reefs situated in the stretch of sea enclosed by the following lines :—

- (a) In the North by the parallel of Latitude 60° 41' N.
- (b) In the East by straight lines passing through in succession the following geographical points :—

(1) Latitude 60° 41' 0 N.	Longitude 21° 00' 0 E. of Greenwich.
(2) " 60° 35' 9 N.	" 21° 06' 9 E. "
(3) " 60° 33' 3 N.	" 21° 08' 6 E. "
(4) " 60° 15' 8 N.	" 21° 05' 5 E. "
(5) " 60° 11' 4 N.	" 21° 00' 4 E. "
(6) " 60° 09' 4 N.	" 21° 01' 2 E. "
(7) " 60° 05' 5 N.	" 21° 04' 3 E. "
(8) " 60° 01' 1 N.	" 21° 11' 3 E. "
(9) " 59° 59' 0 N.	" 21° 08' 3 E. "
(10) " 59° 53' 0 N.	" 21° 20' 0 E. "
(11) " 59° 48' 5 N.	" 21° 20' 0 E. "
(12) " 59° 27' 0 N.	" 20° 46' 3 E. "

- (c) In the South by the parallel of Latitude 59° 27' N.
- (d) In the West by straight lines passing through in succession the following geographical points :—

(13) Latitude 59° 27' 0 N.	Longitude 20° 09' 7 E. of Greenwich.
(14) " 59° 47' 8 N.	" 19° 40' 0 E. "
(15) " 60° 11' 8 N.	" 19° 05' 0 E. "
(16) Centre of Rock Market, Lat. 60° 18' 4 N. and Long. 19° 08' 5 E.	
(17) Latitude 60° 41' 0 N.	Longitude 19° 14' E. of Greenwich.

The Lines passing through points 14, 15 and 16 are those which were fixed by the Topographical description of the frontier between the Kingdom of Sweden and the Russian Empire, in accordance with the demarcation of 1810, which was revised in 1888.

The position of all the points indicated in this article refer generally to British Admiralty Charts Nos. 2297 of 1872 (with the corrections added till August, 1921); nevertheless, for greater precision, the position of points I to 11 refer to the following charts :—Finnish Charts No. 32 of 1921, No. 29 of 1920, and Russian Chart No. 742 of 1916 (corrected in March, 1916).

A copy of each of these charts has been deposited in the record office of the permanent Secretariat of the League of Nations.

II. The territorial waters of the Aaland Islands are considered to extend to a distance of three nautical miles from the line of low tide of these islands, islets and reefs not permanently submerged, the boundaries of which are given above; nevertheless in no case do these waters extend beyond the lines laid down in para. I of this Article.

III. The whole of the islands, islets and reefs, the boundaries of which are given in para. I, and the territorial waters of which are defined in para. II, form the "zone" to which the following Articles refer :—

#### ARTICLE 3.

No Naval or Military establishment or base for operations, no Military aeronautical establishment or base for operations, as well as no other installation utilised for purposes of war may be maintained or created in the zone described in Article 2.

#### ARTICLE 4.

Subject to the reservations of Article 7, no Military, Naval or Air Force of any Power may penetrate or remain in the zone described in Article 2; the manufacture, import, transit or re-export of arms and war material are also expressly prohibited.

The following conditions will always apply in time of peace :—

- (a) In addition to the personnel of regular police, required to maintain order and public security in the zone, in accordance with the general conditions existing in the Finnish Republic, Finland may, if exceptional circumstances demand it, introduce and maintain temporarily such other armed forces as are strictly necessary for the maintenance of order.
- (b) Finland will have the right to visit the islands from time to time, with one or two of her light surface warships, which can, in this case, anchor temporarily in these waters. In addition to these vessels, Finland may, should specially important circumstances necessitate such action, despatch to the waters of the zone and maintain there temporarily other surface vessels, but in no case should the total displacement exceed 6,000 tons. The faculty of entering the Archipelago and anchoring there temporarily, can only be granted by the Finnish Government to one war vessel of any other Power.
- (c) Finland may carry out flying by her Military or Naval aircraft over the zone, but landing is prohibited except in the case of "force majeure"

#### ARTICLE 5.

The prohibition to warships of entering and remaining in the zone, described in Article 2, does not restrict the liberty of inoffensive passage through territorial waters, a passage which will be subject to existing international rules and customs.

#### ARTICLE 6.

In time of War the zone described in Article 2, will be considered as a neutral zone and shall not be directly or indirectly utilised for military operations.

Nevertheless, in the case of war affecting the Baltic area, it will be permissible for Finland, with a view to preserving the neutrality of the zone, to place mines of a temporary nature in these waters and to take all necessary naval measures to this effect; Finland will report this action at once to the Council of the League of Nations.

## ARTICLE 7.

In order to give effect to the guarantee, given in the preamble of the present Convention, the High Contracting Parties will communicate, either individually or jointly, with the Council of the League of Nations, in order that it may decide what measures are to be taken either to assure the maintenance of the conditions of this Convention or to punish any violation.

The High Contracting Parties undertake to assist in any measures which the Council of the League of Nations may decide to this effect.

When, with the conclusion of this undertaking, the Council will have to decree under the conditions indicated above, it will summon the Powers which are parties of this Convention to a Conference, whether they are members of the League or not. The vote of the Representative of the Power accused of having violated the conditions of this Convention will not count in the calculation of unanimity required for the decision of the Council.

If an unanimous decision cannot be arrived at, each of the High Contracting Parties will be authorised to take such measures as may be recommended by the Council with a two-thirds majority, the vote of the Representative of the Power accused of having violated this Convention, not counting in the calculation.

In a case where the neutrality of the zone would be endangered by a sudden attack directed either against the Aaland Islands or across these against the Finnish continental territory, Finland will take the necessary measures in the zone to hold up and repulse the aggressor until such time when the High Contracting Parties, in accordance with the conditions of this Convention, will be in a position to intervene to enforce respect of neutrality. In such an event Finland must at once report to the Council of the League of Nations.

(Articles 8, 9 and 10 are formal.)

Signed at Geneva on the 20th October, 1921.

Signatory Powers :—Denmark, Esthonia, Finland, France, Germany, Great Britain, Italy, Lithuania, Poland and Sweden

**469.—Issued Confidentially.****\*774.—Quarterly Electrical Reports, Form S.316.**

(N.S. 3842/22.—17.3.1922.)

In availing themselves of Form S.316 for reporting cases of difficulty or delay which may have been experienced in obtaining Electrical Stores, ships sometimes remark in indefinite terms only that it has been found difficult to obtain certain articles on demand.

2. In order to facilitate tracing and rectifying the cause of the delay, it is necessary that full particulars (such as name of Yard on which the demand was made, date of demand, and pattern number and name of the article) should be given on Form S.316.

**952.—Towing Operations—Precautions.**

(N.L. 4380/22.—7.4.1922.)

The Board have had under consideration questions of losses of vessels and other valuable property through towage at sea in stormy weather, and desire to draw the attention of all concerned to the need of taking special precautions in cases of long distance towage.

2. Attention is drawn to Home Dockyard Regulation 551, which prescribes reference to the Commander-in-Chief of the Home Station in question, for sailing orders to be prepared.

3. The Commander-in-Chief will not usually order such operations in winter (save of urgent necessity) unless the weather forecast shows the probability of settled weather. Prior to sailing the latest forecast should be obtained by telegraphic application to the Meteorological Office, Air Ministry, London, and during the voyage the Officer-in-Charge of operations should obtain weather reports at regular intervals by W/T.

4. The Commander-in-Chief will consider the necessity or desirability of arranging an escort of one or more of H.M. Ships, or of placing the Masters of the Tugs employed under the supervision of an experienced Naval Officer detailed for the purpose, who will be either in the tow or tug where he can best exercise general supervision.

5. Instructions should be issued as to the maintenance of communications at all times between tugs, tow and escort if provided.

6. Unless there are special reasons for doing otherwise, the departure of the tow should be arranged to ensure a safe offing being gained before nightfall. The Senior Naval Officers of intermediate ports should be notified of the sailing and the Officer-in-Charge of the operation should be given discretion in case of bad weather to shelter where most convenient, and, at intermediate Naval Ports where weather forecasts are available, to ask for instructions as to remaining or proceeding.

7. When a vessel or other craft is required to leave in tow from a port at which there is no Commander-in-Chief or Senior Naval Officer of the rank of Captain or above, the Officer-in-Charge of operations will report direct to the Admiralty when he has satisfied himself that the ship is in all respects ready for the intended passage. The Admiralty will give directions for the issue of sailing orders, or will issue them direct, if necessary, and are to be kept fully informed by telegram regarding the movements of the ship in accordance therewith.

8. Lighters and similar vessels should be surveyed from a constructor's point of view before orders are given for their towage. Requests for professional assistance of Dockyard Officers should be made for this purpose if the Officers responsible do not possess the requisite technical knowledge or are not satisfied as to the seaworthiness of the lighter or other craft to withstand the strains likely to be experienced while under towage.

### 1029.—Outer Bottom Compositions of H.M. Ships.

*H.M. Dockyards.*

(D. 6702/22.—7.4.1922.)

No changes in outer bottom compositions on H.M. Ships are to be made without first obtaining Admiralty authority, unless there be special reasons such as insufficient time to obtain the required compositions.

2. Where changes of compositions are made, the authority is to be quoted on the report of docking, and where no authority has been obtained the circumstances necessitating the change are to be fully detailed on the report of docking.

### 1037.—*Issued Confidentially.*

### 1410.—Telegrams, Inland—Expenditure.

(M. 20826.—19.5.1922.)

The Treasury has decided that provision is to be made in the Navy Estimates in future for the repayment to the Post Office of the cost of telegrams sent on Naval Service after 31st March, 1922.

2. Arrangements have accordingly been made for a careful scrutiny of all telegrams sent on Admiralty Service with a view to reducing the expenditure on telegrams to a minimum. Officers authorising the despatch of telegrams will be responsible for seeing that such messages relate solely to Service matters, that they are worded as concisely as possible and are sent only in circumstances of real urgency.

3. In order to facilitate the checking of the expenditure on inland telegrams, the Home Station has been divided into the following groups, which correspond to the limits of the various Home Commands :—

- A.—Admiralty (including A.C.R.).
- B.—The Nore.
- C.—Portsmouth.
- D.—Devonport (including the Western Approaches Command).
- E.—Coast of Scotland.
- F.—Atlantic Fleet.
- G.—Auxiliary Patrol and Fishery Protection Flotilla.



4. From 1st April, 1922, therefore, the forms for all Service inland telegrams sent over Post Office lines should be clearly marked "Admiralty B," "Admiralty D," etc., according to the group in which the message originates. This marking can be done in MS. or by a rubber stamp.

5. Ships belonging to the Atlantic Fleet should use the marking "Admiralty F." Other ships in Home Waters should mark the forms according to the group in which the message is handed in at a Post Office.

6. When outlying establishments such as recruiting offices, etc., and Officers on detached duty, e.g., Overseers, are not connected with the organisation of any Command Area, they will be placed under Group A (Admiralty headquarters) and messages emanating from those Officers and establishments should be marked "Admiralty A."

**\*1555.—Permanent Cruiser Service.**

(C.W. 2024.—9.6.1922.)

The following revised regulations, governing ranks and ratings belonging to the Permanent Cruiser Service, are promulgated for information and guidance.

1. *Relative Rank.*—Officers and men of the Permanent Cruiser Service rank as follows :—

<i>Permanent Cruiser Service.</i>	<i>Corresponding Naval Rank.</i>
Chief Officer .. .. .	With Commissioned Boatswain according to seniority.
Senior Mate .. .. .	With, but after, Commissioned Boatswain.
Second Mate .. .. .	With, but after, Boatswain.
Chief Quartermaster .. .. .	With Chief Petty Officer.

(*Note.*—Ratings, other than Chief Quartermaster, are now extinct.)

2. *Uniform.*—Officers and men of the Permanent Cruiser Service wear uniform as follows :—

Chief Officer .. .. .	Same as Commissioned Boatswain.
Senior Mate .. .. .	Same as Commissioned Boatswain.
Second Mate .. .. .	Same as Boatswain.
Chief Quartermaster .. .. .	Same as Chief Petty Officer.

Chief Quartermasters on promotion to Second Mate will receive Outfit Allowances as for Warrant Officers, R.N., on promotion.

3. *Employment.*—Other arrangements having been made for the performance of the Fishery Protection duties formerly carried out by Coastguard Cruisers, the Officers and men of the Permanent Cruiser Service are surplus to requirements in so far as these duties are concerned and they will, in future, be employed in H.M. Ships and Establishments as required.

4. *Appointment of Officers and Drafting of Men.*—Appointments of Officers will be arranged by the Admiralty. The drafting of Chief Quartermasters will be arranged by the Depôts to which they belong.

5. *Pay.*—The following are the scales of pay per diem :—

Second Mate on promotion .. .. .	s.
After 3 years .. .. .	11
Senior Mate on promotion .. .. .	12
After 3 years .. .. .	13
" 6 " .. .. .	14
" 9 " .. .. .	15
Chief Officer on promotion .. .. .	16
After 3 years .. .. .	17
" 6 " .. .. .	18
" 9 " .. .. .	19
" 9 " .. .. .	20

Chief Quartermaster, same as Chief Petty Officer (Seaman Class).

(*Note.*—The new scales for Senior Mate and Chief Officer take effect from 30th December, 1921.)

6. *Travelling Expenses*.—When travelling on duty subsistence allowance is payable under the regulations applicable to the corresponding R.N. ranks or ratings.

7. *Removal Expenses*.—When finally discharged to pension or on being invalided, Chief Quartermasters are eligible for removal expenses in respect of themselves, families and effects under the regulations applicable to the Active Service. Officers are not eligible for this concession.

8. *Promotion*.—The following maximum establishment is laid down for Officers of the Permanent Cruiser Service, viz. :—

- 4 Chief Officers.
- 7 Senior Mates.
- 6 Second Mates.

Promotions are made to these ranks within the above establishment at the discretion of the Admiralty, with the proviso that a Senior Mate shall not be eligible for promotion to Chief Officer until he has attained six years' seniority as such, and that a Second Mate or Chief Quartermaster shall not be eligible for promotion to Senior or Second Mate respectively until he has attained five years' seniority as such.

Recommendations for promotion are to be forwarded to Admiral Commanding Reserves.

(*Note*.—These revised regulations as regards promotion take effect from 30th December, 1921.)

9. *Examinations*.—One Chief Quartermaster and one Second Mate are ineligible for promotion until they have passed the examinations in the subjects laid down in Articles 976 and 977, Coastguard Instructions (1911).

10. *Pensions*.—The scale of pensions for Officers is shown in the Appendix to the Navy List. Chief Quartermasters are pensioned under the same regulations as for Chief Petty Officers.

11. *Entry into the Permanent Cruiser Service*.—Entry into the Permanent Cruiser Service has ceased.

12. *Records*.—The records of Officers and men of the Permanent Cruiser Service will continue to be kept by the Admiral Commanding Reserves, to whom any correspondence in respect thereof should be addressed.

13. *Coastguard Instructions (1911)—Cancellation of References to Permanent Cruiser Service*.—All reference to the Permanent Cruiser Service contained in the Coastguard Instructions (1911), except as stated in paragraph 9, is hereby cancelled.  
(*Coastguard Instructions, 1911.*)

## 1641.—Bridles and Slings for Motor Boats.

(D. 203/22.—16.6.1922.)

The Admiral Superintendent, Portsmouth, has been informed that the particulars of slings and bridles for Motor Boats shown on tracing M.C.D. 0163A, forwarded with Yard letter, dated 3rd January, 1922, No. 28, are approved, and has been requested to arrange for prints of the tracing to be sent to all Home Dockyards for information.

2. In the case of 36 ft. Pinnaces, and 34 ft. and 32 ft. Cutters, installed with motors, that are required to be hoisted at davits, the slings should be made in accordance with the approved tracing referred to above as regards sizes and tests, but the lengths of the members should be arranged so as to suit the spread of davits, and so as to ensure a fair distribution of the pull over the different legs.

3. When supplying a motor boat to a ship the slings supplied should be made generally to suit *either* hoisting at davits or hoisting by a derrick as desired by the Commanding Officer, unless there is some special reason why both sets should be supplied. The slings supplied for hoisting at davits should *not* be used for hoisting by a bridle, and vice versa.

4. When forwarding reports of annual tests of slings on Form D.786, particulars of slings and bridles for motor boats should be stated.

5. The sketches (E.F.O. 36/22) and accompanying tabulated statement are promulgated for information.

DESCRIPTION OF BOAT.	BRIDLES.										
	F.S.W.R.	Thimble Patt. No.	Ring at "D."			Hooks at "C."				Annual Test of Assembled Bridle.	
			Size.	Patt. No.	Makers' Proof Test.	Diameter.	Diameter of Link.	Patt. No.	Makers' Proof Test.	Each Leg.	Ring.
36 ft. S. Pinnace with Aux. Motor	in. 4	1920	in. $9\frac{1}{2} \times 2\frac{3}{8}$	3104	tons 20	in. $2\frac{1}{2}$	in. $1\frac{1}{4}$	1969	tons 12	tons 11	tons 16
34 ft. S. Cutter with Aux. Motor	3	1918	$8\frac{1}{2} \times 7\frac{1}{4}$ $\times 1\frac{3}{8}$	3108	11	$2\frac{1}{2}$	$1\frac{1}{8}$	1973	7.5	7	10
32 ft. S. Cutter with Aux. Motor	3	1918	$8\frac{1}{2} \times 7\frac{1}{4}$ $\times 1\frac{3}{8}$	3108	11	$2\frac{1}{2}$	$1\frac{1}{8}$	1973	7.5	7	10
35 ft. Motor Boat	$3\frac{1}{2}$	1919	$8\frac{1}{2} \times 7\frac{1}{2}$ $\times 1\frac{3}{8}$	3107	14	$2\frac{1}{2}$	$1\frac{1}{4}$	1972	10	8.5	12
32 ft. Motor Boat	3	1918	$8\frac{1}{2} \times 7\frac{1}{2}$ $\times 1\frac{3}{8}$	3108	11	$2\frac{1}{2}$	$1\frac{1}{8}$	1973	7.5	6.5	8.75
30 ft. Motor Boat	3	1918	$8\frac{1}{2} \times 7\frac{1}{2}$ $\times 1\frac{3}{8}$	3108	11	$2\frac{1}{2}$	$1\frac{1}{4}$	1972	10	7.5	10
25 ft. Motor Boat	$2\frac{1}{2}$	1917	$8\frac{1}{2} \times 7\frac{1}{2}$ $\times 1\frac{3}{8}$	3108	11	$1\frac{7}{8}$	1	1976	5	4.5	6.25
20 ft. Motor Boat, 8 knot.	$2\frac{1}{4}$	1917	$8\frac{1}{2} \times 7$ $\times 1\frac{3}{8}$	3110	5.75	$1\frac{1}{2}$	$\frac{7}{8}$	1978	5	3.25	5
20 ft. Motor Boat, 6 knot.	$2\frac{1}{4}$	1917	$8\frac{1}{2} \times 7$ $\times 1\frac{3}{8}$	3110	5.75	$1\frac{1}{2}$	$\frac{7}{8}$	1978	5	3.25	5

DESCRIPTION OF BOAT.	SLINGS.													
	F.S.W.R.	Thimble Patt. No.	Ring at "C."			Shackles.								
			Size.	Patt. No.	Makers' Proof Test.	"E."			"F."			"G."		
						Size.	Patt.	Makers' Proof Test.	Size.	Patt.	Makers' Proof Test.	Size.	Patt.	Makers' Proof Test.
36 ft. S. Pinnace with Aux. Motor	in. $3\frac{1}{2}$	1919	in. $6 \times 1\frac{1}{2}$	-	tons 13.5	in. -	-	-	in. $1\frac{3}{8}$	Specpl.	tons 13.25	in. $1\frac{3}{8}$	2159	tons 13.25
34 ft. S. Cutter with Aux. Motor	3	1918	$4\frac{1}{2} \times 1\frac{3}{8}$	-	8.5	-	-	-	1	Specpl.	7	1	2156	7
32 ft. S. Cutter with Aux. Motor	3	1918	$4\frac{1}{2} \times 1\frac{3}{8}$	-	8.5	-	-	-	1	Specpl.	7	1	2156	7
35 ft. Motor Boat	3	1918	$5 \times 1\frac{1}{2}$	-	10	1	2156	7	1	2156	7	$1\frac{3}{8}$	2059	9.5
32 ft. Motor Boat	$2\frac{1}{2}$	1917	$4 \times 1\frac{1}{2}$	-	7.4	$2\frac{1}{8}$	2155	5.375	$2\frac{1}{8}$	2155	5.375	$1\frac{3}{8}$	2058	7.875
30 ft. Motor Boat	$2\frac{1}{2}$	1917	$4\frac{1}{2} \times 1\frac{3}{8}$	-	8.5	$2\frac{1}{8}$	2155	5.375	$2\frac{1}{8}$	2155	5.375	$1\frac{3}{8}$	2059	9.5
25 ft. Motor Boat	$2\frac{1}{4}$	1917	$3\frac{1}{2} \times 1\frac{3}{8}$	-	6	$2\frac{1}{8}$	2155	5.375	$2\frac{1}{8}$	Specpl.	5.375	$1\frac{3}{8}$	2057	6.375
20 ft. Motor Boat, 8 knot.	$1\frac{3}{4}$	1916	$3 \times \frac{7}{8}$	-	3.25	$2\frac{1}{8}$	2153	2.75	$2\frac{1}{8}$	Specpl.	2.75	$2\frac{1}{8}$	2055	4
20 ft. Motor Boat, 6 knot.	$1\frac{3}{4}$	1916	$3 \times \frac{7}{8}$	-	3.25	$2\frac{1}{8}$	2153	2.75	$2\frac{1}{8}$	Specpl.	2.75	$2\frac{1}{8}$	2055	4

DESCRIPTION OF BOAT.	SLINGS.						STEADYING LINES.						
	Hooks at "E."				Annual Test of Assembled Sling.		F.S.W.R.	Thimble Patt. No.	Hooks.				Test of Assembled Slings.
	Diameter.	Diameter of Link.	Patt. No.	Makers' Proof Test.	Each Leg.	Ring.			Diameter.	Diameter of Link.	Patt. No.	Makers' Proof Test.	
36 ft. S. Pinnacle with Aux. Motor	in. 2 $\frac{3}{8}$	in. 1 $\frac{3}{8}$	1970	tons 12.5	tons 10	tons 11.5	in. 1 $\frac{1}{2}$	1916	in. $\frac{7}{8}$	in. $\frac{1}{2}$	1982	tons 1.5	tons 1.5
34 ft. S. Cutter with Aux. Motor	2	1	1975	7	5	7.5	1 $\frac{1}{4}$	1915	$\frac{7}{8}$	$\frac{1}{2}$	1982	1.5	1.5
32 ft. S. Cutter with Aux. Motor	2	1	1975	7	5	7.5	1 $\frac{1}{4}$	1915	$\frac{7}{8}$	$\frac{1}{2}$	1982	1.5	1.5
35 ft. Motor Boat	-	-	-	-	5	8.5	1 $\frac{1}{4}$	1915	$\frac{7}{8}$	$\frac{1}{2}$	1982	1.5	1.5
32 ft. Motor Boat	-	-	-	-	4.25	6.5	1	1915	$\frac{7}{8}$	$\frac{7}{16}$	} Link, Eggshaped, to suit Thimble.	1	1
30 ft. Motor Boat	-	-	-	-	4.25	7.5	1	1915	$\frac{7}{8}$	$\frac{7}{16}$		1	1
25 ft. Motor Boat	-	-	-	-	3.75	4.625	1	1915	$\frac{7}{8}$	$\frac{7}{16}$		1	1
20 ft. Motor Boat, 8 knot.	-	-	-	-	2	2.75	1	1915	$\frac{7}{8}$	$\frac{7}{16}$		1	1
20 ft. Motor Boat, 6 knot.	-	-	-	-	2	2.75	1	1915	$\frac{7}{8}$	$\frac{7}{16}$		1	1

(A.F.O. 530/23.)

**\*1684.—Oil Fuel—Precautions.**

(N.L. 5995/22.—23.6.1922.)

Men whose duties bring them into contact with Oil Fuel should take special precautions to avoid infection. Contact with Oil Fuel is liable to cause skin affection, such as irritating rash, small boils, or an eczematous condition of the skin with fine vesicles which become pustular later on. Oil Fuel entering a crack, abrasion, or a wound is liable to cause suppuration.

2. Men working in contact with Oil Fuel are liable to get their clothing saturated, therefore clothing should be frequently changed and washed.

3. Attention should be paid to the necessity of thorough cleansing of the hands after work and any cuts or abrasions protected, after careful washing and disinfection with iodine.

4. Any man noticing any form of irritation of the skin, or inflammation of any cut or abrasion, should immediately report the matter to the Medical Officer.

**1701.—Alterations to Comply with Naval Magazine Regulations.***Dépôt Ships, Auxiliary Vessels and Vessels in Reserve.*

(S. 1163/22.—23.6.1922.)

Alterations, etc., which may be necessary to comply with the Naval Magazine Regulations in any of these vessels which have no ammunition on board, are to be deferred until the vessels again carry ammunition or are brought forward for service.

An estimate giving full details and cost of carrying out proposed alterations should be forwarded as early as possible for such vessels as are ordered to be brought forward for further service, and Admiralty approval obtained before the work is taken in hand.

### 1832.—Director Firing Installation for Secondary Armament— Spare.

*H.M.A.S. "Australia"; H.M.S. "Tiger," "Despatch," "Diomede," "Emerald," "Enterprise," "Hermes" and "Eagle"; Flotilla Leaders and Destroyers; Depot Ships "Greenwich," "Sandhurst," "Diligence"; and Port Edgar Destroyer Base.*

(G. 2475/22.—7.7.1922.)

Arrangements have been made for the supply of the following spares for the Director Firing Installations of the vessels mentioned in the accompanying schedule.

2. The distribution of the spares will be arranged by Portsmouth Yard.

3. Arrangements have been made for the supply of six bottles per quarter of lubricating oil (as supplied for fire control instruments) to "Greenwich," "Sandhurst," "Diligence," and Port Edgar, and two bottles per quarter to each Leader and Destroyer.

Spare.	"Sandhurst."	"Greenwich."	"Diligence."	Port Edgar.	Destroyers and Flotilla Leaders.
					per ship.
Training Receivers** ..	8	8	8	8	-
Training Repeat Receivers	1	1	1	2	-
Searchlight Bearing Receivers, complete with operating gear.	1	1	1	2	-
E.M.F. Gear sets, complete for 4 in. C.P. II.	3	3	-	6	-
E.M.F. Gear sets, complete for 4 in. C.P. III.	0	0	3	0	-
Henderson instruments, Mark II (including those on R.Y.P.A. Platform).	2	2	2	2	-
E.M.F. Gear—Springs for Director Firing Key ..	6	6	6	12	1
Henderson Firing Switches	1	1	1	2	-
Sliding Plungers, bracket, complete—**	2	2	2	2	-
Strengthened type ..	3	3	3	3	-
Weak type .. ..	3	3	3	3	-
Ball bearings, complete, for Vickers' motors.††	12	12	12	24	-
Grub screws for vernier couplings.	To be made on board Depot Ships and distributed as desired.				
Washer, rubber, for cover plate to vernier coupling for Training Receiver.	6	6	6	12	-

\*\* Already supplied. †† To be "Locally Purchased" by Portsmouth Yard.

4. The brush springs for the old type slow break transmitter switches are to be supplied to ships fitted with the old type of transmitter switches. These ships are :—  
 "Nimrod," "Grenville," "Seymour," "Saumarez," "Anzac," "Valkyrie,"  
 "Valentine," "Vampire," "Vancouver," "Vanessa," "Vanity," "Versatile,"  
 "Venturous," "Vanquisher," "Vega," "Velox," "Vimiera," "Vesper," "Vidette,"  
 "Vivacious," "Vivien," "Vectis," "Vortigern," "Viceroy," "Viscount,"  
 "Venetia," "Voyager," "Walker," "Westcott," "Whirlwind," "Wrestler,"  
 "Wolsey," "Woolston," "Westminster," "Windsor," "Wakeful," "Watchman,"  
 "Winchelsea," "Warwick," "Wessex," "Walrus," "Wolfhound," "Waterhen,"  
 "Walpole," "Whitley," "Speedy," "Shark," "Sparrowhawk," "Simoom,"  
 "Scimitar," "Scotsman," "Scout," "Sikh," "Senator," "Sepoy," "Scythe,"  
 "Tribune," "Torch," "Tomahawk."

*Column 2.*—"Keppel," "Broke" (late "Rooke"), "Wanderer," "Vansittart," "Whitshed," "Whitshed," "Veteran," "Venomous," "Verity," "Volunteer," "Wetherington," "Wivern," "Wishart," "Wolverine," "Wren," "Worcester," "Witch."  
*Column 3.*—"Nimrod," "Greenville," "Seymour," "Saumarez," "Anzac," "Shakespeare," "Spenser," "Douglas," "Montrose," "Stuart," "Campbell," "Malcolm," "MacKay," "Wallace," "Valkyrie," "Valorous," "Valentine," "Valhalla," "Vancouver," "Vanessa," "Vanity," "Vanderbilt," "Vandenberg," "Vanoc," "Vanquisher," "Vega," "Velo," "Violent," "Vimiera," "Vesper," "Vidette," "Vivacious," "Vivien," "Victory," "Victor," "Viscount," "Vendetta," "Venturia," "Voyager," "Walker," "Westcott," "Whirlwind," "Wrestler," "Walsey," "Woolston," "Westminster," "Windsor," "Wakful," "Watchman," "Winchelsea," "Winchester," "Warwick," "Wessex," "Walrus," "Wolfhound," "Waterhen," "Wryneck," "Walpole," "Whitley," "Shark," "Sparrowhawk," "Splendid," "Simoom," "Scimitar," "Sabre," "Saladin," "Sikh," "Serapis," "Serene," "Sesame," "Sirdar," "Somme," "Senator," "Success," "Shamrock," "Swallow," "Stormcloud," "Stormy," "Scout," "Swordsman," "Steadfast," "Sterling," "Sportive," "Stalwart," "Spear," "Spindrift," "Strenuous," "Stronghold," "Sturdy," "Seabear," "Seafire," "Seawolf," "Turquoise," "Tuscan," "Tyrian," "Tobago," "Turbulent," "Tenedos," "Thanet," "Trojan," "Trusty," "Torbay," "Tourmaline," "Tribune," "Trinidad," "Tactician," "Tara," "Tasmania," "Tattoo," "Tilbury," "Tintagel," "Torch," "Tomahawk," "Tumult," "Thraetian," "Shikari."  
*Column 4.*—"Radstock," "Rapid," "Rocket," "Romola," "Rival," "Raider," "Relentless," "Rowena," "Restless," "Rigor," "Rob Roy," "Redgauntlet," "Rosaling," "Retriever," "Redoubt," "Sabrina," "Sarpodon," "Sturgeon," "Sceptre," "Salmon," "Sable," "Sorcerer," "Sylph," "Sable," "Sorress," "Sybille," "Stork," "Sharpshooter," "Skate," "Skullful," "Springbok," "Starfish," "Tormentor," "Taurus," "Teazer," "Truulent," "Tyrant," "Torril," "Torril," "Tremulous," "Tetrapod," "Tetrarch," "Tribse," "Tancred," "Thruater," "Tower," "Umpire," "Urchin," "Ursa," "Undine," "Ulster," "Urslu," "Trenchant."  
*Column 5.*—"Eagle," "Hermes," "Diomedes," "Despatch," "Diomedes," "Emerald," "Enterprise," "Australia" (for Secondary Armament). *Column 6.*—"Tiger."

	Spare Part.					Per ship.	Per ship.	Per ship.	Per ship.
	(2)	(3)	(4)	(5)	(6)				
C. Springs for quick break switches	2 per ship	2 per ship*	2 per ship	2	2	2	2	2	-
Motors—"detachable" type	2 " "	2 per ship*	2 per ship	5	5	5	5	5	-
Contact Plates—for motors	2 per 4 ships†	2 per 4 ships†	2 per 4 ships†	2	2	2	2	2	-
Transmitter Switches—slow break (new type)	2 per 4 ships†	2 per 4 ships†	2 per 4 ships†	2	2	2	2	2	-
" Switches—quick break (new type)	2 per 4 ships†	2 per 4 ships†	2 per 4 ships†	1	1	1	1	1	-
Transmitter switch brush springs (for old type slow break transmitter switch)	-	12 per ship for ships fitted with old part. switch.	-	-	-	-	-	-	-
Transmitter switch brush springs (for new type slow and quick break transmitter switches)	Spare set supplied with switches.	Spare set supplied with switches.	Spare set supplied with switches.	Spare set supplied with switches.		10	10	10	-
Dexine Joints—for M.C.C. plates	5 per ship	-	3 per ship	5	5	5	5	5	-
" " for face of training receiver and elevating receiver.	3 " "	-	2 " "	5	5	5	5	5	-
Canopy Roller, Axle Pin, and Bearing	3 sets per ship	-	-	2	2	2	2	2	1
Glasses—for elevating receiver	1 set " "	-	-	5 sets	5 sets	5 sets	5 sets	5 sets	-
Screws—for elevating receiver	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Rubber Rings—for elevating receiver	3 sets " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Glasses—for training receiver	1 set " "	2 sets per ship	2 sets per ship	5 sets	5 sets	5 sets	5 sets	5 sets	-
Screws—for training receiver	1 set " "	1 set " "	1 set " "	1 set	1 set	1 set	1 set	1 set	-
Rubber Rings—for training receiver	1 set " "	1 set " "	1 set " "	1 set	1 set	1 set	1 set	1 set	-
Glasses—for elevating repeat	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Screws—for elevating repeat	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Rubber Rings—for elevating repeat	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Glasses—for training repeat	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Screws—for training repeat	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Rubber Rings—for training repeat	1 set " "	-	-	1 set	1 set	1 set	1 set	1 set	-
Glasses—for searchlight receiver	2 sets " "	2 sets " "	2 sets " "	-	-	-	-	-	-
Screws—for searchlight receiver	1 set " "	1 set " "	1 set " "	-	-	-	-	-	-
Rubber Rings—for searchlight receiver	1 set " "	1 set " "	1 set " "	-	-	-	-	-	-
Screws—for motor casings	1 set " "	1 set " "	1 set " "	1 set	1 set	1 set	1 set	1 set	1 set
Washer, rubber, for cover plate to vernier coupling for training receiver.	2 per ship	2 per ship	2 per ship	-	-	-	-	-	-

\* One motor for each destroyer and flotilla leaders to be carried on board these vessels. The second motor for these vessels to be carried on board their Depot Ships or Port Edgar.  
 † These items for destroyers and flotilla leaders are to be carried on board the respective Depot Ships or Port Edgar.

All other ships mentioned in the schedule are fitted with the new types of transmitter switches. Spare sets of brush springs are supplied with these switches, both component and spare, and therefore further sets of spare brush springs will not be supplied.

5. New types of slow break transmitter switches are supplied as spare, both for ships with the old and new type of transmitter switches, and therefore when a switch of the old type becomes defective it will be replaced by the new type of spare transmitter switch.

6. Spare motor alternators and control panels, together with spare switches of the patterns used in the director installation systems, and secondary cells, are kept at all Dockyards to which the vessels are attached.

### **2176.—Temporary Clerks—Notice of Discharge.**

(C.E. 7023/22.—4.8.1922.)

Members of the Temporary Clerical Staffs of H.M. Dockyards and other Naval Establishments are in future, when discharged, to be given one month's written notice, and, where possible, one month's prior warning notice in addition. This is not intended to apply to Temporary Clerical Staff dismissed without notice for misconduct.

### **2294.—2 pdr. Pom-Pom Guns—Firing Trials after Repairs.**

(G. 7413/22.—11.8.1922.)

In future, when 2 pdr. Pom-Pom guns have been repaired, the following procedure should be observed in regard to the firing trials referred to in paragraph 753, Regulations for Naval Armament Services, 1922, viz. :—

After fitting new barrel, extensive repairs, or general overhaul wherein new parts have been fitted, a firing trial should be carried out by the local Gunnery School.

The firing trial should consist of a few rounds in single shot to adjust the speed of run out and a short burst in automatic to ensure the gun is functioning correctly at high elevation.

Arrangements for the firing trials to be carried out should be made between the Naval Armament Supply Officer and the local Gunnery School. The Naval Armament Supply Officer will consult the local Assistant Inspector of Naval Ordnance when making these arrangements.

No 2 pdr. gun after such repair should be issued to the service until the Assistant Inspector of Naval Ordnance has certified that the gun has passed its firing trial and is serviceable and fit for issue.

### **2264.—Winter Complement.**

*Surveying Ships.*

(M.—18.8.1922.)

Officers of the Accountant Branch are not included in the winter complement of surveying ships in Home Waters.

The Accounts of these ships, which are independent Commands, are to be kept in the Depôts during the winter months, and revert to the Ships' Accountant Staffs on completing to Summer Complement. The continuity of commissions in these ships is to be preserved.

Special instructions will be given where necessary as regards Surveying Ships in Foreign Waters.

**2285.—Guncotton Charges—Mediterranean Station to be regarded as a Hot Station for purposes of Examination, etc.**

(G. 4190/22.—18.8.1922.)

It has been decided to regard the Mediterranean as a hot station for the purposes of the examination, etc., of guncotton charges, dry and wet, and action is to be taken as laid down for tropical stations.

**\*2293.—Badges of H.M. Ships—Reproduction.**

(S 3224/22.—18.8.1922.)

Permission to reproduce the designs officially approved as the Badges of H.M. Ships is granted to the Public under the following conditions :—

A Royalty Fee of one shilling is payable in respect of each design reproduced. Permission is only granted with the authority of the Controller of His Majesty's Stationery Office in whom Crown Copyright of these designs is vested by Royal Letters Patent.

A photograph of the design, together with information as to colours and motto, is obtainable on payment of 1s. 6d. each Badge. Applications should be addressed to :—

Charles J. ffoulkes, Esq., B. Lit., F.S.A.,  
 Adviser on Heraldry to the Admiralty  
 Committee on Ships' Badges,  
 Imperial War Museum,  
 Imperial Institute Road,  
 South Kensington, S.W.7.

**2509.—Tools Missing from Workmen's Tool Boxes Stowed in the Yard.**

(N.S 11287/22.—8.9.1922.)

Cases having been reported in which workmen's tool boxes have been found to have been tampered with and tools, etc., stolen, all workmen having tool boxes in the Yard are to be informed that the Admiralty accept no liability for loss of tools by theft, and the grant of assistance to the extent of meeting half the cost of replacement will only be considered as an act of grace, and then only if the tool boxes are stowed in authorised places.

All Yards are to prepare a list of authorised places where tool boxes may be stowed, and this list is to be brought to the notice of all employees in possession of such boxes.

**2697.—Entertainment of Officers by Naval Ratings.**

(N.L. 8845.—6.10.1922.)

It has been brought to Their Lordships' notice that a practice has arisen of dinners given to Naval Officers by Clubs or Societies of Chief Petty Officers or other Naval Ratings under their orders.

2. Article 23 of the King's Regulations and Admiralty Instructions forbids any Officer to allow himself to be complimented by presents or by any collective expression of opinion from Officers or Ships' Companies. In Their Lordships' opinion it is not conducive to the maintenance of discipline that Officers should accept invitations to be the guests at dinners of Naval Ratings under their orders, and it is considered that the acceptance of such invitations should be regarded as coming within the scope of the prohibition in the Article above quoted.



3. There is not the same objection to the attendance of Officers, not as themselves the principal guests, at other forms of entertainments such as balls or dances or concerts organised in H.M. Ships or Establishments, whether for charitable or social purposes; and Officers, subject to the approval of the Senior Naval Officer in any doubtful case, may exercise their own discretion as to their attendance at such functions.

(*K.R. and A.I., Art. 25.*)

### **3104.—Electrical Machinery, etc., Removed from H.M. Ships—“As fitted” Drawings.**

(S. 3824/22.—17.11.1922.)

When Electrical Machinery, etc., is removed from any ship and placed in store for appropriation to other services, “as fitted” drawings of the plant are to be deposited with the Electrical Department of the Dockyard concerned and supplied with the plant when reissued from store for further service.

2. Such drawings now held by any ships from which Electrical Plant has been removed should be forwarded to the Yard concerned in order that they may be reissued as necessary.

3. In the event of drawings being applicable to other similar machines remaining in the ship, the Dockyard Officers should arrange for the duplication of the drawings as necessary.

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## **1923.**

### **\*59.—Colonial Allowances to Naval Officers—Reports on and Applications for—REPORT.**

(C.W. 16700/21.—12.1.1923.)

Considerable delay is caused in a number of cases in considering applications for Colonial Allowances, owing to the fact that all the necessary information is not forwarded with the original application.

2. A Colonial Allowance is intended to meet that part of the necessary expenditure of an Officer himself in respect of food, accommodation, and attendance, which, owing to the exceptional circumstances, is not covered by his normal allowances when serving on shore abroad. Colonial Allowance is therefore simply a compensatory allowance and is not of the nature of an emolument; and the deciding factor in assessing its amount is the expense which would necessarily be incurred by an unmarried Officer in the post in question over and above that which he might be expected to incur on board ship, taking into account the fact that he is liable for messing contribution when serving afloat.

3. In future, commencing with the reports due to be made on 1st January, 1923, annual reports in connection with the yearly review of all Colonial Allowances paid to Naval Officers, whether holding Fleet or Establishment appointments, are to be rendered in two parts:—

(a) A report by the Commander-in-Chief on the position generally.

(b) A report by each Officer drawing Colonial Allowance showing the arrangements made for food, accommodation, and attendance, and also the actual expenses incurred.

(a) The Commander-in-Chief's report should include the following information:—

- (i) Whether it is possible for Naval Officers serving on shore to select accommodation according to their ranks, or whether the supply of accommodation is so limited that no choice exists.
- (ii) The current charges for food, accommodation, and attendance in hotels and apartments suitable for unmarried Officers of the ranks (or equivalent ranks) shown below:—

Rank.	Living in Hotels.	Living in Furnished Lodgings.
Captains, R.N., and above		
Commanders, Lieutenant-Commanders and Lieutenants.		
Commissioned Officers from Warrant rank, Warrant Officers.		

(iii) A list of local prices of foodstuffs, etc., for comparison with the prices charged in England.

(b) The report to be made by the Officers concerned should be drawn up on the lines shown in the Appendix.

4. Information in the form prescribed above is to be forwarded with any future application for Colonial Allowance made on behalf of Officers serving on shore in appointments abroad who find that their ordinary allowances are insufficient to meet their living expenses, the particulars in Paragraph 3 (b) being supplied by the Officer making the application, and a covering report in the form laid down in Paragraph 3 (a) being added by the Commander-in-Chief on the Station.

#### APPENDIX.

*Particulars to be furnished in support of an application for Colonial Allowance. The annual reports to be made by Officers drawing Colonial Allowances are also to be drawn up in this form.*

1. Name and rank of Officer.....
2. Duty on which employed.....
3. Place at which serving.....
4. Actual arrangements made as regards—(a) Accommodation.....  
(b) Food.....  
(c) Attendance.....

(Details of the class of accommodation should be given, e.g., furnished lodgings, hotel, furnished house, etc.)

5. Whether service accommodation, messing, or attendance is available. If available, but not utilised, a full explanation should be given.....

- 6. Number of persons in household (including servants), and ages of children (if any) .....
- 7. Compensatory allowances drawn.....

8. STATEMENT OF ACTUAL EXPENDITURE AND PRICES.

Expenditure during three months' period ended.....192 .

A.—FOOD, ETC., CONSUMED BY HOUSEHOLD.				B.—OTHER EXPENSES.
Commodity.	Quantity consumed in three months (stating units used).	Total Cost (in local currency).	Average cost per unit quantity (in local currency).	Expenditure for three months (in local currency).
				Rent .....
<b>FOOD—</b>				Wages for .... servants..... (state number employed).
Bread ... ..				
Flour ... ..				
Beef ... ..				
Mutton ... ..				
Poultry ... ..				
Bacon, Ham ... ..				
Tinned meats (by weight).				
Fish ... ..				
Eggs ... ..				
Milk, new ... ..				
Milk, tinned ... ..				
Butter ... ..				
Cheese ... ..				
Sugar ... ..				
Jam, Preserved fruit.				
Important vegetables and fruit				
Other foods unclassified.				
Tea ... ..				
Coffee ... ..				
Cocoa ... ..				
Mineral waters ... ..				
<b>FUEL AND LIGHTING</b>				Any other remarks on the subject of the cost of food, accommodation and attendance :—
Coal ... ..				
Coke ... ..				
Oil ... ..				
Firewood ... ..				
Methylated spirit				
Gas ... ..				
Electricity ... ..				

129.—Battle Practice Targets.

(D. 24447/22.—19.1.1923.)

The Shackles used to connect the short lengths of cable of towing spans to the under water eyeplates are to be fitted with pins and pellets instead of forelocks.

## 283.—Alterations to be Carried Out on Ships taken in hand at Dockyards for Large Repairs, Reconstruction or Conversion—Procedure.

(D. 1616/23.—2.2.1923.)

As soon as approval of the Board has been given for the inclusion in the Sketch Estimates for an ensuing financial year of specific ships under the heading of Large Repairs, Reconstruction or Conversion, the Admirals Commanding the Squadron, etc., to which the ships are attached will be so notified in order that full lists of approved and proposed alterations and additions desired to be carried out may be forwarded as soon as possible.

The lists so forwarded are to be comprehensive and are to contain all known requirements. After decisions have been given thereon, the repairing Yards will be informed of the approved items, in order that the Board may be furnished, before the commencement of the work, with reliable estimates of the cost involved.

Should the necessity arise at a later date to submit supplementary items of alterations and additions, a special report should accompany each proposal giving detailed reasons for the necessity of the item, why it was not included in the original list, and why it is not practicable to defer it until vessel's first refit after re-commissioning.

The above procedure has been adopted with a view to compiling, before a ship is taken in hand by Dockyard, a detailed list of the work to be carried out, thus avoiding the present practice of submitting supplementary items during the progress of the work, which practice frequently entails delay in completion of the ship, and increased cost.

## 367.—Floating Docks—Care and Maintenance.

*Dockyards Concerned.*

(D. 2200/23.—9.2.1923.)

In order that due consideration may be given to the proper upkeep of floating docks, all Dockyards to which floating docks are attached are to forward, twice a year, on 1st July and 1st January, a diagrammatic sketch of the dock, indicating the date when each compartment was last completed as regards scraping and painting.

2. The diagrams should be accompanied by a general statement as to the compositions used, condition of tanks, etc., when taken in hand, also such information as is available regarding the state of the outer bottom.

## 413.—“Dreyer's” Fire Control Tables—Repair.

(N.S./G. 17371/22.—16.2.1923.)

It has been decided that the work of repair of Dreyer's Fire Control Tables (including Turret type), which is beyond the capacity of the Ships' Staffs, shall in future be undertaken by the makers, Messrs. Elliott Brothers (London), Ltd.

2. These Tables are “Sea Stores,” and in the event of a Table or a part of a Table being defective, the Commanding Officer should forward the usual Form S.331, Requisition for Survey, to the Naval Store Officer at the Storing Yard. The requirements should be stated as fully and concisely as possible on the requisition for the information of the Yard Officers, and in order that the necessary particulars may be communicated to Messrs. Elliott Brothers (London), Ltd. If the matter is considered sufficiently urgent, the Commanding Officer may communicate his requirements direct to the firm, informing the Yard at the same time.

3. The Tables should not be removed for survey by the Dockyard Officers. In most cases it will be unnecessary to remove the defective part, as it is intended that the defect shall be made good by replacement of the part found by the ship to be worn or working badly.

4. Orders for repair and supply of replace parts should be placed locally by the Naval Store Officer at the Storing Yard, covering Admiralty approval being obtained when necessary. In the event of difficulty arising in regard to price proposed by firm, the matter should be reported to the Director of Contracts, Admiralty.

5. The foregoing instructions are applicable to ships in Home Waters, and in the case of ships abroad the necessary particulars should be communicated to the Director of Stores, Admiralty.

6. All requisitions received by Yards for repair to Dreyer's Tables should be considered urgent.

**449.**—*Issued Confidentially.*

**468.**—**Lifting Hooks, Keel Plates, Bolts, etc., of Boats of Mercantile Type—Survey.**

(S. 470/23.—23.2.1923.)

A considerable number of vessels, e.g., Oilers, Hospital Ships, Ferry Steamers, Store Carriers, Paddle Minesweepers, Tugs, etc., carry boats of the mercantile type in which the lifting hooks are not readily detachable for testing periodically, and in which the keel plates are of steel or iron instead of gunmetal as in Service Boats.

In all such cases the lifting hooks, keel plates, bolts, etc., are to be carefully surveyed by the Dockyard at least once a year, and if any appreciable deterioration arising from wear or corrosion is observed the parts are to be replaced by galvanised steel fittings of at least equivalent strength.

New fittings are to be tested before fitting in place, by applying a pull equal to the weight of the boat plus two men to *each* of the forward and after lifting appliances.

The results of survey, etc., are to be reported on Form D.786.

Commanding Officers are to request the Dockyard to carry out the survey referred to on the occasion of the annual test of boats' slings or at any convenient time such as the annual refit, an item being inserted on the Defect List.

**\*498.**—**Senior Naval Officer—Use of Title.**

(M. 10376/23.—2.3.1923.)

The title "Senior Naval Officer" is frequently assigned to an officer appointed specifically for the charge of naval interests at a Port or in a District.

2. As this practice appears to be open to the objection that confusion may arise whenever an officer senior to the local "Senior Naval Officer" arrives afloat, it has been decided to discontinue it.

3. In future, the titles "Naval Officer in charge," "Captain in charge," or, in particular cases, "Resident Naval Officer" will be used, and Commanders-in-Chief should conform to this rule in any local orders they may issue.

**530.**—**Forward Sling Plates for Motor Boats fitted with Bridles.**

(S. 19/23.—2.3.1923.)

The drawing (E.F.O. 8/23) of the approved arrangement of forward sling plates for 35 ft., 30 ft., 25 ft. and 20 ft. motor boats fitted with bridles, is promulgated for information.

2. Boats of the types named which require bridles fitted on appropriation to a ship should have the modified sling plates fitted at the same time, if those in the boats are of lower tests than those now required.

3. The work is not to be undertaken until approval of an estimate of the cost involved has been obtained.

(A.F.O. 1641/22.)

**706.—Stationery—Unpacking.**

(Sta. 4583/23.—16.3.1923.)

Attention has been drawn by H.M. Stationery Office to the number of instances where packing cases, which have contained stationery, have been returned by Services as empty to that Department, and found upon examination to contain among the loose packing paper, articles which have been reported on the relative delivery note as missing from the consignment, or which have been duly signed for as received.

Care should be taken by the officers responsible for the unpacking and checking of stationery supplies to remove and search the packing paper to ascertain whether all articles have been taken out of the case.

**\*709.—Civil Staffs—Promotion.**

(C.E. 720/23.—16.3.1923.)

The following statement regarding the principles that will be acted upon and the procedure that will be followed in making promotions to fill vacancies in the Civil Staff of the Admiralty and Outport Establishments is promulgated by the Board for information and guidance. This action is consequent on the adoption by the Admiralty Administrative Whitley Council of the report of its Special Committee, which was set up to consider the application of the recommendations of the National Council Report on the principles and method of promotion in the Civil Service to the Civil Staffs of Admiralty Headquarters and Outport Establishments.

1. The procedure outlined below is not applicable to posts, the maximum salary of which is above £900 a year; the appointments to such posts will be made by the First Lord personally, who will be guided solely by the interests of the Service in making his selections.

2. The consideration ruling all promotions is the advancement of the efficiency of the public service, and this can only be secured by determining promotions on the ground of fitness. The qualities which are normally factors in determining fitness are stated in the form of Annual Report. For different posts, however, the relative importance of qualities varies and the fitness of an Officer is indicated not by a mere enumeration of the qualities he has displayed in the past, but by the extent to which he possesses that combination of quantities which is requisite for the work to be performed in the immediate or more distant future. In promotions to posts in which the work is of a routine character seniority will be allowed more weight than in the case of promotions where greater responsibilities and initiative are involved.

Any attempt to secure promotion by the exercise of influence will result in disqualification.

3. Vacancies in the Civil Staff will continue to be notified in Admiralty Fleet Orders as at present except on special occasions where reasons of urgency compel a vacancy to be filled without notification (*see* paragraph 11).

The notification of vacancies is not intended to encourage applications, the machinery for effecting promotions being such as to render applications unnecessary except in special cases where candidates may be called for owing to exceptional circumstances.

4. The duty of initiating action for the filling of vacancies by promotion rests with the Head of the Admiralty Department in which the vacancy occurs. In cases where the occurrence of a vacancy can be foreseen (e.g., where it is caused by a retirement owing to age or impending transfer) he should not await the departure of the present holder of the post before initiating action, but should do this as soon as possible after the occurrence of the vacancy can be foreseen.

5. The final responsibility for all promotions rests with the First Lord. In very exceptional cases, where the public interest renders it necessary, it will remain within the competence of the First Lord to make any promotion without following the normal procedure. In cases where this exceptional action is taken, a statement of the fact and of the reason for it will be communicated to the Admiralty Administrative Whitley Council. Subject to this stipulation, the following procedure will be adopted for selecting Officers for promotion to vacancies.

6. The Head of the Admiralty Department in which the vacancy occurs should ask for a meeting of the Promotion Board, which will normally consist of the Principal Establishment Officer or his Deputy, the Head of the Admiralty Department concerned and one or more Departmental Officers of experience and standing. It will, where possible, meet prior to the actual occurrence of the vacancy it is to consider.

The Promotion Board, besides calling for and considering any evidence likely to be of assistance to it, will take into account the confidential annual reports upon Officers which are referred to in a later section of this Memorandum.

7. In order to provide for the due consideration of any information in the possession of the Staff, or any representations that they may desire to put forward, the Promotion Board will take evidence from one, or in special cases more than one, representative nominated for the purpose by the Staff Side of the Admiralty Administrative Whitley Council, or by the Staff Side of the District or Office Committee, as may be appropriate to the particular case under consideration. It is the duty of the Promotion Board to see that full opportunity is given to such representative or representatives to furnish any information or make any representation that may be relevant, and to give full consideration to these views in arriving at their recommendation. The Promotion Board will recall the Staff Side representative if it desires to hear further evidence from him before reaching a conclusion.

The recommendation of this Board will in all cases be in the form of a written report to the Secretary of the Admiralty, and the final approval will rest with the First Lord, or other Member of the Board to whom the duty may be assigned by the First Lord under the Table of Distribution of Admiralty Business.

8. Local Promotion Boards will not be established at the outports, the Central Promotion Board at the Admiralty being employed when necessary. In cases where volunteers for foreign service are called for, involving promotion for the selected candidate, the procedure described above will apply.

9. All appointments to fill vacancies will be published in Admiralty Fleet Orders in the same way as vacancies.

#### APPEALS.

10. It will be permissible for any individual Officer or Officers to make representations in regard to any promotion that has been made affecting him or them; and in doing so he or they may associate with himself or themselves a representative of the Staff Side of the Admiralty Administrative Whitley Council, or Office Committee, or other member of the Staff. Any such representation must be made within one month of the receipt of the Admiralty Order announcing the appointment in question.

Any appeal put forward for consideration under this procedure should be forwarded through the ordinary official channels, but without comment by any forwarding Officer, to the Secretary of the Admiralty. Where the member of the Staff making an appeal desires to associate with himself a Staff representative or other member of the Staff, the appeal should be signed

by the latter Officer as well, the capacity in which he signs being stated. These representations will ordinarily be dealt with in one of the following ways, as may seem to be most appropriate:—

- (i) The case may be dealt with by the First Lord or by some other member or members of the Board of Admiralty, with or without assessors.
- (ii) It may be remitted to the Promotion Board for re-hearing.
- (iii) It may be referred to some other advisory body for consideration.

The line of action to be adopted as a result of the consideration of such an appeal must be determined according to the actual circumstances of each individual case, but the report of the body that considers any such representation will receive special consideration by the Promotion Board on the next occasion on which a vacancy in the appropriate grade has to be filled.

Where an Officer making an appeal attends in person at his own desire to make his representations, he must pay his own expenses. If in connection with any appeal the attendance of an Officer from a station outside London is considered necessary by the Promotion Board or other body considering an appeal, he will be officially directed to attend, and his travelling and subsistence expenses will be paid on the ordinary Service basis.

#### ACTING APPOINTMENTS.

11. The above procedure may in certain circumstances (e.g., where candidates are serving on foreign stations) become so protracted as to render it desirable to fill a vacancy temporarily by an Acting appointment.

The Promotion Board will be responsible for drawing attention to and making recommendations regarding such cases, and the matter is one on which it will be proper for the nominee or nominees of the Staff Side giving evidence before the Promotion Board to make representations.

#### PROMOTION TO OTHER CLASSES.

12. The Promotion Board machinery will be used for investigating and reporting upon the qualifications of members of the Departmental and Clerical Classes recommended by the Heads of the respective Admiralty Departments for admission to the Executive Class Training Grade, and the qualifications of members of the Staff to be recommended to the Central Pooling Authority for admission to the Administrative Class.

These recommendations will ordinarily be called for once a year from the Admiralty Departments, and a special Promotion Board will be appointed to consider them. The names sent forward to the Central Pooling Authority will be notified in Admiralty Fleet Orders in the same way as appointments.

Similarly a special Promotion Board will be appointed to consider the qualifications of Writing Assistants, Typists, and Shorthand-Typists recommended by Heads of Admiralty Departments for promotion, subject to trial on the higher duties, to the Clerical Class. This Board also will normally sit once a year.

Attention is drawn to the principle laid down in paragraph 39 of the report of the Civil Service National Whitley Council Reorganisation Committee that Members of the Clerical Class (normally of the Higher Grade) are eligible on their merits for promotion to higher posts in competition with those holding Assistant rank. First Grade Clerks, Higher Clerical Officers and Staff Officers are so eligible.

Second Grade Clerks in the Supply and Accounting Departments are eligible for promotion to the rank of Assistant. Having regard, however, to the principle of paragraph 35 of the Civil Service National Whitley Council Reorganisation Committee such promotion should be exceptional when the operation of the new scheme of organisation has had time to develop fully.



## ANNUAL REPORTS.

13. As from 1st January, 1923, the existing Form D.271 (Report on Conduct and Ability of Civilian Officers and Clerical Staff) will be abolished. A new form will be substituted.

These reports are to be completed on 1st January of each year in respect of all Civilian Officers serving in Grades whose maximum salary is not more than £700 per annum. They apply not only to Officers in Treasury and Departmental Classes, but also to Technical and Professional Officers within the above limit of salary scale. They are to be forwarded through the Head of the Admiralty Department to the Secretary of the Admiralty (C.E. Branch) where they will be kept in the sole charge of an Officer not below the rank of Principal.

Reports shall be rendered in respect of Yard Officers who are Principal Officers of Dockyard Departments and who are within the prescribed salary limits, but that in cases where there is a change of Admiral or Captain Superintendent or Senior Officer-in-Charge during the last three months of the period covered by the report the outgoing Superintendent or Senior Officer-in-Charge shall prepare the report and hand it to his successor, who will forward it to the Admiralty on 1st January with any comments that he may then desire to add.

In the case of Officers serving at the Admiralty the forms are to be compiled by the Heads of Branches and forwarded in duplicate to the Head of the Department concerned, who for the purpose of ensuring that they are fairly rendered shall scrutinise them in consultation with a nominee of the Office Committee who shall be senior in grade to those whose forms are under consideration. The duplicate copies of the forms are to be retained in the personal care of the Head of the Department.

In the case of Officers serving at outports the forms are to be compiled in duplicate by the local Head of the Department, and after scrutiny with a nominee of the Local Office Committee, senior in grade to those whose forms are under consideration, they are to be forwarded through the Head of the Outport Establishment to the Head of the relative Department at the Admiralty, where for the purpose of general co-ordination a similar scrutiny will be conducted.

The instructions on the back of the Form should be carefully read by the certifying Officer before the form is completed, and the Officer compiling the report should bear in mind that its primary purpose is to assist the Promotion Board in deciding the fitness of a man for promotion, and he should therefore include in it any information in his possession that is relevant to this question.

Where there is any difference of opinion between the Head of the Department and the Staff nominee in regard to an individual, the views of the Staff nominee, with his reasons for differing from the marking given, are to be attached to the report.

### 715.—Vote 8, Section III, Subhead F—REPORT.

(S. 5232/22.—16.3.1923.)

In order to secure better control of the expenditure under Vote 8, Section III, Subhead F—Inspection of Contract Work—Dockyard Establishments are to report to the Secretary of the Admiralty (Ship Branch) each quarter, commencing with 1st April, 1923, the names and ranks (acting rank whilst on overseeing duties, if any) of the Dockyard Officers and workmen who are employed on overseeing duties at Contractors' works and the total remuneration paid to them in the preceding quarter.

2. Admiralty Overseers are to forward similar reports as regards locally entered staff.

3. An addition should be made to the report in all cases of any other expenditure incurred in the preceding quarter which is chargeable to Vote 8, Section III, Subhead F, so as to provide a complete statement of the quarter's expenditure under this Subhead.

**718.—Oil in Navigable Waters Act, 1922.**

(M./N.S. Fuel 9069.—23.3.1923.)

The Oil in Navigable Waters Act, 1922, has provided for control of private and commercial stocks of oil on land adjacent to navigable waters, or in ships and vessels in territorial waters of Great Britain and Northern Ireland and the waters of harbours therein. The provisions of the Act do not, however, apply to Crown vessels of any description. It is, however, desirable that H.M. Ships and Fleet Auxiliaries should comply with the provisions of the Act so far as conditions permit.

2. All possible precautions are to be taken to prevent the pollution of harbours, docks and waterways.

3. Admiralty Oilers let out on charter to private firms cannot, however, be considered as exempt from the provision of the Act as the Masters of such vessels are liable to all orders and instructions regarding employment which they may receive from the Charterers.

4. Copies of the Act will be supplied on demand from the Superintendent, West India Docks, to H.M. Ships and Vessels in Home Waters, and will be distributed, accompanied by copies of the present Order to all Admiralty Oilers, including those under management.

(A.F.Os. 1173/27 and 6/28.)

**\*744.—Admiralty Moorings and Berths—Use by Private Vessels —REPORT.**

(N.L. 2017/21.—23.3.1923.)

**PAYMENT FOR USE OF ADMIRALTY MOORINGS.**

In future the use by private vessels of Admiralty moorings in waters under Admiralty jurisdiction will be permitted only on payment of charges at the following daily rates according to the net tonnage of the vessel, every completed period of 24 hours and any incomplete period of 24 hours to be reckoned as a day:—

							£	s.	d.
Vessel of net tonnage of 5,500 tons and over	...	...	...	...	...	...	2	2	0
" " " " 1,800 " " under 5,500	...	...	...	...	...	...	1	11	6
" " " " 500 " " " 1,800	...	...	...	...	...	...	1	1	0
" " " " 100 " " " 500	...	...	...	...	...	...	0	17	6
" " " " under 100 tons	...	...	...	...	...	...	0	15	0

Payment will also be required of the cost as determined by the Admiralty of the services of any Dockyard Tugs which may be employed in attending or assisting, and of the cost of any other Dockyard Labour employed or materials expended.

2. Before a vessel is authorised to use an Admiralty mooring on repayment the signature of the owner or master is to be obtained to Form D.563, which embodies certain conditions exempting the Crown from liability for damage and a consent to pay for the use of the mooring at the rates detailed in paragraph 1 above. Copies of Form D.563 can be obtained on demand from the West India Docks, but demands are to be restricted to the minimum numbers considered necessary.

3. Form D.563 is not applicable to Foreign Warships, to vessels trading with the Admiralty for carriage of stores, etc., which occupy Admiralty moorings for the loading or discharging of Government cargo, or to private yachts of a net tonnage of ten tons and under. Vessels trading with the Admiralty for the carriage of stores, etc., will not be charged for the use of Admiralty moorings except in respect of any additional days for which the moorings are occupied beyond the time required for the loading or discharge of Government cargo. Private Yachts of ten tons and under will not be charged for the use of Admiralty moorings, but will be required to obtain the licence mentioned in paragraph 5 below.

4. A report is to be rendered to the Admiralty on 31st March, 1924, showing the number of vessels charged for the use of moorings, the aggregate number of days for which moorings have been occupied on a repayment-basis, and the aggregate charges for the use of moorings.

## FREE USE OF BERTHS AND MOORINGS.

## 5. When in waters under Admiralty jurisdiction—

(a) private vessels are accorded the privilege of anchoring in a part of the harbour formally reserved for H.M. vessels or laying for their own use moorings on Admiralty property;

or, (b) private yachts of a net tonnage of ten tons and under are allowed to use Admiralty moorings;

as a condition precedent to the grant of the privilege the signature of the owner or master is to be obtained to the licence on Form D.564, which embodies certain conditions exempting the Crown from liability for damage. Copies of Form D.564 can be obtained on demand from the West India Docks, but demands are to be restricted to the minimum numbers considered necessary.

6. Form D.564 is not applicable to Foreign Warships or to private vessels trading with the Admiralty for the carriage of stores, etc., which take up berths assigned to them by the Naval Authorities for the purpose of loading or discharging Government cargo.

7. It may sometimes occur that berths for private vessels are allotted by the Naval Authorities in situations outside Admiralty property or reserved waters. In these cases there is no power to impose conditions on user and such berths should therefore be allotted in situations which will prevent so far as possible any reasonable likelihood of collision with H.M. Ships.

### 979.—Minesweeping Stores to be Carried on Board Fishery Protection Gunboats.

(N.S. 3081/23.—13.4.1923.)

In order to provide for the efficient performance of the minesweeping duties of Fishery Protection Gunboats, the undermentioned stores, which are considered essential, are to be carried on board, viz. :—

V cutter frames ... ..	2 No.	Owing to the necessity of changing over rapidly from sweep one side to sweep the other side.
Blades—15 in. for cutters	2 pairs	
Anchors—45 to 60 lb. ...	2 No.	Necessary to back up the 1½ cwt. sinkers for dan buoys.
Slings, chain, for plunger V kites.	2 sets	To carry the kites.
Reels fitted with brakes for sweep wire hawser.	As necessary.	For stowage of spare kite wires—necessary unless suitable reels are already fitted on board.
Reels, non-purchase, fitted with brakes.	1 No.	Necessary for stowage of grass or hemp line used for heaving sweep wire across, unless a suitable reel is already fitted.
Stoppers for sweep wire rope.	2	Necessary for stoppering sweep or kite wires with strain on.
Sweep wire rope, S.W.F.2 1½ in.		One coil of right-handed and one coil of left-handed should be carried unless reels for spare sweep wires are fitted in store rooms, in which case two coils of each should be carried.
Slips, iron ... ..	4	One for each side and two for centre support wire as centre ship when sweeping more than two abreast.
Sinkers, 1½ cwt. ... ..	1	For each dan buoy.
Hammer, splicing ... ..	1	Necessary when splicing serrated S.W. rope.

	No.	
Kite wire rope, S.W. 2½ in.	2	Unless reels are fitted in storerooms, when full establishment should be carried.
Kite pendant rope, S.W. 2½ in., 9 ft. in length.	2	Pendants are necessary—length as found most advantageous.
Float wire, S.W. 1½ in. ...		Necessary for suspending otter board from float.
Moorings for dan buoys ...	1	For each dan buoy carried.
Grips, bulldog, for S.W. rope, Patt. 723.		Required for joining or putting eyes in quickly in 2½ in. S.W. rope without splicing.
Thimbles ... ..		Necessary for fitting, renewing and refitting eyes in minesweeping wires, etc.
Barricoes—6 galls. ...		Not essential for F.P. gunboats which pass sweeps with heaving line.
Fishermen's pellets ...		Not necessary until the stocks of floats elliptical are exhausted. The pellets will then be used for supporting the moorings of dan buoys in lieu of floats elliptical.

2. All minesweeping stores in excess of those shown above, which cannot conveniently be stowed on board, are to be returned to the Naval Store Officer, with whom dormant demands for the items landed are at the same time to be lodged. The stores are to be earmarked for the service from which returned, and arrangements made for the proper turnover and preservation of the articles to ensure that they are fully serviceable when required for use.

3. Any fixtures landed are to be retained on deposit.

### 998.—Civilian Staffs—Seniority.

(C.E. 9332/22.—13.4.1923.)

It has been brought to notice that some doubt exists amongst the civilian staffs of H.M. Dockyards and Naval Establishments as to the principles regulating their seniority. Their Lordships therefore desire it to be known that seniority is normally governed by the date of appointment to the grade, i.e., the date on which the pay of the rank is first drawn on a substantive basis.

2. Where selection for promotion is made from an examination list, however, when two or more men are appointed at the same time, and through some cause beyond their own control, are unable to take up their new duties at the same time (e.g., men sent to a foreign establishment on promotion) their *relative* seniorities will be governed by their positions on the examination list, irrespective of the date on which they first draw the pay of their new grades as laid down in existing instructions. The names of such men will appear in the Establishment List in the order of the dates on which they commence substantively to draw the pay of the rank, but a suitable note will be made to indicate their relative seniority.

3. The same rule will apply to the case of a number of men selected for promotion, otherwise than from an examination list, but all at the same time, whose relative seniorities before promotion would be changed if they reckoned seniority in the new grade from the date on which pay was first drawn.

4. The foregoing procedure is, of course, subject to the power of the Admiralty to modify the relative seniority of two or more men when promotions are being made.

### 1003.—Motor Transport—Civilian Personnel.

(N.S.M.T. 154/23.—13.4.1923.)

Following on the institution at the Home Ports of Central Motor Transport Organisations, it has been decided to segregate the personnel employed into a definite group, and to establish standard conditions of employment, and uniform rates of pay for the several grades of employees.

2. The arrangements approved are as follows:—

GRADES OF EMPLOYEES AND OUTLINE OF THE QUALIFICATIONS EXPECTED, WITH THE BASIC RATES OF PAY FOR EACH GRADE.

(a) *Garage Supervisor.*

*Qualifications.*—Must be capable of handling the business organisation of the traffic to the best advantage, and with the necessary amount of tact, with special aptitude for responsible control of men.

*Duties.*—General charge of garage and vehicles. Organisation of traffic. Disciplinary control of the Garage Staff. General arrangements for the efficient and economical operation of vehicles.

*Basic Rate of Pay.*—60s. per week.

*Complement.*—One each for Chatham, Portsmouth and Devonport.

*Note.*—Garage Supervisors will be appointed for the present on a purely temporary basis, and the appointments will be subject to reconsideration at the expiration of six months.

(b) *Chargemen of Mechanic Drivers.*

*Qualifications.*—Must possess the qualifications of Mechanic Drivers in a superior degree, and be suitable for taking charge of men.

*Duties.*—Technical Assistant to Garage Supervisor for the charge of Mechanic Drivers, and for general mechanical efficiency of the vehicles. Actual work on overhauls, and supervision of Mechanic Drivers' work on vehicles.

*Basic Rate of Pay.*—As for Mechanic Drivers plus 12s. per week Charge Pay.

*Complement.*—One each for Chatham, Portsmouth, Devonport and Rosyth.

(c) *Chargemen of Drivers.*

*Qualifications.*—Specially skilled drivers with aptitude for taking charge of men, and familiar with the principles of compiling statistics of traffic.

*Duties.*—Supervision of employment and work of drivers—especially in regard to efficient lubrication, cleanliness, and care of vehicles, economy in petrol consumption, and scrutiny of records of work.

*Complement.*—Two each for Chatham, Portsmouth and Devonport. One for Rosyth.

*Basic Rate of Pay.*—As for Drivers plus 8s. a week Charge Pay.

(d) *Mechanic Drivers.*

*Qualifications.*—Must be competent Motor Mechanics with not less than three years' actual experience in the repair of motor vehicles. Capable of stripping down and re-assembling engines and chassis of the several types. Must also be capable drivers, and prepared to act as such when necessary and carry out their duties.

*Duties.*—Overhauls and refits of vehicles and general tuning up of vehicles to keep them in a state of running efficiency.

*Basic Rate of Pay.*—41s. to 45s. per week.

*Complement.*—As required by Central Organisations only for repairs, etc., but not to exceed 5 No. each for Chatham, Portsmouth and Devonport, and one each for Rosyth, Portland and Sheerness.

(e) *Skilled Labourers.*

*Duties.*—Assisting Mechanic Drivers in work on vehicles.

*Basic Rate of Pay.*—27s. to 30s. per week.

*Complement.*—As required by Central Organisations only, but not to exceed three each for Chatham, Portsmouth and Devonport.

(f) *Drivers.*

*Qualifications.*—Must be licensed drivers capable of driving vehicles with intelligence and care. Thoroughly familiar with the lubricating systems of the several types employed, and capable of recording accurate details of work performed.

*Duties.*—Driving vehicles and keeping them clean and efficiently lubricated. Keeping careful records of all journeys performed, and assisting in the loading and disposal of loads carried when necessary.

*Basic Rate of Pay.*—31s. to 37s. per week.

*Complement.*—As required, but not to exceed one for each transport vehicle allocated for duty.

(g) *Drivers' Mates.*

*Duties.*—Assisting drivers of steam-driven vehicles.

*Basic Rate of Pay.*—27s. to 30s. per week.

*Complement.*—As required, but not to exceed one for each steam-driven vehicle allocated for duty.

(h) *Garage Labourers.*

*Duties.*—Assisting drivers and mechanic drivers in attention to the vehicles and cleaning of garage, workshops, etc.

*Basic Rate of Pay.*—24s. to 26s. per week.

*Complement.*—As required by Central Organisations only, but not to exceed three each for Chatham, Portsmouth and Devonport.

*Note.*—The above basic rates of pay are all "hired" rates and the customary deductions should be made in the event of any of the posts being filled by Established men.

3. *General working conditions.*—All civilian personnel employed in connection with Admiralty Motor Transport at the Home Ports is to be entered through the medium of the local Central Organisation under the Naval Store Officer, and is to be subject to its general oversight and control, in order that all may receive due consideration when opportunities arrive for advancements within the Service, and that interchanges of duty may be made from time to time as desired. All drivers will, however, carry out their normal duties under the direct orders of the Establishment to which the vehicles are attached.

4. At the Central Organisations arrangements should be made, where local circumstances render such a course desirable, for a limited number of drivers to be available before and after bell ringing to deal with early and late traffic. In these cases the staff should be worked in three overlapping shifts, so arranged that the maximum complement of drivers is available during normal Yard hours. Overtime rates will not be paid for any time worked as part of a regular shift, and the weekly wages specified are intended to cover actual net working hours, aggregating 47 per week, arranged in a regular routine of shifts.

5. If found necessary, one driver may be retained at the Central Organisations to sleep in to deal with emergency calls for ambulance, police, fire, etc. In these cases a "Stand-by" allowance of 15s. per week, in addition to pay for seven days per week, is authorised. No payment is to be made for overtime. "Stand-by" duty of this nature should be taken in rotation by roster.

6. One driver for ambulance work may be retained under similar conditions, where necessary, wherever duty ambulances are garaged outside the Dockyard limits, e.g., at R.N. Hospitals and Barracks.

7. *Repairs.*—Normal repairs and upkeep of the petrol-driven vehicles attached to the Central Organisations and also of similar vehicles attached to outlying Establishments at the Port, when the work is beyond the resources of those Establishments, should be dealt with by the staff of the Central Organisations.

**\*1069.—Pensioner Civilians employed at Naval Establishments on Shore—Hours of Employment.**

(P.L. 931/23.—20.4.1923.)

The following instructions regarding the conditions of employment of Pensioner Civilians, originally promulgated in Admiralty Letter, C. Sec. P.L. 2282/19, are reissued for general information.

2. In continuation of Admiralty Letter, dated 21st July, 1919, C. Sec. P.L. 2757/19, the definite limitation of the normal hours of employment of the Pensioner Civilians employed at the Naval Establishments on shore to 47 hours in the week, with payment for any time worked beyond these hours in accordance with the scale authorised for Dockyard workmen, is not approved.

3. It has, however, been approved to lay down the following general rules for the guidance of the local Officers in connection with the employment of Pensioner Civilians, viz. :—

- (a) Where artisans or other similar workmen are employed upon work of an industrial character requiring continuous application (as in a workshop) arrangements should be made for such work to be so organised, wherever practicable without loss of efficiency, as to provide for the employment of the men in regular hours aggregating 47 working hours net per week.
- (b) If the service on which men similar to those referred to at (a) are employed is of such a nature as ordinarily to require employment for seven days a week, arrangements should be made, if possible, for each individual employee to have one day off duty in seven, either Sunday or a day in lieu.
- (c) In other cases, i.e., of men who are engaged on services dissimilar from those referred to at (a) and (b), such reductions should be effected in the hours of attendance, where (having regard to the nature of the duty and the circumstances) these are at present considered to be excessive, as may be found to be possible without sacrifice of efficiency in the performance of the service in question, due regard being had to the practicability of eliminating long periods of duty with intermittent active employment.

4. It should be understood that it is not proposed to alter the conditions under which Pensioner Civilians are already employed. They will continue to be liable for service as required without extra remuneration; but it is desired that the amount of attendance should not be unduly prolonged, the aim being to secure a reasonable working week for all classes of Pensioner Civilians.

5. Payment by the hour, with overtime pay after attendance for defined numbers of hours, is held to be incompatible with the conditions of employment of Pensioner Civilians.

**1304.—Supplies of Victualling Stores to Royal Fleet Auxiliaries—Method of Accounting.**

(D.A. 20/23.—11.5.1923.)

The value of Victualling Stores, excluding provisions supplied to Royal Fleet Auxiliaries, is chargeable, when the Crown is liable for the cost, to the Navy Vote to which the cost of maintenance stores for the vessel is debited, viz., Vote 8/2 E for R.F.A. Store Carriers, and Vote 8/2 K I or IV for Royal Fleet Auxiliaries on Fleet Fuelling Service. The value of such supplies should be accounted for in the local Expense Accounts when supplies are made to a Dockyard or on Naval Store Officer's demands.

The value of provisions supplied to Royal Fleet Auxiliaries by a Victualling Yard is chargeable, when the Crown is liable, to the Navy Vote to which the wages of the crew are debited, viz., Vote 8/1 B for R.F.A. Store Carriers, and Vote 8/2 K I or K III for Vessels on Fleet Fuelling Service. The value of such supplies should not be passed through the local Expense Accounts.

Separate Forms V.108A should be rendered for the value of provisions and for other Victualling Stores, and separate forms should be rendered for the different Subheads of Vote 8 to which the values are to be debited in accordance with the classification given above. These forms should be referred, before transmission to the Admiralty, for the counter signature of the Naval Store Officer and Expense Accounts Officer, when supplies have been made through a Dockyard or at Naval Store Officer's request.

### \*1427.—Acting Mates (E)—Course at R.N. College, Greenwich— Syllabus.

(C.W. 3669.—1.6.1923.)

In future, Acting Mates (E) will undergo all their training at the R.N. College, Greenwich. The first class to take the revised course will join the college at the end of September, 1923.

The subjects of study, the number of periods per week devoted to each subject and the combined marks for the Session's work and final examination in each subject are as follows :—

Subject.	Periods per week.			Marks.
	1st Term.	2nd Term.	3rd Term.	
Mathematics ... ..	4	4	4	400
Applied Mechanics ... ..	4	4	6	400
Applied Electricity ... ..	4	2	3	300
Applied Chemistry ... ..	2	4	3	300
Heat, Steam and Heat Engines ...	4	4	4	300
Machine Construction and Design ...	2	2	4	} 400
Mechanism ... ..	2	2	0	
Marine Engineering ... ..	1	1	1	200
Total for Greenwich Course... ..				2,300
History and English ... ..	2	2	0	100

### MATHEMATICS

#### 1ST TERM.

LECTURES—Four periods per week.

Simple algebraic manipulation ; change of subject and substitution of a new variable in formulae—

$$\frac{a}{b} = \frac{c}{d} = \frac{pa + qc}{pb + qd} = \left( \frac{pa^n + qc^n}{pb^n + qd^n} \right)^{\frac{1}{n}}$$

Simultaneous equations ; linear in three unknowns ; one linear and one quadratic, illustrated by graphs. Solution of equations by graphs ; successive approximation by increasing scale. Indices and logarithms (common and Napierian) ; evaluation of such forms as  $pv^p$  and  $ae^{-h^2 x^2}$ . Slide-rule. Nomograms ( $x^m y^n$  and  $x^y$ ). Geometrical meanings of  $m$  and  $c$  for the straight line  $y = mx + c$ . Angle between lines. General considerations about graphs: symmetry, axial and central ; even and odd functions ; asymptotes parallel to axes (explicit functions only). Study of parabolic graph  $y = ax^2 + bx + c$  ; this should not be plotted by numerous points, but



sketched quickly by examining symmetry, turning value, intersections with axes, sign of  $f(\infty)$ . Also  $x + ay^2 + by + c$ . Vertical or horizontal parabola through three given points. Binomial coefficients by Pascal's triangle, leading to approximation  $(1+x)^n = 1 + nx$  if  $x$  and  $nx$  are small. (The approximation is to be assumed to be true generally, with the stated limitations, with proof for positive

integral values only of  $n$ .) Functions of general angle ( $\cos \theta = \frac{x}{r}$ ,  $\sin \theta = \frac{y}{r}$ , etc.).

Simple relations between the functions of one angle. Values to be memorised for  $\theta = 0^\circ, 90^\circ, 180^\circ$ . Graphs of the functions, especially to illustrate periodicity. Frequency; wave-length; epoch. Combination of S.H. waves of same period; transformation of  $a \cos mx + b \sin mx$  to the form  $R \cos (mx - \epsilon)$ . Combination of S.H. waves of different periods illustrated by graph of  $a \cos mx + b \cos nx$ . Case of  $a = b$  and  $\frac{m-n}{m}$  small (beats). Addition formulae;  $\sin 2A, \sin 3A$ . Formulae for sums and products of trigonometrical functions. Graphical solution of equations such as  $\tan x = mx$ . Gradient of a graph at a particular point. Derived

function (gradient function) of  $x^2, x^3, \frac{1}{x} x^n$ , from first principles. Application to turning values, small increments, rate of increase, velocity, acceleration. Second derived function. Meaning of sign of  $\frac{d^2y}{dx^2}$  when  $y$  is graphed. Points of inflexion.

Equation of tangent to  $y = ax^3 + bx^2 + cx + d + \frac{e}{x}$ . Integration, regarded as

inverse of differentiation. Area, by solving  $\frac{dA}{dx} = y$ ; constant to be determined

from particular case. Given acceleration, to find velocity and position. Volume of solid of revolution; of pyramid. Extension of preceding paragraphs to  $\sin x, \cos x, \tan x$  (avoiding  $e^x$  and  $\log x$ ). Equation of circle. Plane sections of a cone (no proofs). Parabola; equation from focus and directrix property, equation of tangent. Parabolic reflector. Subtangent = twice abscissa. Equation of an ellipse, as shadow of circle. Property of two foci; derivation of equation therefrom.  $xy = c^2$  is a rectangular hyperbola (no proof); Boyle's law. Equation of tangent. Property of two foci (no proof); sound ranging. General form of graph of  $y = ax^n$  for various + and - values of  $n$ . Determination of laws from experimental data in simple cases, e.g.,  $y = ax^n$ . Variation. Inverse trigonometrical functions, with general formulae. Newton's rule for roots of equations. Reduction of degree of equation when one root is known. Test for occurrence of multiple roots. H.C.F. Homogeneous expressions and equations. Harder fractions and factors. Literal equations. Trigonometrical identities and equations.

## 2ND TERM.

### LECTURES—Four periods per week.

Differentiation of a product; of a quotient; of a function of a function. Study of  $\sin nt$  with special reference to S.H.M. Integration as summation; definite integrals. Centre of gravity, moment of inertia, centre of pressure, mean values. Great stress to be laid on Fourier's integrals. (Mean value of  $\sin px \sin qx$  ( $p$  not equal to  $q$ ) = 0 over range of complete periods; mean value of  $\sin^2 px = \frac{1}{2}$  over similar range.) General form of binomial expansion (no proofs).  $\exp x$  defined as series;  $\exp x \times \exp y = \exp (x + y)$ , (verify first few terms);  $\exp x = e^x$  (proof for  $x$  positive integer only). Differentiation and integration of  $e^{kx}$ ;  $a^x$ ;  $\frac{d}{dx} \log x$ ;  $\int \frac{dx}{x}$ .

Solution of equation  $\frac{dy}{dx} = ky$ . Graphs of  $e^{-2x}, e^{-x}, e^{-x/2}$ . Various examples of

$\frac{dy}{dx} = ky$  (pressure and height in isothermal atmosphere, absorption of light, rate of precipitation of salt, current dying away in conductor, flywheel with friction at bearings, decay of radioactive elements (half-life)). The hyperbolic functions and their analogies with circular functions (*N.B.*, the cosh graph is a common catenary). Series for  $\sin x, \cos x, \sinh x, \cosh x$ . The standard integrals (including  $\sec^2 x, 1/\sqrt{\pm a^2 \pm x^2}, 1/(a^2 \pm x^2)$ ). Graphical integration. Simpson's, Weddle's and Dufton's rules for area. Differentiation of any function. Integration by substitution. Integration

of any rational function. Integration by parts. Summation and resolution of vectors. Projection. Irrational equations. Theory of quadratics. Use of binomial theorem in expansions to second and higher powers. Mensuration of cone and sphere. Moments of inertia.  $I_z = I_x + I_y$ .  $2I_c = I_x + I_y + I_z$ . Radius of gyration of rectangle, circle, cylinder and sphere. Theorem of parallel axes. Built up sections. Tangent and normal. Curvature. Points of inflexion. Theorems of Taylor and Maclaurin. Definite integrals. Planimeter. Partial differentiation. Maxima and minima of a function of more than one variable.

### 3RD TERM.

LECTURES—Four periods per week.

Separation of variables. Exact equation. General linear equation of the first order. Linear equation with constant coefficients. Simple harmonic motion. Damped oscillations. Practice in framing differential equations from given data.

## APPLIED MECHANICS.

### 1ST TERM.

LECTURES—Four periods per week.

Use of symbols and units, rates and vectors. Velocity, acceleration and force; work; momentum. Addition of forces; equilibrium under concurrent forces. Kinetic, gravitational and strain-energy; conservation of energy. Frictional forces; dry surface, viscous and eddy-making resistance. Angular velocity, instantaneous centre, torque and power. Equilibrium under non-concurrent forces; gravity and buoyancy. Stresses in frames; shear and bending moment in beams. Strength and elasticity of metals; principles of similarity. Bending and shear stresses in beams. Elastic deflections of beams. Strength and buckling of long and short struts.

### 2ND TERM.

LECTURES—Four periods per week.

Dynamic balancing of rotating masses. Whirling of shaft with eccentric flywheel. Harmonic motion; inertia forces in engines; principles of similarity. Primary and secondary balancing of engines. Crank effort diagram; flywheel problems. Stresses and torsion of shafts, of circular section. Torsion and bending of shafts. Elastic limit under complex stresses. Stresses in rotating discs. Gyro actions; applications in balancing problems.

### 3RD TERM.

LECTURES—Four periods per week.

Hydraulics; applications of Bernoulli's principle. Resistance to flow through pipes; Reynold's function. Flow through nozzles, orifices and valves. Speed and efficiency of hydraulic rams. Motion in vortices; oil sprayers. Centrifugal pumps; principles of similarity. Harmonic vibration; phase diagram analysis. Forced and damped oscillation; resonance. Stability and oscillation of governors. Vibration of beams and of ships.

ENGINEERING LABORATORY—Two periods per week.

Tensile, torsion and fatigue tests on mild and high-tensile steels. Brinell, prism and other hardness tests. Measurements of the elastic constants of metals. Flexure and vibration of beams and struts. Static and dynamic balancing of rotating masses. Whirling of dynamically balanced shafts. Efficiency tests on fan, and on centrifugal pump. Thermal actions in air compressor. Froude dynamometer tests on petrol engine. Steam tests on de Laval turbine. Optical indicator tests on Diesel engine.

## APPLIED ELECTRICITY.

## 1ST TERM.

LECTURES AND LABORATORY WORK—Four periods per week.

*Revision.*—Laws, units, D.C.; instruments; measurements; calibration.

*Magnetic Properties of Iron.*—The magnetic circuit and its equation; self induction; mutual induction; units; measurements.

*The D.C. Dynamo.*—General theory and properties; series, shunt and compound machines; characteristics; losses; efficiency; dynamos in parallel; elements of design of dynamo.

*The D.C. Motor.*—General theory and properties; series, shunt and compound machines; characteristics; losses; efficiency; starters and safety devices; speed control; elements of design of motor.

## 2ND TERM.

LECTURES—Two periods per week.

*Secondary Batteries.*—Construction; properties; uses; management.

*Lamps.*—Glow lamps, arc lamps, mercury vapour lamps; construction; properties; characteristics; uses.

*Distribution.*—Lighting and power circuits; ship's mains; switchboards.

*Alternating Currents.*—Elementary theory; vector diagrams; impedance; reactance; wave forms; virtual or root mean square values; power and power factor; instruments; measurements.

*Alternators.*—Single phase, two-phase, three-phase; construction; elementary theory; vector diagram; characteristics; regulation; losses; efficiency.

## 3RD TERM.

LECTURES AND LABORATORY WORK—Three periods per week.

*Transformers.*—Construction; elementary theory; vector diagrams; regulation; losses; efficiency.

*A.C. Motors.*—Synchronous motor; induction motor; series motor; construction; elementary theory; vector diagrams; properties; characteristics; losses; efficiency; speed control; uses; special attention given to the induction motor.

*Rotary Converters.*—Elementary theory.

*Distribution.*—A.C. lighting and power circuits.

## APPLIED CHEMISTRY.

## 1ST TERM.—METALLURGY.

LECTURES—Two periods per week.

*Ferrous Section.*—Production of pig iron, malleable iron, wrought iron; steels—(a) crucible process, (b) Bessemer process, (c) open hearth process; physical and mechanical properties of metals; crystallisation of metals; classification of binary alloys; iron-carbon equilibrium diagram; cast, forged, annealed and hardened steels; alloy steels—(a) nickel steel, (b) chrome steel, (c) nickel chrome steel, (d) high speed steel.

## 2ND TERM.—METALLURGY.

LECTURES—One period per week.

*Non-ferrous Section.*—Copper-zinc equilibrium diagram; 70/30 brass and 60/40 brass; copper-tin equilibrium diagram; gun-metal; aluminium and its alloys; white metal alloys.

PRACTICAL COURSE—Two periods per week.

(a) The determination of freezing points and construction of freezing point diagrams of alloys; (b) practical exercises in the preparation of samples of metal for micrographic analysis, including the heat treatment of specimens; examination of the normal constituents of pig and cast irons, carbon steels, alloy steels; detection of faulty heat treatment and impurities (slag inclusions, segregations); the microstructure of alloys of the copper-zinc, copper-tin, copper-aluminium series; white bearing metals, etc.

## TECHNICAL CHEMISTRY.

LECTURES—One period per week.

*Water for Boiler Use.*—Composition of dissolved solids in natural waters; character of solids in relation to suitability for boiler use; the process of formation of deposits and scales; softening; use of anti-incrustators.

*Mineral Oils.*—General chemistry of the hydrocarbons; chemistry of petroleum; distillation of shale—shale oil; character of crude oils; production and refining of petroleum; coal tar and tar oils; distillation of coal tars and refining of the products.

*Vegetable and Animal Oils.*—Chemistry of the saponifiable oils; drying and semi-drying oils.

*Lubricants.*—Lubricating oils, mineral, “fixed” and blended. Switch and transformer oils.

## 3RD TERM.—FUEL.

LECTURES—One period per week.

*Properties of Fuels.*—Calorific value, ignition temperature, explosive range, vapour pressure of liquid fuels.

*Principles of Combustion.*—Calculation of air required and composition of products; control by analysis of flue gases.

*Solid Fuel.*—Coal—origin, classes of coal, their composition characteristics.

*Liquid Fuel.*—Sources; production and characters; heating and steam raising; heavy oils, tar oils, etc.; types of atomisers—steam, air, pressure; liquid fuels for internal combustion engines; motor spirits, paraffin oils, Diesel oils, tar oils for Diesel engines.

*Gaseous Fuel.*—Coal gas; the gasification of coal, coke, etc., in producers; water gas; producer gas; producer gas for heating and power production.

## PRACTICAL COURSE—Two periods per week.

This will be arranged to supplement the lecture work and includes the determination of the solids in water, chlorine, hardness; distillation of crude oil; examination of oils, setting point, viscosity, flash and fire tests; analysis of coal; determination of calorific value of solid, liquid and gaseous fuels; distillation tests of motor fuels; carbonisation test and asphalt content of Diesel oils; flue gas analysis.

## HEAT, STEAM AND HEAT ENGINES.

1ST, 2ND AND 3RD TERMS.

LECTURES—Four periods per week.

*Energy.*—Definition, dimensions and units; mechanical, kinetic, potential, physical; conservation of energy.

*Heat.*—Its nature; molecular theory of heat; difference between the heat supplied to a body, and its gain of internal energy; external work done during expansion.

*Temperature.*—Its definition; measurement of temperature; the thermometer; fixed points; different scales in general use; essential properties of a thermometric substance; different types of thermometers; absolute temperature.

*Measurement of Heat.*—The British thermal unit and the calorie; definitions.

*First Law of Thermodynamics and Joule's Equivalent.*—Definitions.

*Effects of Heat.*—By conduction, convection and radiation; coefficient of conductivity.

*Expansion of Bodies when Heated.*—Coefficients of linear, superficial and cubical expansion of solids, apparent and absolute expansion of liquids; the maximum density of water; expansion of gases; effect of pressure as well as temperature; Boyle's law; Charles' law; perfect gas; calculation of absolute zero of temperature.

*Specific Heat.*—Of solids and liquids, and how obtained; the specific heats of gases; necessity for standard conditions; Regnault's law; Joule's law; relation between the specific heats of a gas at constant pressure, and at constant volume.

*Expansion of Gases.*—Expansion according to the law  $pv^n = \text{constant}$ ; hyperbolic expansion; adiabatic expansion; formula for adiabatic expansion; work done during expansions; relation between pressure, volume and temperature of a gas during expansion; heat received during the expansion.

*Change of State.*—Melting point; effect of pressure on melting point; vapour; vapour pressure; boiling point; effect of pressure on boiling point; critical temperature; comparison of gases and vapours; Dalton's laws for vapours; liquefaction of gases; spheroidal state.

*Steam.*—Formation of steam at constant pressure; wet steam; dry and saturated steam; superheated steam; dryness fraction; degree of superheat; formula for sensible heat, latent heat, and superheat; internal energy of steam; external work done during formation of steam at constant pressure; formation of steam at constant volume; throttling of steam; measurement of dryness fraction of steam; throttling calorimeter; density of boilers and evaporators and heat lost by brining.

*Entropy.*—Its definition and measurement; comparison of operations on  $pv$  and  $T\phi$  diagrams; isothermals and adiabatics on  $T\phi$  diagram; entropy of water and steam, and  $T\phi$  diagram for same; use of  $T\phi$  diagram for steam; expansions of steam; explanation of steam tables and their use; gain of entropy due to throttling;  $H\phi$  or Mollier diagram.

*Air Compressors.*—Ideal air compressor; losses in compressors; method of reduction of losses; efficiency of transmission of power by compressed air; simple and two-stage air compressors; effect of clearance; volumetric efficiency of air compressors; stage compression.

*Heat Engines.*—Second law of thermodynamics; consideration of first and second laws; the working substance; cycle of operations of the working substance; graphical representation of heat received and gain of internal energy during any operations; closed cycle of operations; graphical representations on  $pv$  and  $T\phi$  diagrams, and comparative usefulness of same; thermal efficiency of heat engines.

*Hot Air Engines.*—Carnot's cycle; reversibility; Carnot's cycle reversed; thermodynamic reversibility as a test of maximum efficiency; Stirling and Ericsson cycles.

*Steam Engines.*—Perfectly reversible steam engine; Rankine cycle; efficiency ratio; effect of incomplete expansion; hyperbolic expansion of steam; mean effective pressure; calculation of horse power of theoretical steam engine indicator diagram.

*Internal Combustion Engines.*—Description of Lenoir, Otto and Diesel cycles and calculation of efficiency of same.

*Refrigerating Machines.*—Description of Carnot's cycle reversed; Joule cycle reversed, and Bell-Coleman machine; calculation of coefficients of same, vapour refrigerators.

*Unresisted Expansion.*—Flow of steam through orifices; ratio between initial and final pressure for maximum flow; the steam nozzle; calculation of throat and exit areas of convergent-divergent nozzle; shape of nozzle; over-and-under-expansion; effect of friction in nozzles; supersaturation.

*Theory of Steam Turbines.*—Velocity diagrams; blade angles and blade efficiency; power developed in stage ratio of blade to steam speed from maximum efficiency in impulse, and impulse-reaction turbines; effect of friction; practical examples.

*Combustion.*—Calorific value of a fuel; theoretical quantity of air required for complete combustion; calculation of excess air from analysis of flue gases; losses due to excess air and to incomplete combustion.

## MACHINE CONSTRUCTION AND DESIGN.

## 1ST AND 2ND TERMS.

LECTURES—Two periods per week.

## 3RD TERM.

LECTURES—Four periods per week.

Introductory remarks on mechanical drawing; use of scales, instruments, etc., conventions in general use; rough and finished drawings; method of measuring dimensions for rough drawings and of inserting them in finished drawings; projection; sections; number of views necessary; drawing examples.

Machine fastenings, screw threads, bolts, studs, nuts, etc.; standard dimensions; method of preventing slacking back; spanner clearances; ease of access of fastenings; rivets—dimensions and types.

*General Principles of Machine Design.*—Distinction between stress and strain; considerations of nature of materials, applied loads, and kinds of stresses produced; allowance necessary from practical considerations; ultimate tensile strength; elastic limit; factor of safety and margin of safety; formula and application for different kinds of stress.

Design of following machine fastenings in detail:—Bolts and studs; cotter and cotter joint; pin and pin joint; keys and feathers; riveted joints.

Design of welded steel steam pipe, and solid drawn steam pipe with flange to introduce formula  $pr = ft$ .

Detail design of solid and hollow propeller shafting, with ordinary and loose couplings and keys.

Detail design of piston rod and crosshead, with nut and cone; combination of indicator diagrams; design factor; cylinder proportions and calculation of cylinder sizes for triple expansion engine.

Detail design of connecting rod.

Detail design of crank shaft.

Slide valve; Zeuner's valve diagram; correction of Zeuner diagrams for obliquity of connecting rod and eccentric rod; areas of valve ports.

## MECHANISM.

## 1ST AND 2ND TERMS.

LECTURES—Two periods per week.

*Mechanism.*—Its aim.

*Pairs.*—Definite motion obtained by constraint of one element by another; degrees of constraint; examples of same; surface contact only obtained if path is in a circle; limiting conditions; infinite radius.

*Kinematic Chain.*—Its definition; condition required for a mechanism; machine; self closed chain; elements which may be used but do not form self closed system.

*Examples of Machines.*—Embodying different degrees of constraint.

*Displacements.*—By plotting; by geometry; parallel motions; different mechanisms obtained by fixing different links of some kinematic chain.

*Absolute and Relative Velocities.*—Relative velocities the same whatever link is fixed; example of motion of point in connecting rod relative to crank arm.

*Instantaneous Centre.*—Utility for obtaining velocity ratios; application to crank and slotted lever, four bar chain, bicycle, cotton reel, paddle wheels, etc.

*Velocity Diagrams.*—For more complicated mechanisms.

*Simple Machines.*—Velocity ratios, lever, wheel and axle, inclined plane; single and multiple threaded screws.

*Belt Driving.*—Open and crossed belts; stepped pulleys; relation between radii for constant length of belt for both open and crossed belts; speed cone pulleys; swell for pulleys for use with open belt.

*Tackles.*—Velocity of various plies in multifold purchases; differential block.

*Screw Cutting.*—Values of train and practical arrangements of change wheels; hunting cogs.

*Acceleration Diagrams:* and in particular graphical method for acceleration of piston in direct acting engine; Klein's construction for acceleration of piston.

*Epicyclic Trains.*—Relative velocity within the train unaffected by which element is fixed; method of calculating velocity ratio; reverted train; annular wheels; jack-in-the-box differential mechanism; amplification of as mean speed indicator of shafts, etc.

*Toothed Wheels.*—Definitions; arcs of approach, and recess; amount of sliding; kinematic condition necessary; cycloidal teeth; size of rolling circles; involute teeth; minimum number of teeth; proportions of teeth; bevel wheels; stepped wheels; helical wheels.

*Cams.*—Design of cams.

## MARINE ENGINEERING.

### 1ST, 2ND AND 3RD TERMS.

LECTURES—One period per week.

*General Progress of Engineering in the Service.*—Descriptive of the improvements in modern marine engineering, resulting in improved efficiency and reduction in weight per S.H.P.; comparison of hydraulic and electric reduction gears with mechanical gearing; brief consideration of the I.C.E. as an alternative to the steam engine.

*Steam and its Application in the Reciprocating Engine and Turbine.*—Maximum efficiency obtainable in any steam engine; advantages of using high pressure steam, with high expansion, and a high vacuum; losses in reciprocating engines; advantages of stage expansion; effect of altering the cut off in the various cylinders; losses in turbines.

*Turbines.*—Types of turbines, with pressure and velocity diagram for each type; descriptions of Parsons and Brown-Curtis turbines; Ljungstrom turbine.

*Mechanical Gearing.*—Necessity for fitting; general arrangements of gear wheels; helical gears; gear ratios; tooth speeds and pressures; method of construction; gear case; oil sprayers; loose coupling.

*Boilers.*—Requirements for an ideal boiler; types of boilers and comparison of same; descriptions of Yarrow, Babcock and Wilcox boilers; White Forster boiler.

*Boiler Mountings.*—List of, with brief descriptions.

*Uptakes and Funnels.*—General description.

*Steam Pipes and Valves.*—Typical main and auxiliary steam arrangements; expansion arrangements; thrust arrangements; Cockburn bulkhead valve; main regulating valve; drainage of steam pipes.

*Condensers, Air Pumps, and Circulating Arrangements.*—Modifications in the condensing plant design since the advent of the turbine; general description of modern condenser, and of dual air pump; general arrangements in various classes of H.M. Ships.

*Resistance and Propulsion of Ships; Propeller; Stern Tubes.*—Friction, eddy-making and wave-making resistance; consumption as a function of speed; screw propeller terms, and description of action; A bracket bearing and guard; gun-metal sleeves; stern tube.

*Lubricants, and Lubrication; Michell Bearing.*—Laws of solid and fluid friction; methods of lubrication; forced lubrication; general arrangements of F.L. systems in various classes of H.M. Ships; principle and description of Michell thrust block.

*Auxiliary Exhaust; Feed Heating, etc.*—General arrangement; spring loaded relief valves; sentinel valves; atmospheric exhaust valve; feed heater; auxiliary exhaust to main engines.

*Internal Combustion Engine.*—Otto and Diesel cycles; comparison of 2-stroke and 4-stroke Diesels; losses in Diesels; brief descriptions of Diesel, semi-Diesel, Fullagar and Still engines.

*Oil Fuel Burning.*—General description.

*Corrosion in Boilers and Condensers.*—Causes of corrosion, and methods of preservation; presence of air in feed water and Weir's closed feed system; zinc and iron protectors; Cumberland process.

*Steering Gears, Telemotor System, Williams-Janney Gear.*—General descriptions.

*Magazine Cooling Arrangements.*—General description.

## HISTORY.

Reasons for growth of British maritime power. Reliance of early British kings on the mercantile marine. Rise of a fighting Navy in the sixteenth century. Joint struggle with the Dutch against Spain. Withdrawal of Stewart Dynasty from the War, and monopoly of spoil by the Dutch. The half-century of Dutch Wars. Colonial Wars of the eighteenth century and the loss of America; lessons learnt by the Navy from these disasters. Classic age of the Royal Navy: reasons for Nelson's victories. The change from sail to steam. The undying tradition.

## ENGLISH.

How to take minutes. How to expand minutes into notes and connected prose. How to read. The choice of books. Précis-writing: Service correspondence. Preparation for an essay; and for a lecture. The elements of criticism. Difference between style and substance. The meaning and significance of literature.

### 1437.—Treasury Notes—Deficiencies in Packets.

(C. (III) 4921.—1.6.1923.)

Cases occur from time to time of deficiencies in packets either of new Treasury notes or of old notes which have been remade into packets by the Bank supplying the cash, and it is often impossible to satisfy the Bank concerned that a deficiency really existed, because money has been put out or payments made from the packet before the shortage was discovered.

While it is recognised that it is not usually practicable to check the contents of unbroken packets at the time they are drawn from a Bank or a Dockyard Cashier, such a check should be made, whenever practicable, at the time the seal or cover is broken, and before any notes have been taken out. If an error be discovered it is important to report it as soon as possible and to preserve the wrapper or any other evidence of the identity of the packet.

### 1561.—Book Wrappers—Use.

(Sta. 5588/23.—8.6.1923.)

It is notified that requests for large and small book wrappers (as shown on Stationery Demand Forms S.1310, S.1312, etc.) will be met by the supply of the established wrapper (D.476A) until stock of the latter is exhausted, when the question of again supplying both sizes will be reviewed.

(C18807)

D



### 1573.—Ocean Towing of Battle Practice Targets—Arrangements to be used and Report on a Towing from Portland to Gibraltar.

(G.D. 3037/23.—15.6.1923.)

The following is a report made by the Commanding Officer, H.M.S. "Repulse," on the occasion of towing a Battle Practice Target from Portland to Gibraltar between 11th January and 16th January, 1923. On occasions when orders are issued for a 145-ft. B.P. target to be prepared for ocean towing, the arrangements recommended in paragraph 7 below are to be adopted, except that, as arranged for in paragraph 12 of the specification for the 145 ft. B.P. target, the lower ends of the stirrups are to be attached by shackles to eyebolts screwed into the underside of raft close to keel plating, in lieu of being attached to eyebolts in flat keel plate.

1. When "Repulse" was detailed on 8th December, 1922, to tow the target, the towing arrangements shown in Fig. 1 (E.F.O. 50/23) had already been made.

All the masts and lattice had been removed, except two well stayed masts on which large flags were hoisted.

It will be seen that these arrangements had been made with a view to the target being towed with two tow lines, one through each of the "Repulse's" after fairleads and *each* consisting of a  $4\frac{1}{2}$  in. wire hawser and 60 fathoms of 15 in. manila shackled to  $12\frac{1}{2}$  fathoms of  $1\frac{1}{2}$  in. studded towing chains which in turn were shackled to the 2 fathom  $1\frac{1}{2}$  in. studded towing chains on the upper of the two under-water towing bolts on the forefoot of the target.

The chains from the other under-water towing bolt forward had been triced up and lashed on the upper deck of the target, ready for use as an alternative, and for similar reasons two  $4\frac{1}{2}$  in. wire towing pendants had been fitted to the under-water towing bolt under the counter of the target.

2. It was decided, after discussing the matter with an experienced Ocean Tug Master, not to accept these arrangements because:—

- (a) When towing with two tow lines, when the target yaws, the strain is liable to come on one at a time. For same weight of tow line, it is better, therefore, to have one stronger tow line.
- (b) Two tow lines are stated to be liable to get foul of each other in very heavy weather.
- (c) The 15 in. manila is provided with a view to imparting elasticity to the tow. Experience is stated to have shown, however, that after prolonged towing it is liable to lose this property and becomes a source of weakness to the tow.
- (d) As the "Repulse," which weighs some 37,000 tons when fully loaded, would not "come back" to the target when the latter buried its nose in a heavy sea, a very long tow line was required.

*Note.*—The thrust of "Repulse's" screws for 12 knots is about 57 tons, so presumably a 145 ft. B.P. target would require about 8 tons for same speed *in smooth water*.

- (e) A necklace should be provided for towing to meet the eventuality of the towing bolts being torn out in very heavy weather. Such necklace, consisting at its after end of  $5\frac{1}{2}$  in. wire and at the fore end of  $1\frac{1}{2}$  in. studded chain, *to be well bedded aft and lashed with wire at intervals* to prevent it from rendering round or moving up or down.

3. The arrangements then actually used were as shown in Fig. 2 (E.F.O. 50/23), namely:—

To tow with one long hawser composed of 300 fathoms of  $6\frac{1}{2}$  in. and  $6\frac{1}{2}$  in. F.S. wire, shackled to the two 2 fathom  $1\frac{1}{2}$  in. studded chains on "A," the upper of the under-water towing bolts of the target.

To have as a preventer (which would come into use in the event of the towing bolt "A" fracturing) a necklace as shown connected to the  $6\frac{1}{2}$  in. wire tow with a  $6\frac{1}{2}$  in. F.S. wire pendant.

To have as a second preventer (which would come into use in the event of the necklace also parting) two 50 fathom  $4\frac{1}{2}$  in. F.S. wire pendants connecting the  $6\frac{1}{2}$  in. wire tow to the  $1\frac{1}{2}$  in. studded towing chains from the lower under-water towing bolt in the forefoot of the target, which had been triced up and lashed on the deck of the target. (These lashings would part if the towing strain came on to the  $4\frac{1}{2}$  in. wire pendants.)

The two 40 fathom  $4\frac{1}{2}$  in. wire pendants from the under-water towing bolt "C" at after end of target were lashed on the deck of the target, a metal fisherman's buoy was towed from the end of these pendants on a 14 fathom buoy rope of 2 in. wire to facilitate the tug picking them up in a heavy sea.

4. The above arrangements had been fitted at Portland as well as could be managed with the target not in dry dock.

The necklace was hung at short intervals round the target with 2 in. wire pendants from two  $3\frac{1}{2}$  in. wire fore and afters along the deck of the target.

A strong wire lashing secured the fore end of the necklace to the towing bolt at fore end on the deck of the target.

5. "Repulse" arrived at Portland on 9th January, 1923, and sailed on 11th January with the target and attended by the tug "St. Cyrus."

It was intended to start towing on the necklace with the tow from the towing bolt as alternative, but on finding that the necklace could not be adequately secured without first docking the target, which could not be arranged, it was decided to reverse the procedure.

This only necessitated small alterations to the arrangements in hand, which when completed were as shown in Fig. 2.

The tow line was brought in through the port after fairlead, which had been *well packed* with oak to reduce the chances of damage to the wire at the nip.

The wire was then belayed round the port after pair of bollards (a dry turn being first taken round the after bollard of the pair, as if strain comes on foremost bollard of a pair it is liable to cause the bollard bed plate to fracture across between the bollards), the wire was then led forward and belayed in a similar manner to the port foremost pair of bollards on the quarter deck. The turns at each pair of bollards were seized together with hemp strands where they crossed.

A Warrant O.O.W. was stationed aft on the quarter deck to watch the nip and the tow in general throughout the voyage, with telephone communication to the O.O.W. on the fore bridge. In case of bad weather, he had orders to retreat up to the boat deck and watch the tow from there.

From sunset to daylight each night an after searchlight was manned and frequently exercised in illuminating the target.

The tug "St. Cyrus" was stationed on starboard beam of target, keeping it in sight and with orders to report if the tow parted, and then to stand by the target. Also to report if the target appeared to be labouring in the sea.

The "nip" of the towing wire was "freshened" every morning (after easing down to 5 knots) by veering a few feet on the wire, a Carpenter's Stopper being put on slack to guard against the wire taking charge. The oak filling pieces in the fairlead were then renewed as required. At the same time the tug closed the target and reported whether everything appeared to be all right.

The towing wire was hardly damaged at all at the nip, being only brightened and the wires of the strands flattened a little.

300 fathoms of wire were used for the tow made up of:—

60 fathoms	$6\frac{1}{2}$ in.	F.S. wire pendant.
150	"	$6\frac{3}{4}$ in. " hawser.
90	"	$6\frac{1}{2}$ in. " hawser.

6. The voyage was completed without incident. Weather forecasts were obtained from Air Ministry, London, after application.

The following table gives the speeds by revolutions, speeds made good, with the force and direction of the wind:—

From.	To.	Speeds by Revs.	Speed Made Good.	Force and Direction of Wind.	Speed taken off by Target.
(Allowing for Current.)					
Portland ...	Ushant ...	9.4 kts.	8.9 kts.	Stbd. Qtr. Force 4.	0.4 kts.
Ushant ...	St. Vincent	10.4 kts.	10.15 kts.	Stbd. Qtr. and Astern. Force 2-4.	0.5 kts.
St. Vincent	Tarifa ...	8.3 kts.	6.9 kts.	Ahead. Force 5-7.	0.5 kts.

After passing Cape St. Vincent, the easterly wind increased in strength to Force 7 and when in Longitude 7° 40' W. speed was reduced for 13 hours to 8 knots at the request of "St. Cyrus," who was likely to be damaged at 10 knots, in the heavy head seas then being encountered.

As the Straits of Gibraltar were approached, the wind fell to Force 3-4 and speed was gradually increased to 10 knots again for the last 30 miles of the voyage.

The target towed all the way on the upper towing bolt "A" without anything parting, neither of the alternatives therefore came into use.

The calculated depth of the bight of the towing wire at 10 knots was 36 fathoms.

7. For any future ocean voyages of Battle Practice Targets, it is recommended that the following arrangements be made (*see* Fig. 3), the target being dry docked to enable the necklace to be well supported by wire stirrups laid across the target and clove hitched round the necklace and shackled to eyebolts fitted through the flat keel plate. (The plating round the top of target is too thin to support adequate fastenings to which to lash the necklace at short intervals along its length.) These stirrups to be well seized with wire to bolts in the upper deck of the target and the clove hitches well seized with wire on the necklace.

The tow would be initially on 6½ in. pendant "X." If this parted due to fracture of "A," the tow would come on to 6½ in. pendant "Y." If this parted due to fracture of "B," or the bows coming off the target the tow would come on to the necklace, the fore end of which to be supported by the chain stirrup "W" across the upper deck of the target and shackled to a ring "R" on the necklace on each side of the target. The stirrup "W" to be strongly lashed with wire to bolts in the upper deck of the target to prevent it from shifting when not towing from the necklace. The ring "R" on each side of the target to be held down by a chain "S" shackled to a bolt in the flat keel plate. The towing chains at after end of target to be hauled up and lashed on the deck of target.

(A.F.O. 567/27.)

## 1684.—Naval Stores and Fittings for Examination Steamers —REPORTS.

(N.S. 2109/23.—22.6.1923.)

The following items comprise one complete set of Naval Stores and fittings for Examination Steamers. Particular attention is called to Note (i).

Patt. No.	Description.	Quantity.	Remarks.
198	Lanterns, signal (red), complete, and with necessary wick and oil.	3 No.	
199	Lanterns, anchor, T.B., complete, and with necessary wick and oil.	3 No.	
*	Lanterns, signal, flashing, complete, and with spare gear for same.	2 No.	*See Notes (ii) and (iii) and para. 3.
7	Horns, fog, far resounding, complete ...	1 No.	
—	Flags, English Bunting :—		
—	Ensigns, blue, 8 breadths ...	1 No.	
—	Flags, Signal and Pendant :—		
—	International Code, No. 3 size ...	1 Set.	
019	Hand, Semaphore ...	2 Prs.	
154 or 354	Pendant No. 6 (No. 1 or No. 3 size) ...	1 No.	
99	Examination Vessels ...	1 No.	
1,385	Semaphore, 2 arm, without tripod, large ...	1 No.	
—	Balls, signal, canvas, 2 ft., painted red ...	3 No.	
17	Megaphones, vulcanised fibre ...	1 No.	
1 or 343	Binoculars ...	1 No.	
332A	Telescopes, small ...	2 No.	
—	Torches, electric ...	2 No.	
—	„ batteries, spare, for ...	6 No.	
—	„ bulbs, spare, for ...	2 No.	
Fittings	{ Tripods for semaphores ...	2 No.	
	{ Yards, fitted with halyards, etc. ...	2 No.	
	{ Topmast ...	1 No.	
STATIONERY.			
—	International Code of Signals ...	1 No.	
—	Annual Supplement to ditto ...	1 No.	
—	Signal Letters of British ships ...	1 No.	
—	Quarterly Supplement to ditto ...	1 No.	
—	Examining Officers' Logs ...	as requisite	
S.323	Signal Logs ...	„	
S.1320B (revised)	Naval Message Forms ...	„	

### Notes.

(i) Should local circumstances necessitate any alteration or addition in the above list, the necessary articles should be demanded if not obtainable locally. All variations from the authorised reserve are to be reported to the Admiralty (D. of S.).

(ii) The Signal Flashing Lanterns will be of one or more of the following patterns, as laid down in para. 3:—

Pattern 408.—Lanterns, signal flashing, acetylene, complete with filled gas cylinder.

Pattern 5110.—Lanterns, signalling, portable electric, “Aldis” type.

(iii) The following items of spare gear are to be provided as spare in each set according to the type of lantern or lanterns included in the set, and are to be supplied with the set on mobilisation :—

For Patt. 408	<table style="border: none;"> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">                 1 Spare Filled Cylinder, Patt. 408A                  1 Reflector, Patt. 408B.                  1 Burner, Patt. 408D.                  1 Pilot Jet Stem, Patt. 408E.                  1 Key or Spanner, Patt. 408H.             </td> <td style="font-size: 3em; vertical-align: middle; padding: 0 10px;">}</td> <td style="vertical-align: middle;">For each lantern, Patt. 408.</td> </tr> </table>	1 Spare Filled Cylinder, Patt. 408A 1 Reflector, Patt. 408B. 1 Burner, Patt. 408D. 1 Pilot Jet Stem, Patt. 408E. 1 Key or Spanner, Patt. 408H.	}	For each lantern, Patt. 408.
1 Spare Filled Cylinder, Patt. 408A 1 Reflector, Patt. 408B. 1 Burner, Patt. 408D. 1 Pilot Jet Stem, Patt. 408E. 1 Key or Spanner, Patt. 408H.	}	For each lantern, Patt. 408.		
For Patt. 5110	<table style="border: none;"> <tr> <td style="border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;">                 1 Spare Battery.                  1 Spare Bulb, Patt. 5111.             </td> <td style="font-size: 3em; vertical-align: middle; padding: 0 10px;">}</td> <td style="vertical-align: middle;">For each lantern, Patt. 5110.</td> </tr> </table>	1 Spare Battery. 1 Spare Bulb, Patt. 5111.	}	For each lantern, Patt. 5110.
1 Spare Battery. 1 Spare Bulb, Patt. 5111.	}	For each lantern, Patt. 5110.		

2. The number of sets required for the Examination Service (which is subject to revision in future) and the ports to which they are allocated are given below. The despatch of the sets to the respective ports is to be provided for in the local arrangements for mobilisation.

<i>Port.</i>	<i>No. of Sets.</i>	<i>Where to be kept in Reserve.</i>
Port of Aberdeen	2	Rosyth
Barrow-in-Furness	2	Rosyth
Port of Belfast	3	Devonport
Berehaven	2	Devonport
Blyth	2	Rosyth
Ports of the Bristol Channel and above Barry	3	Devonport
The Clyde	3	Rosyth
Dover	2	Chatham
Falmouth	3	Devonport
Firth of Forth	5	Rosyth
Hartlepool	2	Rosyth
Harwich	3	Chatham
The Humber	4	Chatham
River Mersey and Port of Liverpool	4	Devonport
Lough Swilly	2	Devonport
Milford Haven	3	Devonport
Newhaven	2	Portsmouth
Plymouth	5	Devonport
Portland and Weymouth	4	Portland
Portsmouth and Southampton	10	Portsmouth
Queenstown	2	Devonport
Sheerness—Chatham	4	Sheerness
Sunderland	2	Rosyth
Firth of Tay (Port of Dundee)	2	Rosyth
The Tees	2	Rosyth
The Thames (Port of London)	5	Chatham
The Tyne	2	Rosyth
Bermuda	2	Bermuda
Gibraltar	2	Gibraltar
Hong Kong	10	Hong Kong
Malta	4	Malta
Simonstown	2	Simonstown
Singapore	5	Singapore (see Note iv).

*Note (iv).*—Sets of stores will not actually be supplied to Singapore until such time as the Navy has taken over the Examination Service from the Army at this port.

3. The Signal Flashing Lanterns comprised in each set are for all the above ports with the exception of those detailed below:—

- Pattern 408—1 No.
- Pattern 5110—1 No.

In the case of the undermentioned ports the signal lanterns are to be of the pattern indicated:—

<table style="border: none;"> <tr><td>Berehaven</td><td>...</td><td>...</td><td>...</td></tr> <tr><td>Bermuda</td><td>...</td><td>...</td><td>...</td></tr> <tr><td>Simonstown</td><td>...</td><td>...</td><td>...</td></tr> <tr><td>Singapore</td><td>...</td><td>...</td><td>...</td></tr> </table>	Berehaven	...	...	...	Bermuda	...	...	...	Simonstown	...	...	...	Singapore	...	...	...	}	Pattern 5110—2 No.
Berehaven	...	...	...															
Bermuda	...	...	...															
Simonstown	...	...	...															
Singapore	...	...	...															

4. In addition to the reserves indicated in the foregoing, the following supplementary reserves of Signal Flashing Lanterns and Gear are to be reserved for Examination Service:—

Patt. 408A	Filled cylinders.	2 No. for each lantern, Patt. 408, reserved.	} To be provided and reserved as spare at the Yard responsible for the provision of sets of stores for the Examination Service.
Patt. 5110	Lanterns, Aldis, complete with spares indicated in Note (iii) para. 1 above.	1 No. for each port where the Examination Service is instituted.	

5. As regards fittings, where vessels are earmarked in peace time for this Service, arrangements are to be made for the appropriate fittings to be provided locally, if not already available. In the case of vessels not earmarked, the necessary fittings are to be improvised when the vessels are taken up.

6. For the present the reserves for the Examination Service are to be maintained at Foreign Yards only.

7. The complete reserve sets (as indicated in paragraph 1 and Notes (ii) and (iii) ) maintained at Foreign Yards are to be accounted for under Sub-head E.2g. The supplementary reserves referred to in paragraph 4 are to be accounted for under their pertinent subheads and items.

## 1724.—Ventilation System—Care and Maintenance.

*H.M. Ships and Dockyards.*

(D. 5117/23.—29.6.1923.)

The question of maintaining the ventilation system of H.M. Ships in an efficient and hygienic condition has been under consideration, and it has been decided as follows, viz.:—

- (a) To maintain the ventilating system to living spaces, store rooms, etc., as apart from main machinery, in an efficient and clean condition the trunking should be blown through in sections by a compressed air blast, at least once a quarter, as far as the appliances of the ship render this practicable. In ships where a low pressure air service is not fitted, advantage should be taken, when lying alongside a Dockyard, to use the low pressure air system of the Dockyard for the purpose, the labour for blowing through being supplied by the Ship's staff.
- (b) Any portions of the system in which dirt is found to accumulate more rapidly than the normal should be blown through at more frequent intervals.
- (c) The air blast should be applied through a hose fitted with a nozzle to supply a large volume of air to the trunking. A bag should be fitted at the outlet end of the trunking to collect dirt or dust that may be blown out.
- (d) After all dirt has been cleared out of the trunking, a sheet of a material, such as muslin, which should be kept saturated with a disinfecting solution is to be fitted over the inlet ends of the trunking. The fans are then to be started and air drawn through the disinfectant screen. This operation should be carried out at more frequent intervals than that of blowing through the trunking.
- (e) The fan is to be kept running until it has been ascertained that the air which is being discharged from all outlets of the trunking is thoroughly saturated with the disinfectant.

**1849.—Defect Lists.**

(D. 3636/23.—13.7.1923.)

In connection with the annual refit of the Diesel engines of H.M. Submarines, experience shows that defects in the whole of the gudgeon pins and bearings can be forecasted with a considerable degree of certainty after examination of a proportion of such parts.

2. It has therefore been decided for future guidance in the preparation of defect lists, that where from an examination of a fair percentage of these bearings, about one in four, their condition can reasonably be regarded as indicative of the whole, it will be competent for Ships' Officers, without further examination, to include an item in the Defect List for the refit of the whole of these bearings.

3. This relaxation in Defect List procedure, which is to be used with discretion, may be extended to other similar items in the Diesel engines of H.M. Submarines where a prohibitive amount of work, having regard to the facilities which can be granted, would otherwise be involved in the examination of a large number of similar parts.

4. Apart, however, from the typical exceptions indicated, Defect Lists should contain specific defects only.

**\*2023.—Discharge and Dismissal—Applications.**

(N.L. 3735.—3.8.1923.)

Where Admiralty approval is sought for the discharge, "services no longer required" of a rating, after undergoing a sentence of imprisonment or detention, the name of the prison or detention quarters is to be stated and also on what ship's books he will be borne during sentence.

The decision will then be communicated by the Admiralty to this latter ship as well as to the ship making the application.

2. All applications for dismissal or discharge, "services no longer required," are to be accompanied by copies of service certificates and conduct sheets.

3. The fact that an application for discharge has been made should be stated on the man's transfer list.

4. *Men on Foreign Service.*—When a man serving abroad is ordered to be dismissed from H.M. Service, or to be discharged "services no longer required," or "unsuitable," or is granted leave to the United Kingdom, a copy of the authority for the dismissal, discharge or leave is to be forwarded to his Depôt with the man or in advance of him.

**2120.—3 in. H.A. Mark II, IIa, III, IV and IVa Mountings—Firing and Night Sight Circuits.**

(G. 5374/23.—10.8.1923.)

Where considered necessary and where the work has not already been carried out, the illuminating circuits of 3 in. H.A. Mk. II, IIa, III, IV and IVa Mountings are to be brought up to date as shown on the sketches (E.F.O. 62/23), the work being carried out by ships' staffs.

When the mountings are to be mounted in Armed Escort Ships, Fast Liners and Defensively Equipped Merchant Ships the current required is to be supplied from battery boxes which will ordinarily be carried on the mountings.

The supply cable from the battery box will therefore connect direct to the 3-way piece in the cases of the 3 in. H.A. II, IIa, and III Mountings and to the 6-way in the cases of the 3 in. H.A. IV and IVa Mountings, no change-over switch being required.

In the case of mountings fitted in H.M. Ships with no low power generator, a similar arrangement to the foregoing should be adopted, except that the battery box should be fitted below deck.

In the case of mountings fitted in H.M. Ships with a low power generator, the battery box should be below deck and a battery change-over switch on the mounting.

When cables have to be led from the battery box or junction box or from both to the mountings, they are to be passed through the centre pivot pipes, where these exist, or through deck glands.

No alterations to existing circuits, except where necessary to conform generally to the above, are to be undertaken.

Any surplus gear at the Yard is to be used, consequently gear not strictly in accordance with the sketches may be fitted.

## 2124.—Electrical Energy—Supply to Ships from Shore Systems.

*H.M. Ships and Dockyards.*

(D. 11180/23.—10.8.1923.)

In view of the urgent need for economy, all cases of ships requiring a supply of electrical energy from Dockyards are to be carefully considered.

2. Provision for the supply of electrical energy has been made primarily for those cases where the ship is unable to run her own electrical generating plant, and a supply of electrical energy is essential, e.g., during a refit.

3. Supply should be given in other cases only for reasons of economy, i.e., where the cost of fuel, oil and other stores consumed on board would be greater than the cost of the corresponding stores consumed in the Dockyard generating station, together with the cost of the Dockyard labour and material used in making and breaking the connection from shore to ship, and the cost of attendance on motor generators or other plant specially employed for the ship.

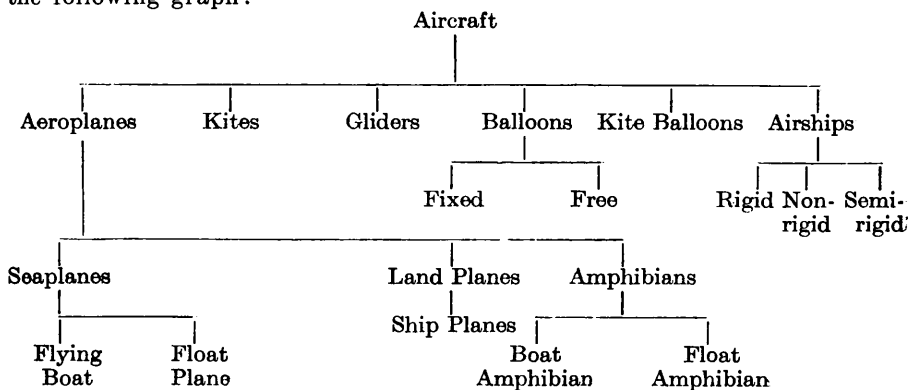
4. The attention of Commanding Officers of ships is drawn to the necessity for economy in the use of electric current. Instructions should be given that no lights or motors, other than those which are essential, are to be switched on.

(A.F.O. 777/28.)

## 2172.—Aircraft—Official Nomenclature and Identification Marks.

(M. 1509/23.—17.8.1923.)

The official nomenclature of the different types of aircraft is shown in the following graph:—





2. An "aeroplane" is any aircraft heavier-than-air, with fixed wings, driven mechanically. It includes:—

- (a) Amphibians,
- (b) Seaplanes,
- (c) Landplanes,

denoting, respectively, aeroplanes designed to alight on or take off from—

- (a) Land or water,
- (b) Water,
- (c) Land.

3. A "seaplane" includes a "float plane" and a "flying boat," denoting, respectively, seaplanes fitted with floats or hull.

4. A "landplane," designed so as to facilitate its landing on a ship's deck, will be known as a "ship-plane."

5. *Identification Marks.*

(a) *Aeroplanes* —

(i) On both sides of the fuselage; on the bottom side of the lower planes; and on the top of the upper planes:—

Three concentric circles—inner circle red, middle circle white, and outer circle blue.

(ii) On both sides of the rudder:—

Three equal vertical stripes in blue, white and red, the blue stripe being next to the rudder post.

(iii) For aeroplanes used for night flying, the marks described at (i) will be modified by deleting the white circle and expanding the red and blue circles outwards and inwards respectively so as to meet in the centre of the space normally occupied by the white circle. In addition, the marks referred to at (ii) will be omitted.

(b) *Airships* —

(i) On the top and the bottom of the envelope near the centre of the ship; on both sides of the upper and lower fins; on the nose:—

Three concentric circles—inner circle red, middle circle white, and outer circle blue.

(ii) On both sides of the rudders:—

Three equal vertical stripes in blue, white and red, the blue stripe being next to the rudder post.

(iii) An airship, when in flight, will fly at the stern the R.A.F. ensign.

## 2174.—Damage to Fishing Gear.

### *Submarines.*

(M. 1163/23.—17.8.1923.)

In view of claims having been received from fishing vessels for compensation for damage to trawls, alleged to have been caused by submarines, submarines when submerged are not to pass within two cables of vessels trawling.

**2272.—Batteries—REPORTS.***H.M. Submarines.*

(D. 10680/23.—24.8.1923.)

Reports giving the following particulars of each battery in H.M. Submarines at Home and Abroad should be forwarded annually to reach the Admiralty by the middle of September of each year, viz. :—

- (a) Type of battery fitted and name of Makers.
- (b) Date of first installation on board.
- (c) Whether battery has been removed from vessel since its first installation, and if so for what purpose.
- (d) Nature and extent of any important repairs carried out.
- (e) Present condition of the battery, and whether it is anticipated a replace battery will be required in the ensuing financial year.

2. The Commanding Officers of Flotillas should forward one report only, which should include all vessels in their Flotillas, and be as concise as possible.

3. These particulars will enable a connected history of each battery to be maintained, and will be of assistance in determining the number of Submarines that require provision under the "Large Repairs" heading (Subhead D.2) of the Programme, in connection with which the supply of a replace battery is generally the governing factor.

**2413.—Fleet Fuelling Craft—Estimates for Repairs.***Home and Foreign Yards.*

(N.S. Fuel 4388/23.—7.9.1923.)

Several cases having recently occurred in which the cost of repair of Fleet Fuelling Craft has been greatly in excess of the amounts provided for the particular vessel in the Annual Estimates, it should be understood that in all cases in which the cost of repair of a Fleet Fuelling Craft is likely to exceed the amount proposed for that craft in the Annual Estimate (Return D.22B) the work should not be taken in hand without prior Admiralty approval, and a report should be forwarded stating the reason for the excess, and showing the extent to which the additional cost can be met by savings in other directions under Vote 8, 2 K.IV.

2. In urgent cases, e.g., where the full extent of the work and the estimated cost cannot be gauged until opening out and survey are completed, the matter should be specially represented by phonogram or postagram in order to avoid delay in undocking or completion.

**2511.—Electrical Machinery and Gear—Identification Particulars.***Dockyards, Depôts, Depôt Ships, and District Electrical Engineers.*

(D. 3638/23.—21.9.1923.)

Many instances have arisen where it was found that electrical machinery and gear have little or no identification particulars.

2. Where gear is received in this condition, steps should be immediately taken to obtain such particulars from the consignor or other convenient source. In such cases the particulars when received should be inserted on the gear or cases containing the gear in an appropriate manner for future identification purposes.

3. No gear should be despatched without bearing such particulars.

4. The District Electrical Engineers should ensure that the instructions given in the specification dealing with this matter are rigidly adhered to.

5. This order is to be considered important.

**2544.—Washington Naval Treaty.**

(M. 1630.—28.9.1923.)

The Washington Treaty for the Limitation of Naval Armament between the United States of America, the British Empire, France, Italy and Japan, came into force on 17th August, 1923. The operative provisions of the Treaty are printed below.

**CHAPTER I.****GENERAL PROVISIONS RELATING TO THE LIMITATION OF NAVAL ARMAMENT.****ARTICLE I.**

The Contracting Powers agree to limit their respective naval armament as provided in the present Treaty.

**ARTICLE II.**

The Contracting Powers may retain respectively the capital ships which are specified in Chapter II, Part 1. On the coming into force of the present Treaty, but subject to the following provisions of this Article, all other capital ships, built or building, of the United States, the British Empire and Japan shall be disposed of as prescribed in Chapter II, Part 2.

In addition to the capital ships specified in Chapter II, Part 1, the United States may complete and retain two ships of the "West Virginia" class now under construction. On the completion of these two ships the "North Dakota" and "Delaware" shall be disposed of as prescribed in Chapter II, Part 2.

The British Empire may, in accordance with the replacement table in Chapter II, Part 3, construct two new capital ships not exceeding 35,000 tons (35,560 metric tons) standard displacement each. On the completion of the said two ships the "Thunderer," "King George V," "Ajax" and "Centurion" shall be disposed of as prescribed in Chapter II, Part 2.

**ARTICLE III.**

Subject to the provisions of Article II, the Contracting Powers shall abandon their respective capital shipbuilding programmes, and no new capital ships shall be constructed or acquired by any of the Contracting Powers except replacement tonnage which may be constructed or acquired as specified in Chapter II, Part 3.

Ships which are replaced in accordance with Chapter II, Part 3, shall be disposed of as prescribed in Part 2 of that Chapter.

**ARTICLE IV.**

The total capital ship replacement tonnage of each of the Contracting Powers shall not exceed in standard displacement, for the United States, 525,000 tons (533,400 metric tons); for the British Empire, 525,000 tons (533,400 metric tons); for France, 175,000 tons (177,800 metric tons); for Italy, 175,000 tons (177,800 metric tons); for Japan, 315,000 tons (320,040 metric tons).

**ARTICLE V.**

No capital ship exceeding 35,000 tons (35,560 metric tons) standard displacement shall be acquired by, or constructed by, for, or within the jurisdiction of, any of the Contracting Powers.

**ARTICLE VI.**

No capital ship of any of the Contracting Powers shall carry a gun with a calibre in excess of 16 inches (406 millimetres).

## ARTICLE VII.

The total tonnage for aircraft carriers of each of the Contracting Powers shall not exceed in standard displacement, for the United States, 135,000 tons (137,160 metric tons); for the British Empire, 135,000 tons (137,160 metric tons); for France, 60,000 tons (60,960 metric tons); for Italy, 60,000 tons (60,960 metric tons); for Japan, 81,000 tons (82,296 metric tons).

## ARTICLE VIII.

The replacement of aircraft carriers shall be effected only as prescribed in Chapter II, Part 3, provided, however, that all aircraft carrier tonnage in existence or building on 12th November, 1921, shall be considered experimental, and may be replaced, within the total tonnage limit prescribed in Article VII, without regard to its age.

## ARTICLE IX.

No aircraft carrier exceeding 27,000 tons (27,432 metric tons) standard displacement shall be acquired by, or constructed by, for or within the jurisdiction of, any of the Contracting Powers.

However, any of the Contracting Powers may, provided that its total tonnage allowance of aircraft carriers is not thereby exceeded, build not more than two aircraft carriers, each of a tonnage of not more than 33,000 tons (33,528 metric tons) standard displacement, and in order to effect economy any of the Contracting Powers may use for this purpose any two of their ships, whether constructed or in course of construction, which would otherwise be scrapped under the provisions of Article II. The armament of any aircraft carriers exceeding 27,000 tons (27,432 metric tons) standard displacement shall be in accordance with the requirements of Article X, except that the total number of guns to be carried in case any of such guns be of a calibre exceeding 6 inches (152 millimetres), except anti-aircraft guns and guns not exceeding 5 inches (127 millimetres), shall not exceed eight.

## ARTICLE X.

No aircraft carrier of any of the Contracting Powers shall carry a gun with a calibre in excess of 8 inches (203 millimetres). Without prejudice to the provisions of Article IX, if the armament carried includes guns exceeding 6 inches (152 millimetres) in calibre the total number of guns carried, except anti-aircraft guns and guns not exceeding 5 inches (127 millimetres), shall not exceed ten. If alternatively the armament contains no guns exceeding 6 inches (152 millimetres) in calibre, the number of guns is not limited. In either case the number of anti-aircraft guns and of guns not exceeding 5 inches (127 millimetres) is not limited.

## ARTICLE XI.

No vessel of war exceeding 10,000 tons (10,160 metric tons) standard displacement, other than a capital ship or aircraft carrier, shall be acquired by, or constructed by, for, or within the jurisdiction of, any of the Contracting Powers. Vessels not specifically built as fighting ships not taken in time of peace under Government control for fighting purposes, which are employed on fleet duties or as troop transports or in some other way for the purpose of assisting in the prosecution of hostilities otherwise than as fighting ships, shall not be within the limitations of this Article.

## ARTICLE XII.

No vessel of war of any of the Contracting Powers, hereafter laid down, other than a capital ship, shall carry a gun with a calibre in excess of 8 inches (203 millimetres).

## ARTICLE XIII.

Except as provided in Article IX, no ship designated in the present Treaty to be scrapped may be reconverted into a vessel of war.

## ARTICLE XIV.

No preparations shall be made in merchant ships in time of peace for the installation of warlike armaments for the purpose of converting such ships into vessels of war, other than the necessary stiffening of decks for the mounting of guns not exceeding 6-inch (152 millimetres) calibre.

## ARTICLE XV.

No vessel of war constructed within the jurisdiction of any of the Contracting Powers for a non-Contracting Power shall exceed the limitations as to displacement and armament prescribed by the present Treaty for vessels of a similar type which may be constructed by or for any of the Contracting Powers; provided, however, that the displacement for aircraft carriers constructed for a non-Contracting Power shall in no case exceed 27,000 tons (27,432 metric tons) standard displacement.

## ARTICLE XVI.

If the construction of any vessel of war for a non-Contracting Power is undertaken within the jurisdiction of any of the Contracting Powers, such Power shall promptly inform the other Contracting Powers of the date of the signing of the contract and the date on which the keel of the ship is laid; and shall also communicate to them the particulars relating to the ship prescribed in Chapter II, Part 3, Section I (b), (4) and (5).

## ARTICLE XVII.

In the event of a Contracting Power being engaged in war, such Power shall not use as a vessel of war any vessel of war which may be under construction within its jurisdiction for any other Power, or which may have been constructed within its jurisdiction for another Power and not delivered.

## ARTICLE XVIII.

Each of the Contracting Powers undertakes not to dispose by gift, sale or any mode of transfer of any vessel of war in such a manner that such vessel may become a vessel of war in the Navy of any foreign Power.

## ARTICLE XIX.

The United States, the British Empire and Japan agree that the *status quo* at the time of the signing of the present Treaty, with regard to fortifications and naval bases, shall be maintained in their respective territories and possessions specified hereunder:

1. The insular possessions which the United States now holds or may hereafter acquire in the Pacific Ocean, except (a) those adjacent to the coast of the United States, Alaska and the Panama Canal Zone, not including the Aleutian Islands, and (b) the Hawaiian Islands;

2. Hong Kong and the insular possessions which the British Empire now holds or may hereafter acquire in the Pacific Ocean, east of the meridian of 110° east longitude, except (a) those adjacent to the coast of Canada, (b) the Commonwealth of Australia and its territories, and (c) New Zealand;

3. The following insular territories and possessions of Japan in the Pacific Ocean, to wit: the Kurile Islands, the Bonin Islands, Amami-Oshima, the Loochoo Islands, Formosa and the Pescadores, and any insular territories or possessions in the Pacific Ocean which Japan may hereafter acquire.

The maintenance of the *status quo* under the foregoing provisions implies that no new fortifications or naval bases shall be established in the territories and possessions specified; that no measures shall be taken to increase the existing naval facilities for the repair and maintenance of naval forces, and that no increase shall be made in the coast defences of the territories and possessions above specified. This restriction, however, does not preclude such repair and replacement of worn-out weapons and equipment as is customary in naval and military establishments in time of peace.

## ARTICLE XX.

The rules for determining tonnage displacement prescribed in Chapter II, Part 4, shall apply to the ships of each of the Contracting Powers.

## CHAPTER II.

RULES RELATING TO THE EXECUTION OF THE TREATY—  
DEFINITION OF TERMS.

## PART I.—CAPITAL SHIPS WHICH MAY BE RETAINED BY THE CONTRACTING POWERS

In accordance with Article II ships may be retained by each of the Contracting Powers as specified in this Part.

*Ships which may be retained by the United States.*

<i>Name.</i>	<i>Tonnage.</i>
"Maryland" ... ..	32,600
"California" ... ..	32,300
"Tennessee" ... ..	32,300
"Idaho" ... ..	32,000
"New Mexico" ... ..	32,000
"Mississippi" ... ..	32,000
"Arizona" ... ..	31,400
"Pennsylvania" ... ..	31,400
"Oklahoma" ... ..	27,500
"Nevada" ... ..	27,500
"New York" ... ..	27,000
"Texas" ... ..	27,000
"Arkansas" ... ..	26,000
"Wyoming" ... ..	26,000
"Florida" ... ..	21,825
"Utah" ... ..	21,825
"North Dakota" ... ..	20,000
"Delaware" ... ..	20,000
Total tonnage ... ..	500,650

On the completion of the two ships of the "West Virginia" class and the scrapping of the "North Dakota" and "Delaware," as provided in Article II, the total tonnage to be retained by the United States will be 525,850 tons.

*Ships which may be retained by the British Empire.*

<i>Name.</i>	<i>Tonnage.</i>
"Royal Sovereign" ... ..	25,750
"Royal Oak" ... ..	25,750
"Revenge" ... ..	25,750
"Resolution" ... ..	25,750
"Ramillies" ... ..	25,750
"Malaya" ... ..	27,500
"Valiant" ... ..	27,500
"Barham" ... ..	27,500
"Queen Elizabeth" ... ..	27,500
"Warspite" ... ..	27,500
"Benbow" ... ..	25,000
"Emperor of India" ... ..	25,000
"Iron Duke" ... ..	25,000
"Marlborough" ... ..	25,000
"Hood" ... ..	41,200
"Renown" ... ..	26,500
"Repulse" ... ..	26,500
"Tiger" ... ..	28,500
"Thunderer" ... ..	22,500
"King George V" ... ..	23,000
"Ajax" ... ..	23,000
"Centurion" ... ..	23,000
Total tonnage ... ..	580,450

On the completion of the two new ships to be constructed and the scrapping of the "Thunderer," "King George V," "Ajax" and "Centurion," as provided in Article II, the total tonnage to be retained by the British Empire will be 558,950 tons.

*Ships which may be retained by France.*

<i>Name.</i>	<i>Tonnage (metric tons).</i>
" Bretagne " ... .. .	23,500
" Lorraine " ... .. .	23,500
" Provence " ... .. .	23,500
" Paris " ... .. .	23,500
" France " ... .. .	23,500
" Jean Bart " ... .. .	23,500
" Courbet " ... .. .	23,500
" Condorcet " ... .. .	18,890
" Diderot " ... .. .	18,890
" Voltaire " ... .. .	18,890
Total tonnage ... .. .	221,170 .

France may lay down new tonnage in the years 1927, 1929, and 1931, as provided in Part 3, Section II.

*Ships which may be retained by Italy.*

<i>Name.</i>	<i>Tonnage. (metric tons).</i>
" Andrea Doria " ... .. .	22,700
" Caio Duilio " ... .. .	22,700
" Conte Di Cavour " ... .. .	22,500
" Giulio Cesare " ... .. .	22,500
" Leonardo Da Vinci " ... .. .	22,500
" Dante Alighieri " ... .. .	19,500
" Roma " ... .. .	12,600
" Napoli " ... .. .	12,600
" Vittorio Emanuele " ... .. .	12,600
" Regina Elena " ... .. .	12,600
Total tonnage ... .. .	182,800

Italy may lay down new tonnage in the years 1927, 1929, and 1931, as provided in Part 3, Section II.

*Ships which may be retained by Japan.*

<i>Name.</i>	<i>Tonnage.</i>
" Mutsu " ... .. .	33,800
" Nagato " ... .. .	33,800
" Hiuga " ... .. .	31,260
" Ise " ... .. .	31,260
" Yamashiro " ... .. .	30,600
" Fu-So " ... .. .	30,600
" Kirishima " ... .. .	27,500
" Haruna " ... .. .	27,500
" Hiyei " ... .. .	27,500
" Kongo " ... .. .	27,500
Total tonnage ... .. .	301,320

#### PART 2.—RULES FOR SCRAPPING VESSELS OF WAR.

The following rules shall be observed for the scrapping of vessels of war which are to be disposed of in accordance with Articles II and III.

I. A vessel to be scrapped must be placed in such condition that it cannot be put to combative use.

II. This result must be finally effected in any one of the following ways:—

(a) Permanent sinking of the vessel;

(b) Breaking the vessel up. This shall always involve the destruction or removal of all machinery, boilers and armour, and all deck, side and bottom plating;

- (c) Converting the vessel to target use exclusively. In such case all the provisions of paragraph III of this Part, except sub-paragraph (6), in so far as may be necessary to enable the ship to be used as a mobile target, and except sub-paragraph (7), must be previously complied with. Not more than one capital ship may be retained for this purpose at one time by any of the Contracting Powers.
- (d) Of the capital ships which would otherwise be scrapped under the present Treaty in or after the year 1931, France and Italy may each retain two sea-going vessels for training purposes exclusively, that is, as gunnery or torpedo schools. The two vessels retained by France shall be of the "Jean Bart" class, and of those retained by Italy one shall be the "Dante Alighieri," the other of the "Giulio Cesare" class. On retaining these ships for the purpose above stated, France and Italy respectively undertake to remove and destroy their conning-towers, and not to use the said ships as vessels of war.

III.—(a) Subject to the special exceptions contained in Article IX, when a vessel is due for scrapping, the first stage of scrapping, which consists in rendering a ship incapable of further warlike service, shall be immediately undertaken.

(b) A vessel shall be considered incapable of further warlike service when there shall have been removed and landed, or else destroyed in the ship:

1. All guns and essential portions of guns, fire-control tops and revolving parts of all barbettes and turrets;
2. All machinery for working hydraulic or electric mountings;
3. All fire-control instruments and rangefinders;
4. All ammunition, explosives and mines;
5. All torpedoes, warheads and torpedo tubes;
6. All wireless telegraphy installations;
7. The conning tower and all side armour, or alternatively all main propelling machinery; and
8. All landing and flying-off platforms and all other aviation accessories.

IV. The periods in which scrapping of vessels is to be effected are as follows:—

- (a) In the case of vessels to be scrapped under the first paragraph of Article II, the work of rendering the vessels incapable of further warlike service, in accordance with paragraph III of this Part, shall be completed within six months from the coming into force of the present Treaty, and the scrapping shall be finally effected within eighteen months from such coming into force.
- (b) In the case of vessels to be scrapped under the second and third paragraphs of Article II, or under Article III, the work of rendering the vessel incapable of further warlike service in accordance with paragraph III of this Part shall be commenced not later than the date of completion of its successor, and shall be finished within six months from the date of such completion. The vessel shall be finally scrapped, in accordance with paragraph II of this Part, within eighteen months from the date of completion of its successor. If, however, the completion of the new vessel be delayed, then the work of rendering the old vessel incapable of further warlike service in accordance with paragraph III of this Part shall be commenced within four years from the laying of the keel of the new vessel, and shall be finished within six months from the date on which such work was commenced, and the old vessel shall be finally scrapped in accordance with paragraph II of this Part within eighteen months from the date when the work of rendering it incapable of further warlike service was commenced.



## PART 3.—REPLACEMENT.

The replacement of capital ships and aircraft carriers shall take place according to the rules in Section I and the tables in Section II of this Part.

Section I.—*Rules for Replacement.*

(a) Capital ships and aircraft carriers twenty years after the date of their completion may, except as otherwise provided in Article VIII and in the tables in Section II of this Part, be replaced by new construction, but within the limits prescribed in Article IV and Article VII. The keels of such new construction may, except as otherwise provided in Article VIII and in the tables in Section II of this Part, be laid down not earlier than seventeen years from the date of completion of the tonnage to be replaced, provided, however, that no capital ship tonnage, with the exception of the ships referred to in the third paragraph of Article II, and the replacement tonnage specifically mentioned in Section II of this Part, shall be laid down until ten years from 12th November, 1921.

(b) Each of the Contracting Powers shall communicate promptly to each of the other Contracting Powers the following information:—

1. The names of the capital ships and aircraft carriers to be replaced by new construction;
2. The date of governmental authorisation of replacement tonnage;
3. The date of laying the keels of replacement tonnage;
4. The standard displacement in tons and metric tons of each new ship to be laid down, and the principal dimensions, namely, length at waterline, extreme beam at or below waterline, mean draft at standard displacement;
5. The date of completion of each new ship and its standard displacement in tons and metric tons, and the principal dimensions, namely, length at waterline, extreme beam at or below waterline, mean draft at standard displacement, at time of completion.

(c) In case of loss or accidental destruction of capital ships or aircraft carriers, they may immediately be replaced by new construction subject to the tonnage limits prescribed in Articles IV and VII and in conformity with the other provisions of the present Treaty, the regular replacement programme being deemed to be advanced to that extent.

(d) No retained capital ships or aircraft carriers shall be reconstructed except for the purpose of providing means of defence against air and submarine attack, and subject to the following rules: The Contracting Powers may, for that purpose, equip existing tonnage with bulge or blister or anti-air attack deck protection, providing the increase of displacement thus effected does not exceed 3,000 tons (3,048 metric tons) displacement for each ship. No alterations in side armour, in calibre, number or general type of mounting of main armament shall be permitted except:

1. In the case of France and Italy, which countries within the limits allowed for bulge may increase their armour protection and the calibre of the guns now carried in their existing capital ships so as not to exceed 16 inches (406 millimetres) and
2. The British Empire shall be permitted to complete, in the case of the "Renown," the alterations to armour that have already been commenced but temporarily suspended.

Section II.—*Replacement and Scrapping of Capital Ships.*

## UNITED STATES.

Year.	Ships laid down.	Ships completed.	Ships scrapped (age in parentheses).	Ships retained. Summary.	
				Pre-Jutland.	Post-Jutland.
			Maine (20), Missouri (20), Virginia (17), Nebraska (17), Georgia (17), New Jersey (17), Rhode Island (17), Connecticut (17), Louisiana (17), Vermont (16), Kansas (16), Minnesota (16), New Hampshire (15), South Carolina (13), Michigan (13), Washington (0), South Dakota (0), Indiana (0), Montana (0), North Carolina (0), Iowa (0), Massachusetts (0), Lexington (0), Constitution (0), Constellation (0), Saratoga (0), Ranger (0), United States (0)*	17	1
1922	—	A, B†	Delaware (12), North Dakota (12)	15	3
1923	—	—	—	15	3
1924	—	—	—	15	3
1925	—	—	—	15	3
1926	—	—	—	15	3
1927	—	—	—	15	3
1928	—	—	—	15	3
1929	—	—	—	15	3
1930	—	—	—	15	3
1931	C, D	—	—	15	3
1932	E, F	—	—	15	3
1933	G	—	—	15	3
1934	H, I	C, D	Florida (23), Utah (23), Wyoming (22)	12	5
1935	J	E, F	Arkansas (23), Texas (21), New York (21)	9	7
1936	K, L	G	Nevada (20), Oklahoma (20) ...	7	8
1937	M	H, I	Arizona (21), Pennsylvania (21)	5	10
1938	N, O	J	Mississippi (21) ... ..	4	11
1939	P, Q	K, L	New Mexico (21), Idaho (20) ...	2	13
1940	—	M	Tennessee (20) ... ..	1	14
1941	—	N, O	California (20), Maryland (20)	0	15
1942	—	P, Q	2 ships West Virginia class ...	0	15

\* The United States may retain the "Oregon" and "Illinois," for non-combatant purposes, after complying with the provisions of Part 2, III (b).

† Two "West Virginia" class.

Note.—A, B, C, D, etc., represent individual capital ships of 35,000 tons standard displacement, laid down and completed in the years specified.

## BRITISH EMPIRE.

Year.	Ships laid down.	Ships completed.	Ships scrapped (age in parentheses).	Ships retained. Summary.	
				Pre-Jutland.	Post-Jutland.
			Commonwealth (16), Agamemnon (13), Dreadnought (15), Bellerophon (12), St. Vincent (11), Inflexible (13), Superb (12), Neptune (10), Hercules (10), Indomitable (13), Temeraire (12), New Zealand (9), Lion (9), Princess Royal (9), Conqueror (9), Monarch (9), Orion (9), Australia (8), Agincourt (7), Erin (7), 4 building or projected*	21	1
1922	A, B†	—	—	21	1
1923	—	—	—	21	1
1924	—	—	—	21	1
1925	—	A, B	King George V (13), Ajax (12), Centurion (12), Thunderer (13)	17	3
1926	—	—	—	17	3
1927	—	—	—	17	3
1928	—	—	—	17	3
1929	—	—	—	17	3
1930	—	—	—	17	3
1931	C, D	—	—	17	3
1932	E, F	—	—	17	3
1933	G	—	—	17	3
1934	H, I	C, D	Iron Duke (20), Marlborough (20), Emperor of India (20), Benbow (20)	13	5
1935	J	E, F	Tiger (21), Queen Elizabeth (20), Warspite (20), Barham (20)	9	7
1936	K, L	G	Malaya (20), Royal Sovereign (20)	7	8
1937	M	H, I	Revenge (21), Resolution (21)	5	10
1938	N, O	J	Royal Oak (22) ... ..	4	11
1939	P, Q	K, L	Valiant (23), Repulse (23) ... ..	2	13
1940	—	M	Renown (24) ... ..	1	14
1941	—	N, O	Ramillies (24), Hood (21) ... ..	0	15
1942	—	P, Q	A (17), B (17) ... ..	0	15

\* The British Empire may retain the "Colossus" and "Collingwood" for non-combatant purposes after complying with the provisions of Part 2, III (b).

† Two 35,000 ton ships, standard displacement.

Note.—A, B, C, D, etc., represent individual capital ships of 35,000 tons standard displacement laid down and completed in the years specified.

## FRANCE.

Year.	Ships laid down.	Ships completed.	Ships scrapped (age in parentheses).	Ships retained. Summary.	
				Pre-Jutland.	Post-Jutland.
	Tons.	Tons.			
1922	—	—	—	7	0
1923	—	—	—	7	0
1924	—	—	—	7	0
1925	—	—	—	7	0
1926	—	—	—	7	0
1927	35,000	—	—	7	0
1928	—	—	—	7	0
1929	35,000	—	—	7	0
1930	—	35,000	Jean Bart (17), Courbet (17) ...	5	*
1931	35,000	—	—	5	*
1932	35,000	35,000	France (18) ... ..	4	*
1933	35,000	—	—	4	*
1934	—	35,000	Paris (20), Bretagne (20) ...	2	*
1935	—	35,000	Provence (20) ... ..	1	*
1936	—	35,000	Lorraine (20) ... ..	0	*
1937	—	—	—	0	*
1938	—	—	—	0	*
1939	—	—	—	0	*
1940	—	—	—	0	*
1941	—	—	—	0	*
1942	—	—	—	0	*

*Note.*—France expressly reserves the right of employing the capital ship tonnage allotment as she may consider advisable, subject solely to the limitations that the displacement of individual ships should not surpass 35,000 tons, and that the total capital ship tonnage should keep within the limits imposed by the present treaty.

## ITALY.

Year.	Ships laid down.	Ships completed.	Ships scrapped (age in parentheses).	Ships retained. Summary.	
				Pre-Jutland.	Post-Jutland.
	Tons.	Tons.			
1922	—	—	—	6	0
1923	—	—	—	6	0
1924	—	—	—	6	0
1925	—	—	—	6	0
1926	—	—	—	6	0
1927	35,000	—	—	6	0
1928	—	—	—	6	0
1929	35,000	—	—	6	0
1930	—	—	—	6	0
1931	35,000	35,000	Dante Alighieri (19) ... ..	5	*
1932	45,000	—	—	5	*
1933	25,000	35,000	Leonardo da Vinci (19) ..	4	*
1934	—	—	—	1	*
1935	—	35,000	Giulio Cesare (21) ... ..	3	*
1936	—	45,000	Conte di Cavour (21), Duilio (21)	1	*
1937	—	25,000	Andrea Doria (21) ... ..	0	*

*Note.*—Italy expressly reserves the right of employing the capital ship tonnage allotment as she may consider advisable, subject solely to the limitations that the displacement of individual ships should not surpass 35,000 tons, and the total capital ship tonnage should keep within the limits imposed by the present treaty.

\* Within tonnage limitations ; number not fixed.

## JAPAN.

Year.	Ships laid down.	Ships completed.	Ships scrapped (age in parentheses).	Ships retained. Summary.	
				Pre-Jutland.	Post-Jutland.
			Hizen (20), Mikasa (20), Kashima (16), Katori (16), Satsuma (12), Aki (11), Settsu (10), Ikoma (14), Ibuki (12), Kurama (11), Amagi (0), Akagi (0), Kaga (0), Tosa (0), Takao (0), Atago (0). Projected programme 8 ships not laid down.*	8	2
1922		—	—	8	2
1923	—	—	—	8	2
1924	—	—	—	8	2
1925	—	—	—	8	2
1926	—	—	—	8	2
1927	—	—	—	8	2
1928	—	—	—	8	2
1929	—	—	—	8	2
1930	—	—	—	8	2
1931	A	—	—	8	2
1932	B	—	—	8	2
1933	C	—	—	8	2
1934	D	A	Kongo (21) ... ..	7	3
1935	E	B	Hiyei (21), Haruna (20) ... ..	5	4
1936	F	C	Kirishima (21) ... ..	4	5
1937	G	D	Fuso (22) ... ..	3	6
1938	H	E	Yamashiro (21) ... ..	2	7
1939	I	F	Ise (22) ... ..	1	8
1940	—	G	Hiuga (22) ... ..	0	9
1941	—	H	Nagato (21) ... ..	0	9
1942	—	I	Mutsu (21) ... ..	0	9

\* Japan may retain the "Shikishima" and "Asahi" for non-combatant purposes, after complying with the provisions of Part 2, III (b).

Note.—A, B, C, D, etc., represent individual capital ships of 35,000 tons standard displacement, laid down and completed in the years specified.

*Note applicable to all the Tables in Section II.*

The order above prescribed in which ships are to be scrapped is in accordance with their age. It is understood that when replacement begins according to the above tables the order of scrapping in the case of the ships of each of the Contracting Powers may be varied at its option; provided, however, that such Power shall scrap in each year the number of ships above stated.

PART 4.—DEFINITIONS.

For the purposes of the present Treaty, the following expressions are to be understood in the sense defined in this Part.

*Capital Ship.*

A capital ship, in the case of ships hereafter built, is defined as a vessel of war, not an aircraft carrier, whose displacement exceeds 10,000 tons (10,160 metric tons) standard displacement, or which carries a gun with a calibre exceeding 8 inches (203 millimetres).

*Aircraft Carrier.*

An aircraft carrier is defined as a vessel of war with a displacement in excess of 10,000 tons (10,160 metric tons) standard displacement designed for the specific and exclusive purpose of carrying aircraft. It must be so

constructed that aircraft can be launched therefrom and landed thereon, and not designed and constructed for carrying a more powerful armament than that allowed to it under Article IX or Article X as the case may be.

*Standard Displacement.*

The standard displacement of a ship is the displacement of the ship complete, fully manned, engined, and equipped ready for sea, including all armament and ammunition equipment, outfit, provisions and fresh water for crew, miscellaneous stores and implements of every description that are intended to be carried in war, but without fuel or reserve feed water on board.

The word "ton" in the present Treaty, except in the expression "metric tons," shall be understood to mean the ton of 2,240 pounds (1,016 kilog.).

Vessels now completed shall retain their present ratings of displacement tonnage in accordance with their national system of measurement. However, a Power expressing displacement in metric tons shall be considered for the application of the present Treaty as owning only the equivalent displacement in tons of 2,240 pounds.

A vessel completed hereafter shall be rated at its displacement tonnage when in the standard condition defined herein.

### CHAPTER III.

#### MISCELLANEOUS PROVISIONS.

##### ARTICLE XXI.

If during the term of the present Treaty the requirements of the national security of any Contracting Power in respect of naval defence are, in the opinion of that Power, materially affected by any change of circumstances, the Contracting Powers will, at the request of such Power, meet in conference with a view to the reconsideration of the provisions of the Treaty and its amendment by mutual agreement.

In view of possible technical and scientific developments, the United States, after consultation with the other Contracting Powers, shall arrange for a conference of all the Contracting Powers which shall convene as soon as possible after the expiration of eight years from the coming into force of the present Treaty to consider what changes, if any, in the Treaty may be necessary to meet such developments.

##### ARTICLE XXII.

Whenever any Contracting Power shall become engaged in a war which in its opinion affects the naval defence of its national security, such Power may after notice to the other Contracting Powers suspend for the period of hostilities its obligations under the Present Treaty other than those under Articles XIII and XVII, provided that such Power shall notify the other Contracting Powers that the emergency is of such a character as to require such suspension.

The remaining Contracting Powers shall in such case consult together with a view to agreement as to what temporary modifications, if any, should be made in the Treaty as between themselves. Should such consultation not produce agreement, duly made in accordance with the constitutional methods of the respective Powers, any one of the said Contracting Powers may, by giving notice to the other Contracting Powers, suspend for the period of hostilities its obligations under the present Treaty, other than those under Articles XIII and XVII.

On the cessation of hostilities the Contracting Powers will meet in conference to consider what modifications, if any, should be made in the provisions of the present Treaty.

##### ARTICLE XXIII.

The present Treaty shall remain in force until 31st December, 1936, and in case none of the Contracting Powers shall have given notice two years before that date of its intention to terminate the Treaty, it shall continue in force until the expiration of two years from the date on which notice of termination shall be given by one of the Contracting Powers, whereupon the Treaty shall terminate as regards all the Contracting Powers. Such notice

shall be communicated in writing to the Government of the United States, which shall immediately transmit a certified copy of the notification to the other Powers and inform them of the date on which it was received. The notice shall be deemed to have been given and shall take effect on that date. In the event of notice of termination being given by the Government of the United States, such notice shall be given to the diplomatic representatives at Washington of the other Contracting Powers, and the notice shall be deemed to have been given and shall take effect on the date of the communication made to the said diplomatic representatives.

Within one year of the date on which a notice of termination by any Power has taken effect, all the Contracting Powers shall meet in conference.

#### ARTICLE XXIV.

The present Treaty shall be ratified by the Contracting Powers in accordance with their respective constitutional methods and shall take effect on the date of the deposit of all the ratifications, which shall take place at Washington as soon as possible. The Government of the United States will transmit to the other Contracting Powers a certified copy of the *procès-verbal* of the deposit of ratifications.

The present Treaty, of which the English and French texts are both authentic, shall remain deposited in the archives of the Government of the United States, and duly certified copies thereof shall be transmitted by that Government to the other Contracting Powers.

In faith whereof the above-named Plenipotentiaries have signed the present Treaty.

Done at the City of Washington the sixth day of February, 1922.

### 2590.—Note Books.

#### *Battleships, Battle Cruisers and Cruisers.*

(Sta. 6671/23.—28.9.1923.)

Arrangements have been made with H.M. Stationery Office to print, on repayment terms, note books containing particulars of the ship, posters of regulations, sentry's and other special orders, etc., which may be considered necessary for Battleships, Battle Cruisers and Cruisers, on a ship being commissioned, or in anticipation of commissioning, for circulation to different departments at the discretion of the Commanding Officer. The cost will be assessed on Stationery Office contract rates, and charges will consequently be less than would otherwise be the case.

Note Books produced by Ships' Officers for printing may contain extracts from books issued "For Official Use Only" (O.U. series), but on no account is confidential information to be included, and the use of the printed note books should be restricted to H.M. Service.

When such note books are required to be printed application should be made direct to the Controller, H.M. Stationery Office, Prince's Street, Westminster, London, S.W.1, quoting that Department's Letter of 11th October, 1919, to Admiralty, L.3705/19, the application being accompanied by the Commanding Officer's certificate that the printing is essential for the ship. The cost will not be chargeable to Public Funds, and H.M. Stationery Office will claim on the Commanding Officer.

As far as possible "copy" for printing should be typewritten, but in any case clearness of "copy" is essential to avoid errors.

### 2599.—Fire Control Tables and other Fire Control Instruments—Small Repairs.

(C.P. 10060.—28.9.1923.)

Orders placed locally at H.M. Dockyards (under approved arrangements) for small repairs to Fire Control Tables and other Fire Control Instruments should provide for the work to be carried out subject to the inspection and approval of the Gun Mounting Overseer in the district concerned, who should be furnished with a copy of the order.

It should also be made clear to the firm in the order that they will be held responsible for any loss or damage (including loss or damage by fire), occurring to the instruments whilst in their possession (i.e., until delivery is taken at the Yard after completion).

### 2627.—Development of Central Storekeeping—Revision of Sea Store Establishments, etc.

(N.S. 11590/23.—5.10.1923.)

It has now been decided to proceed forthwith with the following work:—

- (a) The extension of the system of Central Storekeeping to Sloops, Destroyers and other small craft, also the remaining Capital Ships, Cruisers and Shore Naval Establishments at Home and Abroad not yet fitted.
- (b) The further development of the system in ships already fitted involving improvements in stowage and the reduction in the number of storerooms where practicable.
- (c) The examination of the Central Store Accounts and the test stocktaking of Naval Stores in H.M. Ships and Shore Naval Establishments.
- (d) The revision of:
  - (i) The Sea Store Establishments.
  - (ii) Lists of Naval Stores to be supplied as a first outfit to new ships of various classes.
  - (iii) Lists showing the minimum stocks of Naval Stores essential to the fighting efficiency of ships which are to be maintained on board as an emergency reserve.
- (e) Investigation of the extent to which fixture lists comprise items which should be supplied as sea stores.

2. As regards (c) as the accounts are now kept open, it will be necessary to undertake their examination on board and in accordance with usual practice when stocks are held in independent custody (as in the case of Naval Store Officers) it will be necessary, in order to meet the requirements of the Treasury and Exchequer and Audit Department, to make an occasional test stocktaking of the stores on board. As far as possible, this stocktaking (which will on each occasion cover only a very small portion of the stock and will not relieve the Accountant Officer in any way of the primary responsibility for this duty) will be effected during the periodical examination of the store accounts.

3. With reference to item (d), the previous practice was for the revision to be carried out by an *ad hoc* Committee, but it has now been decided that this work is to be undertaken by the staff of the Director of Stores' Department, assisted by Technical Officers from the Fleet, who will be appointed temporarily to the Admiralty for the period during which the stores of their respective departments are under review.

4. In connection with the revision of the Sea Store Establishments, it will be necessary for Ships and Establishments concerned to furnish the Director of Stores periodically on request with information in regard to the stocks and expenditure of the various items of stores.



5. In considering the revision of the Establishments of Permanent Stores, it is necessary that all concerned should be guided not only by the economy that can be effected without loss of efficiency, but also by the consideration of reduction of weight which is now being investigated in the Fleet.

6. It has now been decided, in order to facilitate the conduct of the above work, to revert to the previous organisation of the Naval Store Department, under which an Assistant Director of Stores was employed solely on the introduction of the system of Central Storekeeping, and as a Liaison Officer with the Fleet on store matters. Arrangements have therefore been made to relieve Mr. Gick of his other duties at the Admiralty in order that he may be able to superintend the development and completion of the new system of supply.

### 2853.—Bulkheading of Enclosed Messes in H.M. Ships.

(S. 01552/23.—26.10.1923.)

It has been brought to notice that in certain of H.M. Ships where various categories of C.P.O.s and P.O.s have been allotted a separate mess, the enclosing bulkheads have been carried right up to the beam, having the effect of depriving the mess decks of natural light and ventilation.

Where a bulkhead is necessary, this is to be a dwarf bulkhead with curtains.

Each category of C.P.O. and P.O. is not necessarily to have an enclosed mess separate from all other C.P.O.s' and P.O.s' messes.

In many cases several categories of C.P.O.s and P.O.s must mess in a single enclosed space due to considerations of space, light, etc. As instances, Artisan P.O.s may have a mess in the same enclosed space as other P.O.s, and E.A.s, O.A.s and Shipwrights in the same enclosed space as other C.P.O.s.

In forwarding estimates for carrying out any necessary work consequent on the alterations referred to herein, the Dockyard Officers are to state in detail the bulkheads to which the estimates refer.

### 2963.—Officers Serving at the Admiralty—Allowance.

(N.P. (I) 1853.—9.11.1923.)

The following regulations for the administration of Admiralty Allowance (K.R. and A.I., Appendix I, Part 4, Nos. 3-5) are promulgated for the information of Officers who may be appointed additional for service at the Admiralty.

When it is anticipated that an Officer's appointment will be of less than three months (91 days) duration, he will be appointed "to H.M.S. 'President' additional *temporarily* for duty in . . . Department," and will be paid Admiralty Allowance at the appropriate *daily* rate from the date of joining for duty for a period not exceeding three months. Should his appointment be actually of more than three months duration his Admiralty Allowance will be reduced to the appropriate *annual* rate as from the expiration of three months from the date of joining for duty.

When it is anticipated that an Officer's appointment will be of more than three months duration, he will be appointed "to H.M.S. 'President' additional for duty in . . . Department," the probable maximum duration being stated wherever possible, and will be paid Admiralty Allowance at the appropriate *annual* rate from the date of joining for duty. Should his appointment subsequently be terminated for reasons beyond his own control before the expiration of three months from the date of joining, the Allowance will be readjusted to the appropriate daily rate for the period of his employment at the Admiralty.

An Officer appointed for duty at the Admiralty additional to relieve another Officer on the permanent establishment from a later date will be paid Admiralty Allowance at the appropriate *annual* rate from the date of first joining for duty.

## 3052.—Director Firing Circuits and Fittings—Importance of Maintaining in Good Condition.

*Destroyers and Flotilla Leaders.*

(G. 11956/23.—16.11.1923.)

In certain firing practices recently carried out in Destroyers and Flotilla Leaders a number of director missfires have occurred, the reasons for which have not been definitely determined on investigation.

2. Investigation of the causes of missfires of guns in director firing gear, and especially when using Henderson's firing gear, made by "Excellent" and "Vernon" in 1918 in connection with the missfires in Capital Ships and Cruisers, proved that the chief causes of missfires are high resistance in the circuit chiefly due to faulty connections. The effect of such resistance is greater in the part of the circuit which is common to all guns, that is between the generator or battery and the part of the circuit where it is split up to lead away to the various guns.

3. It is considered that the above remarks made as the result of the investigations equally apply to the director firing circuits in Destroyers and Flotilla Leaders, and that the high resistance of the circuits is responsible for many of the missfires which occur in these vessels, particularly when using the Henderson's firing gear, where the duration of the contact is very small, this being in the nature of about .005 seconds under certain conditions.

4. The general experience in testing director firing circuits and gun circuits in new ships and torpedo craft and ships and torpedo craft on completion of extensive refits is that the conductivity resistances of the circuits are very much in excess of their correct values; in many cases these excesses are as much as eight to ten times the correct amounts, and after much overhauling and cleaning of contacts and connections in the various parts of the circuits the correct conductivity values are obtained.

5. With reference to these high resistances, it should be borne in mind that the fact of a lamp being burnt through the circuit at its apparent full brilliancy, is no indication that the conductivity of the circuit is at its correct value, as the resistance of the lamp filament is such that a fairly high resistance, i.e., about 20 ohms in the circuit, would have little apparent effect on the brilliancy of the lamp.

6. The fact of a tube firing through the circuit by making contact with the director firing pistol is also not a satisfactory indication that the conductivity of the circuit is correct.

7. The reason for this is to be found in the fact that the bridge of the tube requires an appreciable period in which to heat to such a temperature as will cause the tube to fire.

8. The higher the resistance of the firing circuit the less will be the current through the tube. In a high resistance circuit, therefore, the period of contact necessary to fire the tube will inevitably be longer than in a low resistance circuit.

9. High resistance will be particularly likely to be responsible for missfires when contact periods are short. Such periods of contact are shortest when using Henderson's gear under severe conditions of roll.

10. The attention of all Destroyers and Flotilla Leaders is drawn to the foregoing remarks.

11. Particular care is therefore to be taken to keep the director firing and gun circuits in an efficient condition in order to eliminate as far as possible the chances of missfires due to faulty circuits.

12. For this purpose the circuits should be carefully tested both for conductivity and insulation (with a bridge megger or portable measuring instrument) on all occasions of monthly tests and before firing.

13. The limits of the conductivity resistances for the complete director firing circuits (i.e., from the supply battery or low power switchboard to the striker) which should be aimed at in Destroyers and Flotilla Leaders respectively, should be .3 to .8 ohms for the former and .3 to .9 ohms for the latter. The leads to the nearest gun to the director being of the lowest value.

14. In the three-gun Destroyers the highest resistance value should not exceed .75 ohms.

### 3120.—Cinematograph Films Relanded from H.M. Ships.

(N.L. 5612/23.—23.11.1923.)

In order to avoid delay in the landing of cinematograph films from H.M. Ships, the following instruction has been issued to Collectors and other Officers of the Department of the Board of Customs and Excise:—

“Collectors and other Officers concerned are authorised to allow immediate delivery, without payment of duty, of any positive films relanded from H.M. Ships on production of a certificate signed or countersigned by the Captain or Commanding Officer of the Ship to the effect that the positive film (full description) was shipped on board H.M.S. (name of ship) at (a British or Northern Irish port) on the (date). This certificate may be accepted in all circumstances, including arrivals of H.M. Ships from foreign ports.”

2. In future, any film, when taken on board one of H.M. Ships from the shore, should be labelled “Shipped at—” with the signature, rank and ship of the person receiving the consignment. The Officer giving the certificate to the Customs for the landing of films will then only require to satisfy himself that all films in a consignment relanded are labelled as shipped at a British or North Irish port.

(A.F.O. 3117/29.)

### 3210.—Storing Yards for Ships of the Surveying Service.

(N.S. 13532/23.—30.11.1923.)

Ships of the Surveying Service in Home Waters are allocated for storing purposes as shown below and transfer of the Warrants, Fixture Lists, etc., to the Storing Yards should be made as necessary:—

<i>Name of Ship.</i>	<i>Manning Port.</i>	<i>Storing Yard.</i>
“Beaufort” ... ..	Devonport ... ..	Devonport.
“Fitzroy” ... ..	Chatham ... ..	Chatham.
“Flinders” ... ..	Portsmouth ... ..	Portsmouth.
“Kellett” ... ..	Chatham ... ..	Chatham.

2. When a vessel refits at a Yard other than her Storing Yard the opportunity should be taken to complete with stores at that Yard, any special steaming stores required being, however, demanded from the Storing Yard.

3. Demands from H.M.S. “Endeavour,” whilst employed on the West Coast of Africa, for any Naval Stores required to be sent from England are to be forwarded to the Admiralty (Naval Store Department) together with information as to the port to which the stores should be consigned and the date by which required.

4. Supply will in ordinary circumstances be met from H.M. Dockyard, Chatham.

### 3402.—Electrical Machinery—Supply of Spare Parts.

(D. 8390/23.—21.12.1923.)

Cases have recently been brought to notice of requisitions for spare parts for electrical machinery having been returned by the Repair Ship to ships of the Fleet, with the notation that the articles demanded should be made by the ships' staffs.

2. It has been represented that very many of the items are petty in themselves and their manufacture on board is not beyond the capacity of the ships' artificers, but that on principle it is very undesirable that skilled ratings who are paid a comparatively high rate of wages should be employed in making, laboriously, one by one, articles which are turned out commercially by the gross at a very low cost. Also, the wastage of material when articles are made on board is often very great.

3. It has further been represented that there is a strong tendency for Ships' Officers to allow all unimportant defects which require small spare parts, such as springs, etc., to accumulate until the annual refit, mainly because of the difficulties of getting the articles supplied. This method, which results in enormously lengthy Dockyard defect lists once a year, is, for many reasons, undesirable.

4. The following points have been raised in the submission of the Fleet Officers, viz. :—

- (a) Whether small parts of electrical apparatus shall be made on board H.M. Ships, or on board the Repair Ships, or, alternatively, whether they should be purchased from the makers and stored.
- (b) Whether such items shall be given pattern numbers and entered in the Rate Book.
- (c) The standardisation of electrical parts.

5. With regard to (a), the present practice is to supply a number of spare parts for electrical apparatus which are likely to require replacement, and it is presumed that full advantage is taken of this in carrying out repairs.

It is agreed, however, that additional small spares should usually be obtained from the manufacturers who make these in large numbers, and it has been decided that Repair and Depôt Ships are to demand small stocks of those spare parts which experience shows are in frequent demand. The demands should be forwarded to the Naval Store Officer of the storing port as "stores for making good defects" on Forms S.134D, the articles being demanded in sufficient quantities to permit of a small margin to be available for use during the period which must elapse before purchase can be arranged, to replenish the ships' stocks. The demands should be accompanied with patterns or sketches and the maker's name.

Spare parts which are only occasionally required are either to be made up on the Repair or Depôt Ship, or, should time permit, be obtained from the nearest Dockyard.

Supplies of spare parts, etc., made from the Dockyards under this order (whether obtained by manufacture or purchase) should be treated as Sea Stores chargeable to Vote 8, Sec. II.

6. With regard to (b), it has further been decided that such articles as are in use in the several ships and are continually being expended, are to be added to the Rate Book, and, with this object in view, the Commanding Officers of all Repair and Depôt Ships should furnish as soon as possible lists of the articles coming under this category.

7. With regard to (c), the standardisation of component parts of electrical plant and apparatus has received much consideration. There are considerable difficulties in standardising small parts of articles which are not themselves Admiralty Standards.

The design of certain Admiralty Standards, such as, for example, motors, has made considerable progress, and particular attention is paid to the interchangeability of the component parts which would thus justify the addition of such items to the Rate Book.

It is hoped that, in due course, the extension of the practice of reducing the number and varieties of component parts will be possible.

8. The procedure outlined above is to be adopted by all Repair and Depôt Ships.

### 3458.—H.M.S. "Eagle"—Berthing of Vessels alongside.

*H.M. Dockyards, Store Vessels, Oilers, etc.*

(D. 0274/23.—28.12.1923.)

Owing to the shape of the bulge, suitable arrangements cannot be made for the use of paddle tugs for towing alongside H.M.S. "Eagle" and it will probably be found necessary to have a tow line in on each quarter and possibly one on each bow when carrying out a difficult movement, i.e., four tugs.

2. For berthing paddle tugs alongside for such work as transferring men, stores, etc., a lighter draught about 2 ft. of water can be used when H.M.S. "Eagle" is at a mean draught of 24 ft. or over, but this cannot be done if the ship's mean draught is less than 24 ft.

3. Oilers and other single screw vessels which are not of sufficient draught under all conditions to take against the rubbing piece on the bulge plating can be dealt with by the use of fenders, such as those shown on the sketch (E.F.O. 115/23). Arrangements are being made for the provision of two such fenders to be carried on board H.M.S. "Eagle."

4. Responsibility for carrying out these arrangements rests primarily on the Commanding Officer, H.M.S. "Eagle," and not on the Masters of the various types of vessels referred to above.

## 1924.

### \*6.—Advanced (S) Course—Syllabus.

(C.W. 10402/23.—4.1.1924.)

DURATION OF COURSE—TWO TERMS.

The subjects of study, the number of periods per week devoted to each subject and the marks at the final examination are as follows:—

Subject.	Periods per Week.		Marks.
	1st Term.	2nd Term.	
Mathematics ... ..	12	2	250
Applied Mechanics ... ..	2	2	150
Physics and W/T Theory ... ..	9	19	250
Applied Electricity and W/T ... ..			
Physics, Laboratory Work and Term Marks ... ..	2	2	125
Total for Greenwich Course	...	...	1,000

#### MATHEMATICS.

1ST TERM. LECTURES—12 periods per week.

2ND TERM. LECTURES—2 periods per week.

#### ALGEBRA.

Simple algebraic manipulation, including change of subject and substitution of a new variable in formulae.

Simultaneous linear equations in two or three unknowns; quadratic equations. Two simultaneous equations, one linear and one quadratic. Solution of equations by graphs and the method of trial and error.

Indices and logarithms. Slide rule. Meaning and use of nomograms.

Equation of straight line in form  $y = mx + c$ . Gradient. Tracing of parabolic graph  $y = ax^2 + bx + c$  from considerations of symmetry, turning value, intersection with axes.

Approximation to  $(1 + x)^n$  in the form  $1 + nx$ .

Determination of laws from experimental data in simple cases.

## TRIGONOMETRY.

Trigonometrical functions of general angle. Graphs of these functions; periodicity.

Graph of form  $a \cos mx + b \cos nx$  to illustrate superposed wave-forms (beats).

Formulae for  $\sin(A \pm B)$ , etc.,  $\sin 2A$ , etc.,  $\cos A \pm \cos B$ , etc.

Transformation of  $a \sin x + b \cos x$  into the form  $r \sin(x + a)$ . (With physical illustrations.)

Circular measure. Angular velocity. Small angles.

## CALCULUS.

Gradient of a graph at a particular point.

Derived function (gradient function) of  $x^2$ ,  $x^3$ ,  $\frac{1}{x}$  from first principles.

Application to maxima and minima, small increments, rate of increase, velocity, acceleration; second derived function.

Derived function of  $x^n$ ,  $\sin x$ ,  $\cos x$ .

Integration as inverse of differentiation.

$e^x$  defined as series. Graph of  $ae^{nt} \sin(nt + a)$ . Derived function of  $e^x$ ,  $\log x$ . The catenary.

Derived function of a product.

Idea of differential equation leading to linear differential equation of second order with constant coefficients (simple harmonic motion, damped oscillations).

## APPLIED MECHANICS.

1ST AND 2ND TERMS. LECTURES—2 periods per week.

(1) *Brief Revision of Fundamental Principles*.—Laws of statics and dynamics reviewed with special reference to the use of units. Unital equations applied in analysing the results of experiments. Conversion of units in equations and formulae. Principles of mechanical similarity applied in comparison of strengths, weights, powers and stabilities of large and small structures, machines, submerged and floating bodies, switches, etc.

(2) *Strength and Elasticity*.—Strength and stiffness in springs. Influence of rigidity of form of section. Elasticity in glass and other ware. Stresses due to expansion and flexure. Internal stresses. Brittleness and ductility. Elastic-limit, yield-point and ultimate tensile strength of metals. Influence of rolling and drawing. Wire-ropes.

(3) *Vibration in Structures and in Instruments*.—Periodic oscillations of three different types: (1) controlled by buoyancy and gravity, as in pendulum, moored mine or ship; (2) by elastic forces, as in instruments, structures, ropes; (3) by stabilising devices, as in torpedoes and paravanes.

Forced vibration, resonance and phase displacement.

Natural vibration in damped systems.

Sources of vibration, particularly unbalanced engines and eddy motion under water.

Fatigue of metals subject to vibration.

## PHYSICS, APPLIED ELECTRICITY AND WIRELESS TELEGRAPHY.

1ST TERM. LECTURES—9 periods per week.

LABORATORY WORK—2 periods per week.

2ND TERM. LECTURES—19 periods per week.

LABORATORY WORK—2 periods per week.

## PHYSICS.

*A descriptive treatment of modern views of*.—

- (i) The atomic theory of matter and relevant phenomena.
- (ii) The kinetic theory of gases, without formulae or proofs.
- (iii) The electron theory of matter.
- (iv) Radioactivity.

*Wave Motion.*

- (i) Non-mathematical discussion of the transmission of energy by waves.
- (ii) Wavelength, frequency and velocity of waves in various media.
- (iii) Reflection and refraction of waves.
- (iv) Interference effects.
- (v) Electromagnetic waves; the æther spectrum: production and properties of waves above and below the frequency of visible light.

*Sound.*

- (i) Propagation of sound waves in air, water and other media; velocity, wavelength and frequency.
- (ii) Reflection and refraction of sound.
- (iii) Methods of generating sound waves in various media.
- (iv) Methods of receiving sound signals.

*Electrical Theory.*

- (i) Electrostatics; some fundamental theorems. Design of high tension insulators.
- (ii) Magnetism and electromagnetism: fundamental theorems.

## APPLIED ELECTRICITY.

*Direct Currents.* Short résumé.*Alternating Currents.*

- (i) Simple harmonic motion; vector diagrams; wave diagram; wave forms and harmonics.
- (ii) A.C. circuits; resistance, inductance and capacity in series and in parallel. Use of vector diagrams. Resonance.
- (iii) Two and three phase circuits.
- (iv) Impedance coils.
- (v) Power; power factor.
- (vi) Measuring instruments; ammeters, voltmeters, wattmeters, frequency meters, power factor indicators, energy meters.
- (vii) Alternators, one, two and three phase.
- (viii) Transformers; theory and outline of construction. Connections for polyphase working.
- (ix) Brief description of A.C. motors.
- (x) Brief description of rotary convertors.
- (xi) Initial conditions in A.C. circuits with particular reference to charging circuits of spark transmitters.

## WIRELESS TELEGRAPHY.

*High Frequency Alternating Currents.*

- (i) Oscillatory discharge from condenser.
- (ii) Brief outline of special properties of H.F. currents.
- (iii) Coupled circuits.
- (iv) Properties of receiving circuits.
- (v) Short account of H.F. alternators.

*W/T Power Transmission.*

- (i) Aerials and their properties.
- (ii) Power radiated from aerial.
- (iii) Empirical formulæ for attenuation.
- (iv) Power required for communication over a given range.
- (v) Reflector system of transmission. Short waves: theory and propagation of.

*Direction Finding.**Thermionic Valves and Circuits.**Valves.*

- (i) Construction and principles of action.
- (ii) Filaments and electron emission.
- (iii) Space charge;  $3/2$  power law.
- (iv) Effect of grid; characteristic curves and surfaces.
- (v) Manufacturing methods.

*Valve Rectifiers.**Valve Generators.*

- (i) General principles.
- (ii) Circuit arrangements.
- (iii) Tonic train.
- (iv) Multiphase working.
- (v) "Trigger" valve circuits.

*Valve Amplifiers.*

- (i) General principles.
- (ii) Resistance coupling.
- (iii) Inductive and tuned circuit coupling.
- (iv) Transformer coupling.
- (v) Choke coupling.

*Valve Detectors.*

*Wavemeters.* Multi-vibrator and other circuits.

### 144.—Berthing Fenders—Use in H.M.S. "Hermes."

*"Hermes" and Dockyards at Home and Abroad.*

(S. 03072/23.—18.1.1924.)

When H.M.S. "Hermes" is alongside a jetty the fenders used for berthing are, whenever practicable, to bear against the doubling at the waterline provided for the special floating fenders.

### 251.—Advanced (G) Course—Syllabus.

(C.W. 12099.—1.2.1924.)

The following is the syllabus of the course at Greenwich for Officers qualifying as Lieutenants (G†):—

DURATION OF COURSE—TWO TERMS.

The subjects of study, the number of periods per week devoted to each subject, and the marks at the final examination are as follows:—

Subjects.	Periods per Week.		Titles of Examination Papers.	Marks.
	1st Term.	2nd Term.		
Mathematics ... ..	6	6	Mathematics ... ..	250
Applied Mechanics ...	6	6	Applied Mechanics ...	150
Laboratory Work ...	2	2	Ballistics ... ..	150
Optics ... ..	2	2	—	50
Laboratory Work ...	2	2	Optics ... ..	100
Chemistry, Metallurgy and Explosives ...	1	1	—	50
Laboratory Work ...	3	3	Chemistry, Metallurgy and Explosives ...	100
Machine Construction and Drawing ...	3	3	—	50
			Machine Construction and Drawing ...	100
Total for Greenwich Course ...				1,000



## MATHEMATICS.

1ST TERM. LECTURES—6 periods per week.

Revision of algebra, trigonometry and analytical geometry studied during the qualifying course.

*Calculus.*—Revision and amplification of work of qualifying course. Hyperbolic functions; the catenary. Processes of integration; substitution; integration by parts. Definite integrals; approximate integration. Taylor's and Maclaurin's expansions. Partial differentiation; differentiation of implicit functions. Maxima and minima of a function of two independent variables. Double integrals. The solution of those differential equations which occur in connection with the courses in Physics and Applied Mechanics, and in the Service Manuals.

2ND TERM. LECTURES—6 periods per week.

Discussion of various mathematical problems of professional interest, e.g., theory of probability, effect of side-wind, determination of tilt of roller bearing paths, effect of errors in torpedo work, effect of flotilla attack on squadron, graphical methods of ascertaining probable effect if squadron carries out avoiding tactics, etc.

## APPLIED MECHANICS.

1ST AND 2ND TERMS. LECTURES—6 periods per week.

*Dynamics.*—Brief revision of fundamental principles with special reference to units and their applications.

*Principles of Similarity.*—Applied in comparison of large and small guns, structures, machines and armour; and as a means of analysing experimental data.

*External Ballistics.*—Flight in vacue; effects of curvature and of rotation of the earth; atmospheric resistance; ballistic properties of different projectiles; precession, stability and drift, determination of trajectories by short-arc methods, graphic and algebraic (direct fire, high-angle, anti-aircraft and bomb-dropping); by "parabolic velocity" and by Siacci method with developments; change of muzzle velocity and of ballistic coefficient; equivalent wind.

*Dynamics of Vibration.*—Periodic motion—analytic and graphic treatments, phase diagram; natural vibration with and without damping; forced vibration or damped system; natural frequencies of vibration of instruments and of structures; resonance.

*Mechanisms.*—Restraints and degrees of freedom; velocity and acceleration diagrams for mechanisms used in instruments, gun mountings, etc.; combination of harmonic and other motions in instruments.

*Dynamics of Rotation.*—Speed and torque in pumps, hydraulic motors, etc.; static and dynamic balancing of rotors, e.g., in swash plate engines; centrifugal action in governors, speed indicators and other instruments; gyrostat applied to measure (1) angular displacements, (2) angular velocities; to control oscillations, e.g., in rolling; gyro compasses of different characteristics.

*Hydraulics.*—Definition and measurement of viscosity; viscous motion in lubricated bearings; flow of mobile liquids through nozzles, meters, valves, etc.; pipe resistance and inertia effects in pumps, rams, and engines; operations of recoil and run-out rams and valve keys.

*Strength of Materials and Gun Construction.*—Strength and elasticity of steels and non-ferrous metals; stresses, deflections and stiffness of springs of different types; stresses and strains of thin and thick tubes; elastic limits under complex stresses; gun tubes constructed by shrinking, and by wire-winding; auto-fretting; axial stresses and stiffness of gun.

*Thermodynamics and Internal Ballistics.*—Revision of fundamental thermodynamic principles; applications to certain problems in internal ballistics; burning of cordite in closed vessel; process of combustion in gun; maximum pressure and muzzle velocity; analysis of band-resistance effects.

1ST AND 2ND TERMS. LABORATORY WORK—2 periods per week.

Investigations of actions of gyrostats with flexible or stiff shafts, with different degrees of freedom and with different controls and damping devices; tensile and other tests on steel and non-ferrous metals; strength in relation to microstructure; penetration hardness tests; experiments on rams and pumps, and on pipe and valve resistance tests on lubricated bearings, etc.

## OPTICS.

1ST TERM. LECTURES—2 periods per week.

*Gaussian Optics.*—Elementary theory of thick lenses and symmetrical optical systems; principle points and planes; depth magnification.

*Limitation of Rays in Optical Instruments.*—Entrance and exit pupils and windows; vignetting; position of stops; circles of confusion; focus depths; stops in telescopes.

*Aberrations of an Optical System.*—Brief account of the various aberrations and the methods of correction adopted; application to objectives and eyepieces; types of objectives and eyepieces, their properties and uses.

*Transmission of Light through Optical Instruments.*—Luminous intensity; illumination; brightness; retinal brightness; losses by reflection and absorption; transmission through a system and methods of determining it experimentally; effect of vignetting on transmission.

2ND TERM. LECTURES—2 periods per week.

*Vision.*—Monocular depth perception; the Verant; astigmatism; the three types of perspective found in monocular instruments; binocular vision; modern theories of stereoscopic vision; methods of testing; Polfrich's stereo-comparator.

*General Application of the above Theories to Service Instruments.*—(1) Telescopes, Galilean binoculars, prismatic binoculars, pseudoscopic binoculars, spotting glasses, variable power telescopes; (2) periscopes; (3) inclinators and angle measurers, split lens system; (4) optical system of Henderson gear; (5) rangefinders, coincidence and stereoscopic types; (6) photographic triangulation.

*Filters.*—Use of colour filters; transmission curves; contrast detectors.

*Physical Optics.*—Interference; Newton's rings; use of test plate gratings; glass testing by polarised light; diffraction; resolving power of instruments.

1ST AND 2ND TERMS. LABORATORY WORK—2 periods per week.

Focal lengths and principal points of systems. Tests of various kinds on telescopes, binoculars, periscopes and rangefinders.

## CHEMISTRY, METALLURGY AND EXPLOSIVES.

1ST TERM. LECTURES—1 period per week.

The course will comprise lectures on applied chemistry and the microstructure of metals in relation to their physical and mechanical properties (as preliminary to the applied mechanics lectures on the strength of materials).

The applied chemistry lectures will include mineral oils and the commercial products obtained from them; "fixed" oils and fats, vegetable and animal oils, lubricating oils, pigments, paints and varnishes.

The microstructure lectures will include the normal micro-constituents of steel and alloys of copper-tin, copper-zinc, aluminium alloys, bearing metals; their physical characteristics; the heat treatment of metals and alloys in relation to the micro-constituents; methods for the de-coppering of guns.

1ST TERM. LABORATORY WORK—3 periods per week.

The laboratory instruction will be arranged to amplify and extend the applied chemistry and microstructure lectures, and will include the distillation of mineral oils, the determination of the physical characteristics of oils (flash points, viscosity, etc.), mineral, fatty and blended lubricating oils; the calorific value of liquid and gaseous fuels; examination of the characteristic microstructure of metals and alloys and critical changes during cooling.

2ND TERM. LECTURES—1 period per week.

An advanced course on explosives, extending the work done in the qualifying course.

2ND TERM. LABORATORY WORK—3 periods per week.

*Advanced Explosives.*—The course will be an extension of the work taken by these Officers during their 3rd term as Lieutenants G (qualifying), and will include the complete analysis and testing of the important explosives in general use.

## MACHINE CONSTRUCTION AND DRAWING.

1ST AND 2ND TERMS. LECTURES—3 periods per week.

*Training Engines.*—Torque curves at high and low speeds; conditions for effective creep; effect of leaky valves; determination of maximum torque in a certain barbette; materials used in construction; factors of safety; determination of stresses set up in various parts of the training gear of a certain barbette.

*The Recoil.*—Determination of forces set up and to be anticipated; pressure in recoil cylinder and diagrams obtained; recoil cylinder dimensions, details and attachments.

*Run In and Out Gear.*—Hydraulic cylinder dimensions, details and attachments; spring and pneumatic run-out gear.

*Cradle and Slide.*—Loads and stresses.

*Elevating Gear.*—Loads and stresses.

*Turntable Rollers and Clips.*—Loads and stresses; power of engines and presses to fulfil specifications; forces set up under special conditions of firing; details of mountings generally—means of taking up wear and making adjustments.

*Tests and Trials.*

*Machine Drawing.*—Making drawings of gun-mounting details and arrangements from working drawings, from actual fittings and by calculation.

## 273.—Surplus Electrical Equipment and Spare Gear— REPORT.

*Dockyards, Repair Bases, Store Depôts and Depôt Ships.*

(D. 15844/23.—1.2.1924.)

The following instructions which were originally issued in 1918, and were amplified in 1919, have been brought up to date and are reissued for information and guidance:—

It is desired to review the reserve stocks of electrical machinery of all descriptions, in order that—

- (a) Obsolete spares may be brought to produce, or sold.
- (b) Obsolescent spares may be reduced.
- (c) Other spares may not exceed the amounts that experience has shown to be necessary.

2. In order that the exact position with regard to these reserve electrical stores may be examined, each of the Dockyards, Repair Bases, Store Depôts and Depôt Ships should prepare and forward as soon as possible a summary showing:—

- (a) What electrical machinery is held in reserve.
- (b) For what purpose the machinery was ordered.
- (c) For what purpose it is now held in reserve.
- (d) The condition of such machinery, i.e., whether new, serviceable, or repairable.

3. The above information should be grouped under headings such as:—

- Generating plant complete.
- Dynamos.
- Motors.
- Fans (sizes of fans to be given).
- Switchgear.

4. It should also be stated whether spare parts are available for these. In addition to complete machines, various spare armatures, field coils, etc., are probably held in reserve, and similar information is required for these.

5. The returns should embody all surplus generating sets, motors, motor generators and electrically-driven plant such as ammunition hoists, pumps, CO<sub>2</sub> machinery, etc., and it should be stated whether the combination is complete and ready for immediate service.

6. Any movement of the gear shown on the original list or additions made thereto should be immediately reported to the Admiralty.

7. In order to ensure that the information required will be furnished in the most efficient manner possible and on uniform lines, the returns should be forwarded on forms obtainable on demand, as usual, from West India Docks and indicated herein.

8. The returns should be prepared in triplicate, one copy being retained by the Yard, Base, Depôt or Depôt Ship, as the case may be, and the other copies forwarded to the Admiralty.

9. Form D.811A, shown in the original instructions as Form A, has been abolished.

10. The following information should also be supplied when forwarding the lists referred to in paragraph 2:—

#### GENERATING MACHINERY.

##### *Steam-driven Sets.*

- (1) Direction of rotation of armature.
- (2) Maker's name and type of engine.
- (3) Type of dynamo.
- (4) Winding of dynamo.
- (5) Steam pressure required.
- (6) Number of poles on dynamo.
- (7) If steam and exhaust valves fitted.
- (8) Is spare gear for engine provided with details of same ?
- (9) Details of control and regulating gear for dynamo that is available, giving maker's name and type.
- (10) Overall dimensions of set.

##### *Oil Sets.*

- (1) Direction of rotation of armature.
- (2) Maker's name and type of engine.
- (3) Type of dynamo.
- (4) Winding of dynamo.
- (5) Number of poles on dynamo.
- (6) Is spare gear for engine provided with details of same ?
- (7) Details of control and regulating gear for dynamo that is available, giving maker's name and type.
- (8) Overall dimensions of set.

D.—811B. (Established—January, 1919.)  
S.—557B.

PARTICULARS OF DESPATCH OF ELECTRICAL EQUIPMENT AND SPARE GEAR FROM

H.M. Ship or Depot .....

Despatch Sheet No.\* .....

Reference to Initial Return or subsequent Receipt Form.		Quantity.	Utilised or Despatched		Remarks and Authority.
Date of Receipt.	Sheet No.		Item No.	On or to	

\* These forms are to be numbered consecutively, and the numbers of subsequent despatch forms should continue on from the number of the last despatch sheet forwarded, so that no two despatch sheets from one Depot or Ship, etc., bear the same number.

PARTICULARS OF RECEIPTS OF ELECTRICAL EQUIPMENT AND SPARE GEAR BY

H.M. Ship or Depot .....

†On date .....

Received from.....

Receipt Sheet No.\*.....

Service.	Nameplate particulars.				Item.		Unappropriated or on Deposit for H.M.S.	Remarks as to Condition, etc., also Authority for Receipt and Allocation.
	Makers' Name.	Volts.	Amps.	R.P.M.	B.H.P.	No.		
						1		
						2		
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
						20		

\* These forms are to be numbered consecutively, and the numbers of subsequent receipt forms should continue on from the number of the last receipt sheet forwarded, so that no two receipt sheets from one Depot or Ship, etc., bear the same number.  
† The actual date of receipt to be stated.

[SEE OVER.]

ADDITIONAL INFORMATION.

Vide A.W.O. 1552/19.  
E. 12700/19 30.4.19.

Item No.			
<p>Engine— Type Steam press Are steam and exhaust valves fitted ? Details of spare gear</p> <p>Motor dynamo— No. of poles Direction of rotation Type Winding Rating Are slide rails fitted ?</p> <p>Control or regulating gear— Maker's name Type Details of Remarks on condition, etc.</p> <p>Overall dimensions Height Length and breadth</p>			

D.—811c. Sample Form D.811c, showing procedure to be followed when filling in particulars of equipment.  
S.—557c.

PARTICULARS OF RECEIPTS OF ELECTRICAL EQUIPMENT AND SPARE GEAR BY  
H.M. Dockyard, Chatham.

† On date 30th November, 1918.

Received from (i) H.M.S. "Cleopatra," (ii) Portsmouth Yard.

Receipt Sheet No.\* 25.

Service.	Nameplate particulars.				Item.			Remarks as to Condition, etc., also Authority for Receipt and Allocation.			
	Makers'		Volts.	Amps.	R.P.M.	B.H.P.	No.		Description.	Quan.	
	Name.	No.									
Ammunition Hoist (converted) Ex H.M.S. "Cleopatra" (i)	Veritys ...	012333	100	30	800	3½	1	Minerauling winch	1	"Attack"	Unapproved or printed on Deposit for H.M.S.
								Motor ...	...		
	Veritys ...	55993	100	30	3½	3	3	Controller ...	1		
								...	...		
	Johnson and Phillips.			0.40			4	Ammeter ...	1		
								Motor spares :—	1		
								Armature ...	1		
								Shunt field coils	2		
								Series field coils	2		
								Bearing bushes	2		
								Oil rings ...	halves		
								Brush spindle	1		
	" holders	6									
	" springs	6									
Controller spares	1 set										
Main motors (ii)	Laurence Scott.	24092	200	1720	280/320	420	16	Spare armature	1	"G.6," "G.7"	Repaired. Ready for service.
								17			
								18			
								19			
20											

\* These forms are to be numbered consecutively, and the numbers of subsequent receipt forms should continue on from the number of the last receipt sheet forwarded, so that no two receipt sheets from one Depot or Ship, etc., bear the same number.  
† The actual date of receipt to be stated. [SEE OVER.]



ADDITIONAL INFORMATION.

Vide A.W.O. 1552/19.  
E. 12700/19 30.4.19.

Item No.	2 and 3.	
Engine— Type ... .. Steam press ... .. Are steam and exhaust valves fitted? Details of spare gear ... ..	— — — —	
Motor— No. of poles ... .. Direction of rotation ... .. Type ... .. Winding ... .. Rating ... .. Are slide rails fitted? ... ..	4. Enclosed. Compound. 6 hours. No.	
Control or regulating gear— Maker's name ... .. Type ... .. Details of ... .. Remarks on condition, etc. ... ..	Veritys. Drum type, fitted with O.L. and N.V. releases and also hand release. Good.	
Overall dimensions ... .. Height ... .. Length and breadth ... ..	— — —	

D.—811c. Further Sample Form D.811c, showing procedure to be followed when filling in particulars of equipment.  
S.—557c.

PARTICULARS OF RECEIPTS OF ELECTRICAL EQUIPMENT AND SPARE GEAR BY

H.M. Dockyard, Chatham.

†On date 30th November, 1918.

Received from Sheerness Yard.

Receipt Sheet No.\* 26.

Service.	Nameplate particulars.				Item.		Unappropriated or on Deposit for H.M.S.	Remarks as to Condition, etc, also Authority for Receipt and Allocation.			
	Makers' Name.	No.	Volts.	Amps.	R.P.M.	B.H.P.			No.	Description.	Quan.
Generating set, steam-driven ex Sheerness Yard.	Brotherhood	2896	—	—	—	40	1	Engine ...	1	Unappropriated.	Ready for service.
	Laurence Scott	48930	105	250	500	26½ k.w.	2	Dynamo ...	1	"	Armature defective.
	Laurence Scott	—	—	—	—	—	3	Shunt regulator	1	"	Ready for service.
	Park Royal	—	—	—	—	—	4	Switchboard ...	1	"	2 No. switches defective.
							5	Ammeter ...	1	"	} Ready for service.
							6	Voltmeter ...	1	"	
							7	Spare gear—	1 set	"	
							8	Engine spares...	1	"	
							9	Armature ...	1	"	
							10	Shunt field coils	6	"	
							11	Bearing brasses	2	"	
							12		halves	"	
							13			"	
							14			"	
							15			"	
							16			"	
							17			"	
							18			"	
							19			"	
							20			"	

\* These forms are to be numbered consecutively, and the numbers of subsequent receipt forms should continue on from the number of the last receipt sheet forwarded, so that no two receipt sheets from one Depot or Ship, etc., bear the same number.

† The actual date of receipt to be stated.

[SEE OVER.]

## ADDITIONAL INFORMATION.

*Vide* A.W.O. 1552/19.  
E. 12700/19 30.4.19.

	Item No.	1, 2 and 3.	
<b>Engine—</b>	Type ... ..	Compound. Enclosed. 200 lb.	
Steam press ... ..	Are steam and exhaust valves fitted? ... ..	Yes.	
Details of spare gear ... ..		Bearing, crank pin and gudgeon pin brasses, connecting and eccentric rods and straps, piston rod, H.P. and L.P. piston rings, etc.	
<b>Dynamo—</b>	No. of poles ... ..	6.	
Direction of rotation ... ..	Type ... ..	Clockwise.	
Winding ... ..	Rating ... ..	Open. Compound. 6 hours.	
Are slide rails fitted? ... ..		—	
<b>Control or regulating gear—</b>	Maker's name ... ..	Laurence Scott.	
Type ... ..	Details of ... ..	K.2, sliding. Resistance 340 <i>oz</i> .	
Remarks on condition, etc. ... ..		Good.	
Overall dimensions ... ..	Height ... ..	Of items 1 and 2. 5 ft. 4 in.	
Length and breadth ... ..		7 ft. 6 in. by 3 ft. 2 in.	

*Motors and Motor Generators and Alternators.*

- (1) Type of motors.
- (2) Winding of motor.
- (3) Details of control gear available, giving maker's name and type.
- (4) If slide rails fitted in the case of workshop motors.

11. The lists should also include any control gear that is spare or surplus, giving the maker's name and type.

12. The above information should be inserted in the lists now being prepared.

13. The backs of the printed Forms D.811c, are suitably printed for this purpose.

(A.F.Os. 1139/26 and 1833/28.)

**331.—Main and Auxiliary Oil Fuel Tanks—Survey.**

(S. 4425/23.—8.2.1924.)

Opportunity is to be taken to survey one or more tanks at each half-yearly docking "if convenient." This further instruction may be adopted in *all* Destroyers and Leaders.

**\*372.—Ex-Stoker P.O.s and Leading Stokers re-entered as Stokers, 1st Class—Advancement.**

(N. 407.—15.2.1924.)

The following arrangements in connection with the advancement of Stoker ratings who left the Service and have subsequently been re-entered as Stokers, 1st Class, are re-issued for information.

2. These arrangements apply only to ratings who on leaving the Service held the confirmed rating of Leading Stoker or above, whose break in service did not exceed five years, and who have been re-entered prior to 15th February, 1924. (The advancement of ratings re-entered after 15th February, 1924, or after discharge under the reduction scheme, is to be governed by the ordinary Regulations.)

3. All qualifications for higher rating held by such men before leaving the Service are to hold good on re-entry.

4. Stokers, 1st Class, who fulfil the above conditions should, when selected for advancement in vacancies which involve the actual reduction of a Leading Stoker in the numbers borne in the R.N., be given the confirmed rating of Leading Stoker by Commanding Officers.

5. On being rated Leading Stoker all previous service in that rating is to be taken into account when fixing a man's position on the Roster for advancement to Stoker Petty Officer. In order to prevent re-entered higher Stoker ratings obtaining an undue proportion of advancements, however, the number of such ratings is not to exceed one-fifth of any one batch of advancements to Stoker P.O.

6. When an ex-Stoker Petty Officer is again advanced to that rating previous service is similarly to be taken into account in fixing his position on the Roster for advancement to Chief Stoker, but the number of ex-Stoker Petty Officers is not to exceed one-fifth of any one batch of advancements to Chief Stoker.

(K.R. and A.I., Art. 228.)

**444.—Gunnery Practices—Additional Precautions and Amendment to Drill.**

(G. 611/24.—22.2.1924.)

The drill approved to be carried out for compliance with the Instructions in paragraph 4, Chapter X, on page 169 of the Firing Manual, is based on the following principles:—

- (a) At guns with more than one position for training, the position not in use by the director trainer should be used by the safe training number.

- (b) At guns with two elevating positions but only one training position, the gunlaying position not in use should be used by the safe training number.
- (c) At guns with only one position for elevating and one for training, the safe training number must be stationed at open sights on the gun shield or other suitable place. These sights should be capable of allowing for a right or left setting if the deflection exceeds 20 knots. The right or left setting should be 1 degree to the right or left of the normal setting. This should ensure the open sight always being within approximately  $\frac{1}{2}$  degree of the line of fire.

The open sights referred to in (c) above are to be fitted at mountings where applicable by ships' artificers.

Special precautions, to prevent firing on a dangerous bearing, may be ordered by the Senior Officer conducting a practice. They may be necessitated by the target not being at all times visible from the guns, as may occur near extreme range or when practising indirect fire. Such precautions may take the form of keeping the Evershed pointer between certain limits on the open-faced dial.

No detailed instructions in the Drill Books are being issued to provide for this eventuality, in order to avoid undue complication in the Drill.

### 459.—“ Apex ” Blocks in Submarines.

(N.S. 16443/23.—22.2.1924.)

The conversion of an original  $1\frac{1}{2}$  ton “Apex” Block, so that it will be suitable for a test load of 3 tons, is not economical, and purchase of new Blocks, tested to 3 tons, so arranged that the minimum distance between hooks is 18 in., to meet requirements of submarines with 21 in. torpedoes, is necessary.

2. The Blocks demanded by Yards have been termed 2 ton Blocks tested to 3 tons, but as all geared Blocks have now to be tested to 100 per cent. overload, these Blocks should be regarded as suitable for a *working load of  $1\frac{1}{2}$  tons only*, and the description plates on the Blocks already purchased should be amended accordingly.

3. The existing  $1\frac{1}{2}$  ton Blocks returned from vessels have been tested at  $2\frac{1}{4}$  tons, and accordingly should be regarded as suitable for a *working load of  $1\frac{1}{2}$  tons only*. These Blocks on return to store, if in a satisfactory condition, should be taken on store charge for issue as  $1\frac{1}{2}$  ton Blocks, after the description plates have been amended to the new working load, when such are required for other than 21 in. torpedo work.

4. Future demands for Blocks for use with 21 in. torpedoes should specify  $1\frac{1}{2}$  ton Blocks, tested to 3 tons, with a minimum distance of 18 in. between hooks, and should give details of the distance of the lifts required.

### 515.—Telephonic and Telegraphic Installations.

(D. 12560/23.—29.2.1924.)

In future, all requirements for telephone installations are to be forwarded to the Admiralty for approval before being carried out, except as provided for in the following paragraph.

2. The undermentioned Officers, viz. :—

Commander-in-Chief, Portsmouth,  
 Commander-in-Chief, Plymouth,  
 Commander-in-Chief, The Nore,  
 Commanding Officer, Coast of Scotland, and  
 Senior Naval Officers abroad

are authorised to take action in emergency within the limits of their command, except—

- (a) where private wires are involved;
- (b) when the proposed installation is more than 5 miles from an existing exchange, or  $1\frac{1}{2}$  miles (2 miles in London) if no existing pole line is available;
- (c) where special apparatus is required;
- (d) where a trunk line is required;
- (e) where the Post Office is of opinion that on the traffic data furnished by the Department, the installation demanded is extravagant;
- (f) when the installation is proposed for private residences as distinct from public offices;
- (g) generally: any installations in small offices.

Whenever action is taken under this authority Admiralty covering approval is to be obtained afterwards in the usual manner.

3. Applications made by local Admiralty Officials in respect of telephone facilities at Home should be addressed to the Telephone District Managers instead of, as formerly, to Superintending Engineers.

4. The arrangements prescribed in paragraphs 1 and 2 apply also to telegraphic requirements.

### **\*647.—Swimming—Proficiency.**

(N. 796.—14.3.1924.)

It appears that a large number of ratings whose Service Certificates have the notation "Can Swim," are unable to pass the Provisional Test. It has been decided, therefore, that all men who have the entry "Can Swim—Yes" on their certificates shall be required to pass the Provisional Test on the first opportunity, and should they fail, "No" is to be substituted for "Yes" on their certificates.

2. Before the war, much attention was paid in the Training Establishments and Depôts to teach new entries to swim, and the present position is no doubt due, to some extent, to this instruction having been of necessity relaxed during the period of hostilities. The pre-war training has now been resumed and the test enforced is that a candidate must pass the Provisional Test as laid down in K.R. and A.I., Article 403.

In Boys' Training Establishments, candidates are not rated "Boy 1st Class" till they have so passed.

3. There is no doubt that some Officers and a considerable number of ratings who have barely satisfied the tests when in Training Establishments, take no further steps to maintain or increase their proficiency in swimming, never bathe, and, in time, through want of practice, lose the art and are helpless and without confidence if an accident results in their immersion in water out of their depth.

4. Instruction in swimming is given to new entries, and they are required to pass the test because ability to swim is necessary to them in the Navy, and it is as much a part of an Officer's or man's duty to maintain his proficiency in swimming as to keep up his knowledge of other subjects with which he is required to be acquainted.

5. A person in the Navy who neglects to learn to swim or to maintain his knowledge of swimming is potentially selfish because, should he be involved in an accident, he usually causes some courageous and more efficient person to risk his life in trying to save him and he is sometimes the cause of the loss of the would-be rescuer's life.

6. The necessity of encouraging bathing and swimming is impressed on all Flag and Commanding Officers at Home and Abroad, and they are requested to cause instructions to be given to all non-swimmers and inefficient swimmers whenever conditions permit.

7. P.R.T. Officers should devote attention to encouraging proficiency in swimming to as great a degree as in any other form of sport or recreation. Where ships are inspected, the Inspecting Officer is to remark on the opportunities given for bathing and the instruction imparted.

8. On Foreign Stations, many more opportunities occur for swimming instruction than at Home, and ships returning from commission abroad should be able to satisfy the Inspecting Officer that adequate progress has been made during the commission.

### **682.—Submarine Batteries—REPORT.**

*H.M. Dockyards.*

(D. 1432/24.—14.3.1924.)

The practice of installing different types of cells in the same battery of H.M. Submarines is not to be adopted in future, except in cases of extreme urgency, without Admiralty approval.

2. As instances have occurred in connection with the installation of new batteries, where Battery Makers have included a number of cells of a different type to those ordered, without Admiralty permission, any instance of this nature is in future to be reported immediately to the Director of Contracts, Admiralty.

### **691.—Important Alterations and Additions to H.M. Ships—REPORTS.**

(D. 1547/24.—14.3.1924.)

When it is found that important alterations and additions, which have already received financial approval or have been approved to be proceeded with, cannot be taken in hand during the refit of a ship owing to the shortage of workmen in any Department, the Dockyard Officers concerned should report the circumstances immediately to the Admiralty, so that, if necessary, instructions may be given for items of lesser importance to be deferred.

**707.—***Issued Confidentially.*

### **\*751.—Electrical Course for Engineer Officers.**

(C.W. 1063/24.—28.3.1924.)

It has been decided to institute a short course in Electrical Engineering to enable those Engineer Officers provisionally selected for subsequent appointment to Repair Ships to take charge of the Electrical Repair Staff and repair work of those Ships in addition to their present duties.

The course will consist of:—

- (a) Two months in H.M.S. "Vernon" for descriptive study of ships' electrical equipments.
- (b) Two months in Dockyards and at the works of Contractors for study of repair methods and appliances.

2. Responsibility for the care and maintenance of the ship's electrical installation will continue to be that of the Gunner (T).

## 762.—Overpayment of Pay and Allowances—Procedure to be followed.

(N.P. (I) 4032/23.—28.3.1924.)

The following instructions are promulgated for the guidance of all concerned:—

(a) Overpayments made under a genuine misunderstanding due to ambiguity of Orders or Regulations and issued and received in good faith will not be recovered.

The onus of showing cause for such misunderstanding rests upon the Accountant Officer, and recovery either in whole or in part according to the merits of the case will be made if such explanation cannot be admitted.

(b) As the party primarily responsible for the refund of an overpayment is the recipient of the money, his own interests should make clear to such recipient the necessity for at once calling the attention of the Accountant Officer to any payments he may have received which are open to doubt. By so doing an accumulation of overpayment may be avoided, the recovery of which would cause considerable hardship.

(c) Overpayments due to clerical error or mistake of fact and not to any admissible misunderstanding or misinterpretation of Orders or Regulations are recoverable notwithstanding that they have been received in good faith.

(d) Should the recipient of such payment be excused refund in whole or in part on account of the special circumstances of the case, the Accountant Officer responsible for the overissue will be relieved of his liability pro tanto.

(e) Every disallowance of an overpayment will be coupled with a direction to recover from the payee, where that is practicable. If the recipient of the overpayment be in receipt of unemployed pay at other than the full pay rate, half pay, retired pay, or pension, steps will be taken at the Admiralty to effect recovery from such unemployed, half or retired pay or pension, the Officer or man being informed. Where an overpayment by an Accountant Officer, or any portion thereof, cannot for any reason be recovered from the payee, the Accountant Officer is liable to be directed to debit himself with the amount thereof.

(f) In any case in which a Commanding Officer may consider that an overpayment is due to a genuine misunderstanding of Orders or Regulations, and should therefore not be recovered, he is to report the facts to the Admiralty and to cause the following information to be appended to his report:—

- (i) The Accountant Officer's explanation of how the misunderstanding arose and how the overpayment was discovered.
- (ii) Whether the recipient should have been aware that he was being overpaid, with reasons for the conclusion come to.

(g) Nothing in this Order in any way affects the power of the Board to take disciplinary action under Article 1528 of the King's Regulations and Admiralty Instructions or otherwise, in any case in which the circumstances attending an overpayment may be considered to warrant such a course.

(h) This Order refers to overpayment of Naval pay and allowances and in no way affects undercharges of Income Tax.



## 844.—2 pdr. Pom-Pom Guns with Mark II\* and Mark III Feed Blocks—Correct Functioning—REPORTS.

(G. 11572/23.—4.4.1924.)

As a result of an examination of a number of 2 pdr. Guns, which have been unsatisfactory in fuze setting performance, attention is directed to the essential dimensions governing efficiency in setting 121 and 124 fuzes automatically. No adjustment or filing of the parts affecting these dimensions should be attempted by Ship's Staff or failure of the fuze setter to function correctly will probably result.

2. The essential dimensions shown in Sketches (E.F.O. 21/24) are:—

FIG. I.

- (i) Horizontal distances, X between rear inside face of feed Block A and rear edge of fuze setting rack and distance M from rear of cartridge guide to rear edge of fuze setting rack.

FIG. I.

- (ii) Vertical distance Y between tips of teeth of fuze setter rack and top surface of steel strip C on bottom of feed block upon which projectile rides (fuze guide), also diameter E and width B of fuze rack.

FIG. II.

- (iii) Relative position of effective face of bullet stop D and first tooth of fuze setter rack at various ranges, shown as distance Z. Errors in fuze setting caused by wear of the bullet stop (up to the limits of its serviceability in positioning round for correct alignment with the lock) may be corrected by setting the rack so that distance Z is 3'815 in. and then easing up set screws which secure range drum to actuating gear of rack and moving range drum until pointer shows 4,400 yards.

Correct assembly of the actuating gear of the fuze setter rack is important since it directly affects (iii) above.

3. If the gear is correctly assembled the point of the pointer should lie upon the scroll line, and not midway between two opposite portions of the scroll line.

4. The rack actuating gear when stripped will be found to consist of an inner and outer screw, the inner screw working inside the outer screw. Both have two start threads and it is essential that inner screw should be assembled into outer screw on the right start of thread. To facilitate this the letter "A" has been stamped on one start of thread of both inner and outer screws and these two "A"s should go together with assembling. If gear is correctly assembled the pointer will drop into place, no cutting away of metal or other adjustment to get the pointer into place must be permitted. If the outer thread of the outer screw is in correct position for start of thread with respect to sleeve, the slot cut through the threads of the inner screw will be facing muzzle end of feed block in such a position that the small keep plate guide can be shipped with the tongue of the guide in the slot.

5. If after checking assembly of the working parts, the tip of the pointer is still found to be off the scroll line, it indicates that the range drum is half or more turns out with respect to the rack actuating gear. Care should be taken that a slightly short or long pointer (causing the point to lie off the scroll line by a small amount) is not taken as an error in position of the range drum. Should the range drum be out of position, turn the handle until maximum setting is obtained, then remove screw in segment slots which secure the range drum to the actuating gear, and revolve the drum until the pointer is on the scroll line and screws can be replaced in the same relative position in the slots.

6. As a guide to decide whether an error in the position of the pointer is due to incorrect assembly or to displacement of the range drum, it may be noted that in the case of incorrect assembly over-setting of the pointer only will result, whereas if the range drum is displaced, the pointer will rest either between the 4 and the 0 of the figure 4400, when the drum has extreme setting, or an equivalent amount the other side of the scroll line according to the direction of the error.

### 1020.—Ungalvanised Decks—Coating.

*H.M. Ships in Reserve.*

(D. 1065/24.—18.4.1924.)

Where it is considered necessary to coat the ungalvanised decks of vessels in Reserve in way of traffic, it is approved to use McArthur's, or any other surplus protective bottom composition. In places where the decks are not subjected to traffic, a coating of mineral tar may be applied. The work should be done, where practicable, by Naval ratings.

2. The composition of the mineral tar paint referred to is: Mineral Tar, 1 gallon; Dryers,  $\frac{3}{4}$  lb.; Mineral Vapourising Oil, 3-4 pints.

### 1133.—Naval Telephone Circuits—Use for Private Calls.

(C. (II) 1889.—2.5.1924.)

It has been decided to relax the rule by which the use of official telephones in Naval Establishments for private calls was prohibited, and to permit the passing of private messages over service instruments on repayment terms, subject to conditions to be laid down at the discretion of the Head of the Establishment with a view to preventing an abuse of the privilege or interference with the transit of official messages.

2. Arrangements should be made accordingly, and a careful record should be kept of all outward private calls passing through G.P.O. systems, the necessary steps being taken to ensure effective recovery of the amounts due from the individuals originating the calls. The charge for local messages is to be at the private subscribers' call rate, now 1½d. a call, and for trunk calls at the full tariff rate. Sums received for private calls should be brought to account by Cashiers and Accounting Officers of Naval Establishments in their Cash Accounts as a credit to Vote 11, Subhead Z Z (Appropriation-in-Aid).

### 1175.—Officers Appointed to Ships Abroad—Date of Passage.

(C.W. 7715/23.—9.5.1924.)

Officers appointed to Ships or Establishments on foreign stations will in future be required to be ready to sail on the expiration of 14 days from the date from which their appointment takes effect, and passages will be arranged as early as practicable afterwards.

2. This notice is fixed with due regard to the time required for inoculation, etc., and every endeavour will be made to ensure that an Officer's personal appointment reaches him in sufficient time to allow him a clear 14 days, though it may occasionally be necessary, when the exigencies of the Service require it, for an Officer to sail at shorter notice.

### 1183.—Torpedo Igniters—Care and Maintenance.

(G. 6396/24.—9.5.1924.)

It has been reported that torpedo igniters in which the whole of the explosive charge has not been burnt out have been returned to store in some instances as "fired igniters."

2. Care is to be taken that fired igniters, not free from explosive, are packed and returned separately as explosive stores by H.M. Ships, the packages containing such igniters being distinctly marked or labelled "Not free from Explosive." Attention is directed to Article 109, Naval Magazine and Explosives Regulations, 1923.

3. It should be noted that igniters which have burnt out correctly usually contain in the bore a certain amount of charred residue which is sometimes mistaken for unburnt charge. The charge when unburnt is a solid pressed composition of whitish appearance.

### 1295.—Patents and Designs Act, 1919, Section 8—Record of Unpatented Inventions.

(C.P. Patents 1260/23.—16.5.1924.)

With reference to Section 8 (1) last paragraph of the Patents and Designs Act, 1919, consideration has been given to the procedure to be followed in preparing and keeping records of inventions not protected by a patent in order to avoid claims from outside patentees. Patents assigned to the Admiralty, either secret or open, will remain necessary to some extent wherever there is a prospect at a later stage of commercial or foreign use of the invention. Sometimes also when assignment to the Admiralty is not required, the question of patenting will still be a matter for the inventor's consideration.

2. There will be large numbers of inventions, however, of which the Admiralty will be the sole users, and for which there may be no inducement to the inventor to take steps to apply for a patent on his own account.

3. For these a dated record is pre-eminently the best method of protecting the Admiralty against claims by a subsequent patentee who may re-invent the particular device.

4. Although the nature and facts of some inventions are clear, the circumstances of others are not favourable for clear definition, nor in fact can any individual be named as the inventor.

5. The best method will be for the Department, Ship or Establishment in which each invention has originated to prepare at once such a record as circumstances admit. This record should be signed, dated and witnessed and referred to the Admiralty, in order that the Technical Departments concerned, in conjunction with the Patent Section of the Department of the Director of Navy Contracts may, if desired, put in hand the preparation of more formal documents and drawings, clearly defining the invention. The record will thus be available to any Department of the Admiralty interested for reference purposes. Whenever possible such records should be duly prepared and a copy forwarded to the Admiralty before any action is taken to communicate the invention or suggest the idea to a contractor or other party with whom the Ship or Establishment may be collaborating.

6. The practice at the Signal School, at which Establishment a Patent Section is maintained, will not be affected by this Order in respect of inventions relating to Wireless Telegraphy and other forms of signalling. The practice at the Signal School will conform to the practice adopted at the Admiralty for dealing with inventions and documentary records of inventions for other Admiralty Departments, whether the inventions are patented or not.

**1341.—Rifles—Marking on board Ships.**

(G. 7166/24.—23.5.1924.)

A case has occurred in which Rifles returned from a ship were found to be heavily stamped on the stock butt with the name of the ship.

Markings which cannot be easily removed are not, under any circumstances, to be placed on Rifles on board ships.

**1371.—Motor Bearings.**

(D. 6615/24.—23.5.1924.)

In order that the responsibility for the design and construction of such electric motor bearings as form part of the main propelling shaft line shall be clearly understood, the following instructions have been issued to the Engineer Overseers, viz. :—

The responsibility for main line shafting and the bearings in direct connection with the same rests with the Engineer-in-Chief of the Fleet.

In cases where the motor armature shafting forms a part of the main line the design of the motor shaft and bearings is to be as approved by the Engineer-in-Chief, subject to the concurrence of the Director of Electrical Engineering, so far as meeting the requirements of the motor is concerned.

The construction of the shaft and bearings is to be to the satisfaction of the Engineer Overseer, and the performance on test with the motor is to be also to the satisfaction of the Electrical Overseer.

2. The attention of the Dockyard Officers is drawn to the necessity of informing the Engineer Overseer and Electrical Overseer concerned when such orders are placed.

**1417.—Ventilating Fans—Fitting.***Ships, Dockyards and Overseers.*

(G. 14691/23.—30.5.1924.)

Complaints are received from time to time regarding the unreliability of ventilating fans, especially the 7½ in. and 5 in. sizes, and in order to endeavour to effect an improvement, attention is called to the following rules for fitting these fans, which should be followed wherever possible:—

- (i) The fans should be fitted so that the motors will be readily accessible for inspection and lubrication. They should not be placed in positions subject to considerable temperature.
- (ii) The structure on which the fans are supported should be stiff enough to prevent undue local vibration.
- (iii) Preferably these fans should be supported from decks rather than bulkheads, as in the latter case it is often necessary to add weight by stiffening the bulkhead in the vicinity of the fan.
- (iv) The axes of the fans should be placed in a fore and aft line wherever possible.

**1421.—Storing Ports.***Atlantic Fleet Squadron and H.M. Ships in Reserve.*

(N.S. 5927/24.—30.5.1924.)

H.M. Ships of Atlantic Fleet Squadrons are stored from their Manning Ports, and these vessels will, in future, obtain their periodical replenishments of Naval Stores from those ports three times a year only (instead of four times), viz., in April, August and December, when giving leave. Ships will complete on each occasion of replenishment to four months' stock, plus one month at the anticipated war rate of consumption, which for the present should be regarded as the equivalent of two months' peace expenditure.

2. It must be recognised that there may be occasions on which it may be necessary in particular cases for this routine to be departed from.

3. Ships undergoing refit will, if due for replenishment, complete with stores at their refitting Yard. In such cases, however, demands for special steaming stores should be forwarded to the Storing Yard (Manning Port) for compliance.

4. *H.M. Ships in Reserve*.—All vessels in reserve are to draw their stores from the Dockyard at which berthed, but special steaming stores should continue to be obtained from the Manning Port.

### 1422.—W/T Gear—Losses.

(N.S. 3415/24.—30.5.1924.)

Attention is called to losses of wireless telegraph gear, particularly of valuable articles such as amplifiers. The articles have probably been stolen for use with broadcasting receiving sets and, whilst it may be difficult to prevent such gear being irregularly removed, every possible precaution is to be taken to ensure the safe custody of all W/T articles, particularly of those which are capable of utilisation in connection with valve receiving sets.

2. Where gear is locked up in Wireless Offices care is to be taken to see that reliable locks or other fastenings are fitted. The locks and fastenings are to be inspected at frequent intervals and the gear is to be regularly and frequently verified.

3. Delay in acquainting the police may render it difficult or impossible to trace the stolen articles or the delinquents. Full particulars (including Registered Numbers where articles are so marked) of all losses of wireless gear believed to be due to theft are therefore invariably and immediately to be reported to the Dockyard and Civil police.

4. The attention of the Dockyard police is to be directed to the necessity for exercising a strict watch on all vehicles as well as individuals leaving the Yard.

5. All losses of wireless gear believed to be due to theft are to be reported to the Admiralty in accordance with the directions contained in Article 1938 of the King's Regulations and Admiralty Instructions, and in future instances of loss the full value of the missing articles will be charged against the responsible Officers unless it is clear that all reasonable precautions have been taken to ensure the safe custody of the gear.

### 1505.—Explosives—Custody, Maintenance and Preparation of Explosive Stores Embarked in Aircraft Carriers, or other H.M. Ships for the Use of Aircraft—Procedure and Responsibility.

(G. 0335/24.—6.6.1924.)

The following procedure has been approved and is to be adopted for the maintenance of all explosive stores embarked in H.M. Ships for the use of Aircraft:—

2. (a) Explosive stores of all natures including bombs, warheads, detonators, fuzes, igniters, small arm ammunition, etc., carried in H.M. Ships for the use of aircraft are to be in Naval custody, stowed in accordance with Naval Magazine and Explosives Regulations, 1923, and maintained by Naval personnel.
- (b) The ultimate responsibility for the preparation and assembly of these explosives rests on the Commanding Officer of the ship; and, in order to ensure that due regard is given to the safety of the ship and the efficiency of the weapon, he is to delegate the work of preparation of the weapon for use to his Naval and Air Force experts, who are jointly to carry out this work.

**1515.—Cells of Submarine Batteries—Lifting.**

(D. 7046/24.—6.6.1924.)

The following extracts from a report relative to the damage caused to a Tudor cell during the replacement of a battery in one of H.M. Submarines are promulgated for information:—

\* \* \* \* \*

The cell was being hoisted from a truck by the crane when both leg irons slipped off, the nuts securing the lifting top also came away and the cell fell on to the jetty, a drop of some six feet. The container was smashed and a number of plates were broken.

On examination after the accident it was found that the leg irons were defective, one being cracked across the bend, and both bent so that they would not grip the cell properly.

\* \* \* \* \*

2. Particular care is to be exercised by all concerned to ensure that the gear for lifting cells of batteries for Submarines is thoroughly efficient before being put into use for this purpose.

3. Care should also be taken to ensure that the nuts securing the cell lifting tops are screwed right down.

**1611.—Berthing of Aircraft Carriers.**

(S. 0590/24.—13.6.1924.)

The sketch (E.F.O. 49/24) showing the position of H.M.S. "Hermes" relative to the jetty at H.M. Dockyard, Devonport, when berthed at low spring tide, which on this occasion fell to 9½ inches below chart datum (L.W.O.S.T.), is promulgated for the information of Ships' and Dockyard Officers.

2. The possibility of H.M.S. "Hermes" and other Aircraft Carriers having overhanging flying off decks fouling jetties under similar conditions will require to be considered by the Ships' Officers when berthing alongside wharves in commercial ports.

3. A copy of this Order is to be inserted in the ship's books of all Aircraft Carriers and a second copy pasted on a board and hung in the chart house or other suitable place.

**1640.—Officiating Ministers of Religion, etc.—Allowances.**

(C.E. 4606/24.—20.6.1924.)

As from 1st July, 1924, the temporary increase of 30 per cent. on the basic remuneration of Officiating Ministers of Religion and all other part-time employees of the Admiralty is to be decreased to 25 per cent.

This reduction is also applicable to the allowance payable under Article 1575, King's Regulations and Admiralty Instructions, to Ministers who are required to hold special separate services exclusively for the benefit of seamen and marines.

**1714.—War Gratuities.—Ratings.**

(N.P. (II) 2035.—27.6.1924.)

No payment in respect of War Gratuity to a rating of the permanent service (including the Coastguard and Royal Marines) is to be made in future without prior reference to the Accountant-General (Branch 9), or the Adjutant-General in the case of Royal Marines. Such reference should be made both as regards first payments of the Gratuity and for adjustments of amounts already paid.

2. Payments to native ratings, however, will continue, as heretofore, to be made as indicated below :—

NATIVE RATINGS.

(i) The Gratuity is payable only to or in respect of the service of ratings who had qualifying service prior to 11th November, 1918, and then only provided they can produce satisfactory evidence of service and identity.

(ii) The Gratuity is not payable to, or in respect of :—

- (a) Ratings with only six months' service or less, on 1st August, 1919, who did not serve at sea or overseas prior to that date.
- (b) Ratings discharged for misconduct, or other causes within their own control in the nature of misconduct, if the date of the approval for such discharge was on or before 1st August, 1919.
- (c) Ratings paid at Mercantile or civilian rates (e.g., men who served under Admiralty Agreement T.124 or a variant thereof, or as Interpreters).
- (d) Men re-employed before the war who continued on their peace employment during the war under the same conditions.
- (e) Colonial ratings paid from Colonial Funds; and ratings lent to Colonial Navies, for the period during which they were in receipt of pay from Colonial Funds.

(iii) The amount of the Gratuity is dependent upon the gratuitant's relative rating as laid down in K.R., Appendix XVII, Part 1 (i.e., the substantive or paid acting rating (whichever is higher) held on 1st August, 1919, or on the date of discharge or demobilisation if earlier), and upon the length and nature of his service. Men in receipt of "difference of pay" are eligible only for the amount appropriate to their proper rating.

(a) The scale for West Indians and natives of Cape Colony who served at sea or overseas during the qualifying period, is as follows :—

	£		
Boys ... ..	2	}	For the first complete year with 10s. a calendar month in addition after the first year, subject to a maximum addition of 48 such monthly payments, corresponding to a total Gratuity covering five years' service.
Ordinary Seamen ...	5		
Able Seamen ... ..	6		
Leading rates ... ..	8		
Petty Officers ... ..	12		
Chief Petty Officers	12		

- (b) *All other native ratings having the necessary service and entitled.*  
Half the above rates.
- (c) The scale for ratings who had no qualifying service at sea or overseas is based on the same amount for the first year, but the additions for the subsequent period of service are at the rate of 5s. or 2s. 6d., see (a) and (b) above, a calendar month.
- (d) A rating whose total qualifying war service was less than one year is entitled to the full first year rate appropriate to his rating, provided he served :—
  - (1) at sea or overseas; or
  - (2) for more than six months.

(iv) The Gratuity-bearing period is from 2nd August, 1914, to 1st August, 1919 (inclusive) and only service actually rendered during that period qualifies for the award.

(v) All time prior to and in desertion is ignored and the following periods are not counted :—

- (a) The whole of any period of imprisonment or detention of 29 days or over.
- (b) Time waiting trial after recovery from desertion and any period of detention or imprisonment (whether in excess of 28 days or not) awarded for desertion.
- (c) Time during which ratings were paid at Mercantile or civilian rates (e.g., Interpreters).

(vi) *Deceased Ratings.*—In the case of deceased ratings the Gratuity may be paid to the next-of-kin or personal legal representative on production of satisfactory evidence of title, provided that no prior payment of the award has been made in respect of the deceased's service.

(vii) The following Officers are responsible for the authorisation and recording of all payments of War Gratuity to native ratings, and no payment should be made without prior reference to the Officer concerned. All payment of War Gratuity to or in respect of native ratings should be reported to the relative recording Officer.

*East Indies Station.*

The Officer-in-Charge, H.M. W/T Station, Aden. (Registrar of Seedies.)  
All Tindals and Seedies, natives of Aden and Somaliland, and natives resident at Zanzibar.

The Accountant Officer, R.N. Depôt, Colombo.

All other natives who were employed or are resident in the East Indies Station, also Goanese and natives of India, etc.

*China Station.*

The Accountant Officer, H.M.S. "Tamar."

All Chinese ratings and other ratings employed on the China Station.

*Africa Station.*

The Accountant Officer, R.N. Depôt, Simonstown.

All natives of South Africa.

The S.N.O., West Coast of Africa.

Natives residing on the West Coast.

*North American and West Indies Station.*

The Accountant Officer appointed from time to time by the C.-in-C., to whom applications are forwarded by the Secretary to the C.-in-C.

(viii) All payments of War Gratuity should be made through the Cash Account and be supported by a Voucher bearing the payee's signature (or witnessed mark) as a receipt for the amount. All such Vouchers should be accompanied by a detailed statement of the service in respect of which payment has been made. Payments should be noted on the gratuitant's Service Certificate or other documentary evidence produced by the applicant.

(ix) In any matter not affecting the rates herein laid down the Admiralty shall be the sole administrators and interpreters of the rules for the assessment of the Gratuity and reserves power to alter them from time to time as may appear expedient.

(A.F.O. 1594/29.)

**1724.—Torpedoes—Recorders, Depth and Roll, Marks II and III—Notice to Depôts of Requirements.**

(G. 7201/24.—27.6.1924.)

With a view to improving the state of efficiency of Depth and Roll Recorders, Marks II and III, on issue to ships from Torpedo Depôts, arrangements have been made to calibrate the Instruments immediately before issue.

2. In order that Torpedo Depôts may have sufficient time to carry out these arrangements, ships are to notify Depôts beforehand, giving as much notice as possible of their requirements. The notice should be at least 24 hours for each Recorder to be drawn. In the case of a Squadron or Flotilla returning to their Home Ports, demands are to be forwarded immediately on arrival in Port.

3. Mark I Depth and Roll Recorders are not affected by these instructions.



**1742.—Submarine Periscopes—Instructions—REPORTS.**

(N.S. 2333/24.—27.6.1924.)

Repairs to Submarine Periscopes which are beyond the capabilities of the periscope E.R.A. of a Submarine Depôt Ship, will be carried out as far as practicable at Fort Blockhouse, and all instruments needing such repair should be forwarded to that Establishment. A small working reserve of Stores of a Special nature required for such work may be maintained at Fort Blockhouse and should be replenished by demands on the Naval Store Officer, Portsmouth.

2. On receipt of periscopes for repair at Fort Blockhouse that Establishment will acquaint the Admiralty if the repairs required are beyond local resources.

3. On a Submarine being ordered to pay off except when ordered to recommission very shortly afterwards, the periscopes should be removed and placed in the Depôt Ship if practicable. When it is not possible to do this the Dockyard at which the Submarine pays off should remove the periscopes and forward them to Fort Blockhouse. The removal and receipt in Depôt Ship or despatch to Fort Blockhouse should be reported to the Admiralty.

4. A return should be rendered annually on 30th September to the Admiralty from all Submarine Depôt Ships and Fort Blockhouse in regard to periscopes fitted in attached Submarines and held as spare, and from Submarines on detached duty as to periscopes fitted, giving details of the serial number, mark, maker's name and allocation of all instruments. Reports should also be forwarded from the same sources on the last day of March, June and December, showing alterations in the allocation of periscopes since the date of the preceding report or return, nil reports being forwarded when no alterations have taken place.

5. In view of the expense of forwarding periscopes by rail, owing to their length, they should be sent from home ports to Fort Blockhouse by Store Carrier via Portsmouth Dockyard whenever possible, rail transport being resorted to only in cases of urgency when free water freight is not likely to be available in the near future. Similarly when periscopes have to be sent from Fort Blockhouse to contractors for repair, arrangements should be made with the Naval Store Officer of Portsmouth Dockyard for the most economical means of transport possible.

6. Periscopes should always be despatched in their special wooden cases.

7. This A.F.O. is applicable to Foreign Stations also.

**1746.—Petrol and Benzol Mixture—Storage.***Aircraft Carriers.*

(N.S. Fuel 1730/24.—27.6.1924.)

The Air Ministry have approved the reintroduction of the Benzol-Petrol mixture for use in all types of aircraft engines, and have issued instructions that:—

- (a) The mixed fuel is to be taken into use forthwith.
- (b) The mixture is to be made locally by Air Force units, and care is to be taken in mixing the fuels to ensure a homogeneous mixture of the correct proportions, 80 per cent. aviation petrol and 20 per cent. benzol.
- (c) This result can be gained by filling into machine tanks first a proportion of aviation petrol, then the benzol, and lastly the remainder of the petrol. The benzol should not be filled in first especially into an empty tank.

When filling bulk stowage in Aircraft Carriers, the tanks should be filled in the following manner:—

Firstly, 25 per cent. of the proportion of petrol followed by the whole proportion of benzol, and lastly the remainder of the petrol.

When circumstances admit, the fuel will be supplied by the Air Force Authorities already mixed to Aircraft Carriers with bulk stowage.

**1791.—Machine Guns, Lewis, .303 in.—Deflector Cartridge Case.**

(G. 5862/24.—4.7.1924.)

Attention is drawn to the fact that if the left gun of a twin mounting is fitted with an old pattern (Mark I) deflector, the cocking handle on the left of the right gun will foul it.

2. With a new pattern (Mark I\*) deflector this foul does not occur.

3. Ships, which have not already done so, should forward a requisition to the nearest Royal Naval Armament Depôt to exchange any Mark I deflectors on board for Mark I\* deflectors.

**1865.—Dutiable Goods for H.M. Ships in Irish Waters—  
Exemption from Customs Duties.**

(N.L. 1993/24.—11.7.1924.)

Arrangements have been made with the Government of the Irish Free State whereby supplies and stores *officially consigned* to Ireland for the use of any of His Majesty's Forces that may from time to time be stationed within Free State territory or waters will be admitted free of Customs Duties subject to the conditions set out in the accompanying schedule.

2. Consignments of dutiable stores from the Navy, Army and Air Force Institutes for the Officers' Messes and Canteens of His Majesty's Ships will be admitted free of duty on importation for immediate re-export to or shipment on such ships on the same conditions as supplies officially consigned. For the purpose of paragraph 3 of the conditions in the Schedule the Manager of the Institute from which the stores are despatched will be regarded as the Officer responsible for the despatch of the stores.

3. Post parcels containing dutiable stores including parcels from private firms, addressed to the Officers' Messes and Canteens of His Majesty's Ships will be delivered free of duty on condition that the Commissioned Officer responsible for the receipt of the stores will acknowledge receipt on an advice which will be forwarded to him for that purpose, and return the receipted advice to the Collector of Customs and Excise, at the port at which the parcels were imported into the Irish Free State.

4. Consignments of dutiable stores from private firms imported by ship will be delivered free of duty for immediate re-export to the ship to which they are consigned, on condition that the goods are entered on landing for trans-shipment on Sale Forms Nos. 38 and 49, and that bond is entered into, with a surety resident in the Irish Free State, for a sum equivalent to the amount of duty on the goods to cover the re-export of the goods. The receipt of the Officer responsible for the receipt of the goods on His Majesty's Ship to which they are consigned, countersigned by the Captain or Commanding Officer, will be accepted in discharge of the bond.

5. The foregoing concessions do not apply to stores for the use of British care and maintenance parties stationed in the Irish Free State under the provisions of the Annex to the Treaty.

6. Every care is to be taken to comply with the conditions laid down by the Irish Free State Customs Authorities and any failure to comply with these Customs Regulations will be dealt with under Article 914 of the King's Regulations and Admiralty Instructions.

**SCHEDULE.****DUTY-FREE ADMISSION OF STORES AND SUPPLIES IMPORTED IN THE IRISH FREE STATE FOR THE USE OF MEMBERS OF HIS MAJESTY'S FORCES.**

In order to secure the duty-free admission into the Irish Free State of goods imported for the use of His Majesty's Forces the following conditions should be complied with:—

- (1) Each package of goods should bear a distinguishing mark and number.

- (2) If the stores and supplies are conveyed in a British Government vessel, the Commander should hand to the Customs and Excise Officer at the port of landing in the Irish Free State a list, in duplicate, of the goods consigned to each military or naval unit showing the marks and numbers of the packages, and description of the goods. The goods will then be cleared out of Customs charge. The Commanding Officer of the military or naval unit who actually receives the goods should acknowledge receipt on the duplicate copy of the list forwarded to him for that purpose, and return the receipt to the Collector of Customs and Excise at the port of importation.
- (3) If the stores and supplies are conveyed otherwise than in a British Government vessel, an advice, in duplicate, should be furnished by the Officer despatching the stores showing that the goods have been officially consigned and giving the marks, numbers and details of the contents of each package, one copy of the list to accompany the goods, the duplicate copy being forwarded by post to the Collector of Customs and Excise at the port of importation in the Irish Free State. The agent appointed to take delivery at the port of importation must be furnished with a form of application, signed by the Commissioned Officer responsible for the despatch of the goods. (A specimen form of application is annexed.) The goods will then be cleared out of Customs charge at the port of importation. The Commanding Officer of the military or naval unit who actually receives the goods should acknowledge receipt of the duplicate copy of the advice which will be forwarded to him for that purpose, and return the receipted advice to the Collector of Customs and Excise at the port of importation.

FORM OF APPLICATION FOR DELIVERY OF DUTIABLE STORES AND SUPPLIES IMPORTED INTO SAORSTAT EIREANN FOR THE USE OF BRITISH TROOPS OR PERSONNEL OF THE BRITISH NAVY.

To the Officer of Customs and Excise  
at .....

I hereby authorise and request Mr.....  
of.....to take delivery of the  
following goods, viz. :—

<i>Marks and Numbers.</i>	<i>Quantity and Description of Goods.</i>
---------------------------	---

and I hereby declare that the goods are for the sole use of  
\*British Troops stationed at.....  
British Naval Units at.....

Signature and rank of Commissioned  
Officer responsible for the despatch  
of the goods.

Office  
Stamp.

\* Delete the words not applicable.

**1881.—Machinery Ordered under Votes 8/III/A, B and E—  
Inspection, etc.**

*Home Dockyards, Depot Ships and Repair Ships.*

(D. 10034/24.—11.7.1924.)

A copy of all orders placed by the Admiralty for machinery requiring to be inspected at Makers' works will be sent to the Engineer Overseer concerned, with a view to any necessary action being taken by him to ensure satisfactory progress of the work under the Contract.

Similar action is to be taken in the case of orders placed direct by Establishments and Ships.

The attention of the Engineer Overseer should be drawn to any delay in the fulfilment of the Contract.

These instructions do not apply to Shore Machinery or Plant purchased under Vote 8/III/H.

### **1939.—Electrical Gear—Repairs to Spare Parts—REPORTS.**

(D. 9825/24.—18.7.1924.)

When a ship is at a Dockyard port for leave or refitting purposes, repairs to spare parts of electrical gear are to be taken in hand by the Dockyard Staff if beyond the capacity of the Repair Ship or if the Repair Ship is not at the port.

2. Commanding Officers should arrange for these items to be included in defect lists in the ordinary way, with a statement as to whether the repairs should normally be carried out by the Repair Ship, and also the reasons for forwarding the defects to the Dockyard.

3. An account should be kept at the Dockyards of any expenditure incurred on such work which would not normally be charged to Dockyard funds, and reports forwarded six monthly, i.e., at the end of September and March of each year, giving the amounts expended on the repairs in question.

### **\*1986.—Photography.**

(N.L.—25.7.1924.)

The grant of facilities to members of the public to take photographs on board H.M. Ships or in H.M. Naval Establishments is within the discretion of the Commanding Officer of the Ship or Officer in Charge of the Establishment. It is a privilege which should only be accorded on special occasions. In the event of any such application being granted, steps should be taken to ensure that such photographs do not include any object of a confidential nature.

2. The following general regulations as to the photographing of H.M. Ships have been framed for the guidance of Officers who may have to deal with applications for permission to take such photographs:—

- (a) As a rule no objection need be raised to bona fide photographers, whether amateur or professional, taking photographs of any of His Majesty's Ships afloat, provided the apparatus is kept at a distance away at least equal to the length of the ship and a telephoto lens is not used.
- (b) No photograph is to be taken on board His Majesty's Ships without the express permission of the Commanding Officer.
- (c) No photograph is permitted to be taken of any of His Majesty's Ships whilst lying in any dock or alongside any wharf or jetty.
- (d) Permission to photograph particular ships may be withheld, either absolutely or conditionally, at the discretion of the Admiralty, should the interests of the public safety require it.
- (e) If for any reason relaxation of these conditions should be desired on any particular occasion application for the requisite special permission should be made to the Commander-in-Chief or Senior Naval Officer present, unless the ship is lying in one of His Majesty's Dockyards, when the application should be addressed to the Superintendent.
- (f) Photographers not conforming strictly to these conditions incur the risk of being proceeded against under the Official Secrets Acts, 1911 and 1920.

3. The possession of cameras on board H.M. Ships and in H.M. Naval Establishments is only to be allowed with the permission of the Commanding Officer of the Ship or of the Officer in Charge of the Establishment.

4. It is not desired to prevent Officers and others using cameras, but adequate care must be taken that objects of a confidential nature are not disclosed in photographs taken for private purposes.

5. It is undesirable that photographs of H.M. Ships from the air should be taken promiscuously and facilities for taking such photographs are to be given only to Naval and Air Force personnel. The publication of any such photographs will not be permitted.

### 1990.—*Issued Confidentially.*

#### 1995.—**Salvage Plant.**

(D. 8687/24.—25.7.1924.)

When any alteration or addition is made to the salvage plant, the Dockyard or Ship concerned is at once to correct its Plant Book, and forward copies of the corrections to the Secretary of the Admiralty (D), and to all other Dockyards, Ships and Bases, included in the Plant Book and Table, so that all records may be kept uniformly corrected.

If new machines added to the salvage plant are duplicates of items already described in the Plant Book, it will be sufficient to refer to the item number of the existing machine for description; otherwise a full and accurate description should be circulated for insertion in the Plant Books.

Attention is drawn to the arrangement of the Plant Books so as to allow of sheets to be added or withdrawn as necessary. When new sheets are required they are to be printed uniformly with those which comprise the book, and distributed at the rate of two each to the Secretary of the Admiralty (D), and each Dockyard, Ship and Base.

The salvage plant deposited at H.M. Dockyards in the shed specially allocated to Salvage Plant is to be retained at the Dockyards in charge of the Professional Departments. Any items which cannot be so dealt with should be taken on charge by the Department of the Captain of the Dockyard and retained in the shed referred to. The plant is to be maintained in an efficient condition by the Departments concerned, so as to be in readiness to render assistance to any of H.M. Vessels, and to be used for general Yard purposes as may be required, such periodic tests of the plant being carried out as are considered necessary to attain this object.

Arrangements are to be made for the salvage machinery at the Dockyards to be included in the D.150A records.

#### 2006.—**Drop Keels.**

*H.M. Submarines.*

(D. 8486/24.—25.7.1924.)

Attention is drawn to the importance of the operating gear for drop keels being maintained in a thoroughly efficient condition, as upon this may depend the lives of the crew.

2. In Submarines in which the drop keel is released by the action of only one handwheel and clip the gear should be worked and examined weekly. In those which are released by the action of two handwheels and two clips, the more accessible of the two handwheels is to be worked once only between dockings, approximately midway between, and the less accessible handwheel worked to free its clip on every occasion of going to diving stations, and to remain so whilst diving.

3. On every occasion of docking, the keels should be dropped to ensure that they function correctly, and a complete examination of the operating gear carried out.

4. It has been reported that, in some cases, the operating gear is inaccessible; if so, proposals for improvement in this respect should be made on the next occasion of submitting proposed alterations and additions.

### 2073.—Manila Cordage—Safe Working Load.

*All H.M. Ships and Naval Establishments at Home and Abroad.*

(N.S. 9104/24.—1.8.1924.)

The safe working load for manila cordage is in future to be the same as that for the corresponding sizes of three-strand tarred cordage.

### 2169.—Land Engine and Furnace Coal—Uses.

(N.S./C.P. 2195/24.—8.8.1924.)

It is desirable to adopt as far as possible a standardized practice in the use of land engine and furnace coal at the various Yards and descriptions of coal are to be used in general for the following purposes:—

*Land Engine Coal* for yard machinery boilers such as pumping stations, air compressing machinery, distilling plants, cranes, locomotives and all power plants other than those fitted with mechanical stokers, heating boilers.

*Furnace Coal* for reverberatory furnaces, forging and plate furnaces, culinary purposes, and if considered necessary, for lighting up boilers in which land engine coal is to be used.

*Sheerness only.*—The present procedure whereby only North Country Furnace Coal is shipped is to be continued.

*Portland only.*—The use of Welsh Land Engine Coal at the Generating Station is to be continued.

### 2193.—Forbes Distance Recorder.

(D. 2013/24.—15.8.1924.)

The following extract from a report received from the Vice-Admiral Commanding, 1st Battle Squadron, regarding the flooding of bilge space below 6 in. shell room in one of H.M. Ships during an examination of Forbes' Distance Recorder, is promulgated for information and guidance in ships fitted with this recorder:—

During passage from Portland to Pontevedra on 12th January, 1924, the Forbes distance recorder worked intermittently and instructions were given for the examination of the impeller tube mechanism. The well was opened up and the log drawn into its upper position, the sluice door was then closed, the strongback securing the log removed and the log withdrawn to the floor of the shell room for examination. No difficulty was experienced in operating the sluice valve. An electrical defect was discovered and remedied and the log replaced correctly.

2. Later in the day the log was again withdrawn, using the correct procedure. A slight friction in the impeller bearing was removed and the log replaced, but in order to test whether the impeller was revolving correctly, it was decided to remove the dome cover of the electrical mechanism while leaving the log down, i.e., protruding through the bottom. To do this the nuts and strongback which limit the upward travel of the log were taken off and the dome with its lifting rod and handle removed. The log was reported to be revolving intermittently, probably due to the very low speed of the ship.

At this moment the ship pitched violently and in her downward scend the weight of the log minus the dome cover and lifting rod was insufficient to overcome the external pressure of water. The log tube was forced up and fell clear of the mouth of the orifice through which it normally projects.

A very strong inrush of water then commenced and an artificer attempted to close the sluice valve but was unable to move the handle.

Owing to the space above being a shell room there was a natural impulse to stop the jet of water which was playing on its roof. The lid of the log well could not immediately be closed owing to cod line steadying lines having been used to ease down the log, and these were turned up to the clips of this lid. The door of the manhole in the shell room floor was therefore closed and screwed down by its clips.

It is observed that with the log in its "down" position it is not necessary to remove the strongback before the dome cover of the log mechanism can be raised clear of the electrical details. On the other hand, the weight of the log is normally employed to keep it down against the pressure of the water outside, no catch being fitted.

A catch is fitted to retain the log in its upper position, but this catch only works the one way.

2. In any examination of these recorders which may be necessary, the strongback is not to be removed with the sluice valve open.

## **2194.—Proposals for Alterations and Additions to Fleet Shore Establishments.**

*Fleet Shore Establishments and H.M. Dockyards.*

(D. 6809/24.—15.8.1924.)

Attention is drawn to the tendency of Fleet Shore Establishments to forward to the Dockyards at various periods during the year proposals for alterations and additions which are not of an urgent nature. This practice is irregular and undesirable, as such items should be embodied and submitted in the Annual Proposals and be dealt with as a whole.

2. In future, proposals are not to be separately submitted by Fleet Shore Establishments or Dockyards unless they are of an urgent nature, in which case the reasons for urgency and why the work could not have been foreseen and the item included with others in the Annual Proposals, should be furnished.

## **\*2219.—Clerical Staffs—Probationary Service.**

(C.E. 5535/24.—15.8.1924.)

All newly appointed Third Grade Clerks, Writing Assistants, Short-hand Typists and Typists are to be regarded as "on probation" for the first year of their established service.

The conduct, health, and efficiency of the individuals concerned should be reviewed at the end of this period, and if they are certified by the local head of their Department to be in all respects satisfactory, they may then be regarded as confirmed in their appointments. In cases, however, where a satisfactory certificate cannot be given, a full report should be forwarded to the Admiralty.

## **2266.—Ventilating Fans—Marking—REPORTS.**

(D. 11543/24.—22.8.1924.)

All ventilating fans should have an Admiralty number permanently stamped on the casing, or on a plate affixed thereto, and in cases of fans in stock or taken in hand for repairs in which this has not already been done, steps should be taken by the Dockyards to mark the fans in this way.

2. The practice which has hitherto been followed in certain cases of painting the number on the fan casing is unsatisfactory and should be discontinued.

3. Where the Admiralty number is not known, application should be made to the Admiralty for a number to be assigned, all relevant particulars being reported, such as size of fan, make of motor, Maker's number for fan and motor—whether watertight or non-watertight, and whence received.

4. These reports should only be rendered in the case of fans in stock at H.M. Dockyards or taken in hand for repair, and no reports are, therefore, required from H.M. Ships.

## 2270.—Naval Stores and Fittings for Examination Launches— REPORT.

(N.S. 16568/23.—22.8.1924.)

The following table gives particulars of:—

- (a) The ports at which Examination Launches will be employed on mobilisation ;  
 (b) The number of vessels to be employed as Examination Launches at each port ;  
 (c) The Dockyards to which the sets of stores are allocated for maintenance ;  
 (d) The Naval Stores, etc., comprising a set in each case.

(a) Port ... ..	Ply-mouth.	Sheerness, Chat-ham.	Firth of Forth.	Queens-town.	Bere-haven.
(b) No. of Launches ... ..	2	6	2	2	2
(c) Dockyard ... ..	Devon-port.	Sheerness.	Rosyth.	Devon-port.	Devon-port.

Patt.	Description.	(d) Quantity required for each Set.				
408	Lantern, acetylene, complete with filled cylinder ... ..	—	—	—	1*	—
198	Lantern, signal, red, complete ...	—	—	—	3	3
2	Lantern, flashing, signal, complete	—	—	—	1*	1*
17	Megaphone ... ..	1	1‡	1	1	1
7	Foghorn ... ..	—	—	—	—	1
1	Foghorn bellows ... ..	—	—	—	1	—
—	Ensigns, blue, 4 breadths ... ..	1	1	1	1	1
019	Flags, hand, semaphore ... ..	2 prs.	2 prs.	2 prs.	2 prs.	2 prs.
—	Flags, Naval Code Pendant, No. 6, No. 4 size ... ..	—	—	—	1	—
Spl.	Flags, pilot, 4 ft. square ... ..	1	1	1	1	1
—	Flags, signal, International Code (21 flags and 6 pendants), No. 5 size ... ..	—	—	—	1 set	—
459	Flags, International (H), No. 4 size ... ..	—	1	—	—	—
460	Flags, International (R), No. 4 size	—	1	—	—	—
—	Balls, signal, red, 2 ft. ... ..	—	—	—	3	—
—	Balls, signal, red, 1 ft. ... ..	—	—	—	—	3
332A	Telescopes, small ... ..	—	—	—	2	—
1 or 343	Binoculars ... ..	1 pr.	1 pr.	2 prs.	1 pr.	1 pr.
—	Electric torches, complete ... ..	—	—	—	2†	—
—	Sets of bedding ... ..	—	—	—	1	—
—	Blackboard, 5 ft. square (with supply of writing chalk for, etc.) (for use in communicating in rough weather)... ..	1 No.	1 No.	1 No.	1 No.	1 No.
Fitting—	Mast, signal, 18 ft. with 6 ft. yard and halyards ... ..	—	—	—	1	1
Stationery—	Examining Officer's Log ... ..	—	—	—	1	2
—	Signal Log ... ..	—	—	—	2	1
—	Signal Book, International Code ...	—	—	—	1	—

\* See paragraph 2 re spares, etc.

† See paragraph 2 re spare batteries, etc.

‡ For two of the Launches only.

Note.—Three balls, signal, red, 2 ft., and 3 lanterns, signal, red, Patt. 198, will also be laid apart at Devonport for use at Ardnakinna Tower, Berehaven.



2. The following items of spare gear, etc., are to be provided as spare in each set, and are to be supplied with the set on mobilisation :—

1 spare filled cylinder, Patt. 408A	...	...	...	} For each lantern, Patt. 408.
1 reflector, Patt. 408B	...	...	...	
1 burner, Patt. 408D	...	...	...	
1 pilot jet stem, Patt. 408E	...	...	...	
1 key or spanner, Patt. 408H	...	...	...	
3 torch batteries	...	...	...	} For each electric torch.
1 torch bulb	...	...	...	
1 spare lens, Patt. 2D, necessary wick and oil	...	...	...	} For each lantern, Patt. 2.

3. Details of the number and composition of sets considered necessary for any vessels to be employed as Examination Launches, which are not provided for in the above list, should be reported.

4. It is desired to standardise as far as possible the sets of stores for Examination Launches, as has been done for Examination Steamers, and any amendments to this end which can be made to the list in paragraph 1 should also be reported.

5. For the present the reserves for Examination Launches will not be provided. When orders are given for the reserves to be completed they are to be laid apart under Subhead E.2G.

### **\*2290.—Locally-Entered Writers at Dockyards Abroad.**

(C.E. 2269/24.—22.8.1924.)

It has been decided that, with effect from 1st April, 1924, locally-entered Boy Writers at Dockyards Abroad shall be promoted to the grade of Hired Writer, 2nd Grade, on attaining the age of 19 years, provided that their conduct and service have been in all respects satisfactory.

The locally-entered clerical staff in Departments where Boy Writers are included in existing complements should, so far as is practicable, be recruited by the promotion of existing staff and the entry of Boy Writers.

### **2303.—Torpoyls—Issue.**

*Home and Foreign Yards.*

(N.S. 8257/24.—22.8.1924.)

Future supplies of Heavy and Light Torpoyls will be delivered by contractors in sealed containers of small capacities and care should be taken to ensure that the seals are intact when supplies are issued to services.

The oil should be issued in complete containers as received from contractors and under no circumstances should the contractors' seals be broken or the oil decanted before issue.

### **2305.—Director of Electrical Engineering and Director of Torpedoes and Mining Drawings — Distribution by Dockyards.**

*Chatham, Portsmouth and Devonport.*

(N.S./C.P. 17057/24.—22.8.1924.)

Where it is necessary to forward to firms for tender purposes, etc., D.E.E. and D.T.M. Standard Drawings, referred to in Schedule Drawings of electrical apparatus, application for the requisite number of copies of the former should be made to the Admiralty, stating the particular service for which they are required. This course is necessary on account of the revisions which are made to D.E.E. and D.T.M. Drawings from time to time. Stocks of these drawings are not to be kept by the Yards, and on no account are drawings to be duplicated by the Yards.

## 2315.—Firearms Act, 1920.

(N.L. 3445/24.—29.8.1924.)

Attention is drawn to the provisions of this Act which aims at placing restrictions upon the purchase, possession and use of firearms. The following observations are for the guidance of Officers and men:—

(i) *Prohibited weapons.*—Section 6 of the Act prohibits manufacture, sale, possession, etc., of any weapon designed for the discharge of noxious liquids or gases. Such a weapon is a prohibited weapon, and Naval Officers are not entitled to private possession of such weapons, though it may, as part of their official duty in a Naval Establishment, fall to them to experiment with or use such weapons. To avoid the penalties of this Section, therefore, any Naval Officer who desires to purchase or to possess such weapons or to keep or take them outside a Naval Establishment should apply to the Admiralty for permission to do so. It is the policy of H.M. Government, however, that such permission should not be granted without very good cause.

(ii) *Official use of Firearms.*—No restrictions are imposed or certification required for the use by Naval Officers and men, as part of their official duty in a Naval Ship or Establishment, of any description of firearms.

(iii) *Private Purchase of Firearms.*—Under the Act persons desiring to buy a rifle or pistol or ammunition for their personal use require a Police Certificate to purchase. A Home Office rule for England and a Scottish Office rule for Scotland have been issued, in identical terms, to the effect that a Firearms Certificate authorising the purchase of a revolver or ammunition therefor shall be granted free of charge to a Commissioned Naval Officer or a Warrant Officer, if he produces to the Chief Officer of Police a certificate from his Commanding Officer that he requires it in his capacity as an Officer.

(iv) *Possession of Firearms.*—Officers possessing for their personal use firearms which they propose to keep at their homes or in any place outside H.M. Ships or Naval Establishments should apply to the nearest Chief Officer of Police for a Firearms Certificate, first obtaining from their last Commanding Officer a certificate authorising them to keep arms in their capacity as members of the Naval Forces.

(v) *Import and Export of Firearms* into or out of Great Britain.

(1) A member of His Majesty's Forces *travelling in uniform* may be allowed to import from or export to any country other than the Irish Free State a rifle or a revolver and appropriate ammunition *possessed or carried by him in his capacity as such*, without requiring any form of Permit or Licence.

(2) A member of His Majesty's Forces *travelling in plain clothes* may be allowed to import from or export to any country other than the Irish Free State a rifle or a revolver and appropriate ammunition *possessed or carried by him in his capacity as such*, without requiring a Licence from the Board of Trade, provided that he can produce documentary evidence of identity issued by the Service to which he belongs.

(3) A member of His Majesty's Forces *whether travelling in uniform or not* is not allowed to import or export any firearms or ammunition *not possessed or carried by him in his capacity as such* save under a Licence issued by the Board of Trade. A Firearm Certificate is required for the possession of firearms or ammunition (other than smooth-bore shot guns and ammunition therefor) in this country, and no Export Licence will be granted without the production of such a Firearm Certificate. An Import Licence may be granted by the Board of Trade without the production of a Firearm Certificate upon the production of a certificate from the applicant's Commanding Officer certifying:—

(a) That the applicant for the Import Licence is a member of His Majesty's Forces.

(b) That the arms in respect of which he applies are his own property.

- (c) That the Commanding Officer is not aware of any reason why the applicant should not be allowed to import firearms and ammunition into Great Britain.

A covering letter will be sent with any Import Licence granted in these circumstances, warning the Importer that unless a Firearm Certificate is obtained from the police without loss of time, the possessor in this country of non-service firearms or ammunition that are subject to the provisions of the Firearms Act, 1920, will be liable to prosecution.

(4) To members of His Majesty's Forces *travelling either in uniform or not, in transit through Great Britain*, the same conditions apply (*save as regards firearms or ammunition possessed or carried by them in their capacity as such*) as apply to ordinary passengers *in transit*, except that the Commanding Officer of a Unit in transit may be allowed, without a Board of Trade Licence, to take custody of, and responsibility for, all non-service firearms and ammunition belonging to Officers and other ranks.

It is, of course, to be understood that all relaxations of the ordinary requirements in favour of members of His Majesty's Forces apply only to firearms for their own personal use.

No Import Licence is necessary for smooth-bore shot guns or ammunition therefor.

(vi) *Forms of Service Certificates, etc.*—Certificates issued by Commanding Officers should be countersigned by the bearer in his own handwriting. The form of certificate by a Commanding Officer to authorise *import* should be in the form shown in (v) 3 above. It should be countersigned by the bearer in his own handwriting. Commanding Officers may similarly issue a certificate as required in (iii) above in favour of an Officer desiring to *purchase*, e.g., a revolver. This should state that bearer is a member of His Majesty's Naval Forces and is to be permitted *in his capacity as such* to purchase for his own use, e.g., a revolver.

(vii) *Proof of Identity.*—Officers entering or leaving Great Britain should be prepared to produce documentary proof of their identity in order to bring firearms, possessed by them in their capacity as a member of the Naval Forces, into or carry them out of the country. An Admiralty Letter or Telegram of Appointment will be sufficient for this purpose. Officers returning home from abroad should see that they have documents to identify themselves as Naval Officers. If necessary, they should, before taking passage, apply to their Commanding Officer for a certificate.

(viii) *Removal of Firearms from Ireland to Great Britain.*—The Home Secretary has issued an Order under the Firearms Act prohibiting the removal of firearms or ammunition from Ireland to Great Britain unless such removal is authorised by a Chief Officer of Police of the district to which the firearms or ammunition are to be removed. This Order applies to all firearms and ammunition except air guns, air rifles and smooth-bore shot guns for sporting purposes only and their ammunition. The holder of a Firearms Certificate will not be prohibited by this Order from carrying with him any firearms or ammunition authorised by such certificate, but production of the certificate will be insisted upon. Officers of His Majesty's Forces in possession of special passes or permits to take firearms to Ireland may, on returning from Ireland, be allowed to pass with firearms covered by such military pass or permit. Naval Officers should not attempt, unless they can comply with these conditions, to bring firearms or ammunition from Ireland. Should it be absolutely necessary for any Officer coming from Ireland to carry, e.g., a revolver, he should at least be prepared to establish his identity as a Naval Officer at the Ports.

(ix) *Possession of Firearms by Naval Ratings.*—The attention of Commanding Officers and others concerned is drawn to the fact that it is not considered necessary to encourage Naval ratings, as distinct from Officers, to import or possess pistols on shore, and they should not be certified as requiring them in their capacity as members of the Naval Forces.

The possession of pistols by ratings in H.M. Ships is governed by Article 520, K.R. and A.I., and any rating contravening that Article should be dealt with for serious disobedience of orders.

Ratings on leave are not permitted to carry pistols. If conditions on shore are so abnormal that firearms are necessary for protection, it is within the discretion of the Senior Officer to restrict or withhold leave or to take any other steps necessary.

If pistols are required for use in a competition on shore, arrangements should be made for their safe custody after the competition.

### **2316.—Guns—Cleaning of Bores and Chambers Preparatory to Examination.**

*Ships in Commission.*

(G. 11552/24.—29.8.1924.)

When ships require guns to be overhauled or examined during a stay at a port, the work of cleaning the bores and chambers of the guns preparatory to the overhaul or examination is to be carried out by the ratings on board either before or immediately after arrival at the port so far as circumstances permit. If any assistance is required by the Armament Supply Department during the examination, etc., the Naval Armament Supply Officer should apply to the Commanding Officer of the ship, stating requirements.

### **2331.—“Saint ” Class Tugs—REPORT.**

(S. 2734/24.—29.8.1924.)

A report has recently been received from the Dockyard Officers concerned to the effect that in one vessel of this class the framing is buckled in certain places in the vicinity of the bunkers above the turn of the bilge and also that some of the cross stays in the bunkers are distorted, apparently due to local weakness in the structure.

As opportunity offers the Dockyard Officers concerned are to examine these frames in each of the tugs of this class and forward a report of this examination to the Admiralty.

### **2332.—H.A. Rangefinders and Mountings.**

(N.S. 9811/24.—29.8.1924.)

An instance has recently occurred where a mounting for H.A. Rangefinder was issued without the rangefinder for which it was marked.

2. As both instruments are required in order that the prismatic view finders and scales may be adjusted with accuracy, rangefinders or mountings are not to be issued separately, and when either is defective both are to be returned to the Yard.

3. In the case of stocks at Yards, arrangements should be made that each H.A. rangefinder mounting is directly associated with the rangefinder for which it is marked.

### **\*2376.—Interpreter Service—Recording in Seedie Certificate Books.**

(N. 3697.—5.9.1924.)

Cases have arisen in which Interpreter service has been recorded along with Seedie service in the Certificate Book of Seedies registered at Aden. This practice gives rise to confusion as to whether Interpreter service does or does not count for progressive pay, badges, pension, medal or gratuity, etc.

2. In future Interpreter service is to be recorded on page 12 of the Certificate Book, where it can be clearly distinguished by a notation: "Does not count for progressive pay, badges, pension, medal or gratuity, etc."

### **2400.—Trainers' Periscopes for Rangefinder Mountings.**

(N.S. 10528/24.—5.9.1924.)

Certain rangefinder mountings are fitted to carry a Trainer's Periscope, and when these mountings are issued to H.M. Ships a Trainer's Periscope should also be issued, unless already on board.

### **2480.—Aluminium Paint Powder—Use.**

(N.S. 15095/24.—12.9.1924.)

The use of aluminium paint powder should be restricted to a minimum and the material should only be used for touching up articles which would otherwise require removal for re-galvanising, or for touching up articles which have already been coated with aluminium paint.

The quantities allowed by Establishment should not be demanded unless actually required for the purposes referred to and the demands should be certified accordingly.

### **2488.—Certificates of Character for Superannuation.**

(C. (III) 1572.—12.9.1924.)

Absence without leave, unless such absence amounts to irregular attendance, does not of itself necessitate qualified certificates of character.

Only in cases where the absence amounts to 30 days in the last 10 years of service, is it necessary for an unqualified certificate to be accompanied by an explanation. Whether absence of a less amount constitutes irregular attendance depends upon the circumstances in each case.

### **2495.—Oxygen Flasks—Revised Procedure in Regard to History Sheets, etc.—REPORTS.**

*Dockyards at Home and Abroad.*

(N.S. 12956/23.—12.9.1924.)

It has been decided to revise the system in regard to History Sheets for Admiralty owned Oxygen flasks filled at Dockyards and to bring into force the following procedure:—

(a) Oxygen flasks in service are to be renumbered in consecutive local series, the existing numbers being hammered out when the new number is stamped on the cylinder, and each producing Dockyard having its own series of numbers preceded by an index letter denoting the filling Yard (i.e., P.—Portsmouth, D.—Devonport, R.—Rosyth); different sizes of flasks being allocated definite ranges of numbers. As a further safeguard against possible confusion arising from indistinct or damaged prefix letters the numbers utilised at the three filling Yards are to be restricted within the following ranges: Portsmouth, 1 to 10,000; Devonport, 10,001 to 20,000; Rosyth, 20,001 onwards.

When empty flasks belonging, e.g., to Portsmouth Yard are landed from abroad at Devonport or Rosyth Yard they should be refilled at the receiving Yard before being sent on to Portsmouth whenever time permits, to save transporting empty cylinders, but this should not be done if much delay in transport to Portsmouth is likely to be caused by such action or if it would cause an opportunity of free freight to Portsmouth to be missed. With this exception flasks should invariably be returned for filling, testing and annealing to the Yard indicated by the prefix letter, or in cases of doubt to the Yard in whose series the registered number of the flask would fall.

In connection with the allocation of new numbers to existing flasks, it should be noted that it is intended that future purchases of oxygen flasks shall be limited to the 100 c. ft. size. In order to facilitate the renumbering, it is necessary that a census should be taken simultaneously at all Home Dockyards and at Gibraltar and Malta of all flasks, filled and empty, whether in Yard Shops, at filling plants, in store, out on issue to H.M. Ships and other Departments or in transit between Yards, and such census should be held on 30th September, 1924, the results being reported in due course classified under sizes of flasks. Similar stocktakings should be held at all other Yards Abroad on the first convenient date after the receipt of this Order and the results reported without delay. Particulars of flasks in transit should be shown in the report of census of the sending Yard and should not be included in the report from the receiving Yard, particulars of cylinders in transit about which doubt may exist being settled by inter-Yard correspondence. Particulars of full and empty flasks in hands of outlying other Departments, e.g., Porton, R.N.A.S. Depôts, to be obtained by Dockyards and included in their reports and records (*see (f)*).

(b) History Sheets for flasks already in service, which will no longer be required to accompany the flasks, should be marked with the new numbers of the relevant flasks, without obliterating the old numbers, and should be made up into a permanent record by insertion in the order of their new numerical sequence in loose leaf binders similar to the binders supplied for registers of demands, etc. The binders, when filled, should be marked clearly with the range of numbers covered by each and kept in the Engineer Manager's Department at the producing Yards, replacing the present filling records and registers of tests. Dates of filling, testing and annealing will continue to be recorded in the History Sheets, and these sheets in their binders will form the only record of such transactions required to be kept. It is estimated that each binder will accommodate 200 History Sheets and a report should be forwarded from each oxygen producing Yard (after experiment as to the maximum number of History Sheets which can be enclosed in a binder of the type mentioned) as to the number of binders required to accommodate History Sheets for all flasks appropriated to the Yard for filling purposes.

(c) In the event of flasks being ordered, for any reason, by the Admiralty, to be transferred from the plant of one filling Yard to that of another, the relevant History Sheets should be extracted from the loose leaf register and transferred with the flasks. Such flasks and their History Sheets should be given new numbers in the series of the receiving Yard, and the appropriate revised prefix letter; and the History Sheets should be embodied in the loose leaf register of the receiving Yard, and the revised prefix letter and number stamped on the flask, the old number and letter being hammered out. History Sheets relating to flasks condemned should be notated with the date of the condemnation and retained in the register for a period of

twelve months from the date of condemnation. Thereafter the sheets should be removed from the loose leaf register and destroyed, the blank being considered available for reallocation to new or transferred cylinders. The present History Sheets forms will continue to be used as loose leaves for the register until stock is exhausted and particulars of all new cylinders purchased or to be purchased should be recorded in the registers on these forms.

(d) It has been reported that difficulty has occasionally been experienced in the past in deciphering test dates and registered numbers of flasks owing to accumulations of old stampings around the necks of flasks. It is considered that such difficulties are due to lack of care in stamping the dates and to the use of stamps of too large a size. The decision to discontinue the movements of History Sheets renders the clear marking of test dates on the flasks themselves of great importance and it has therefore been decided that  $\frac{1}{4}$  in. stamps are invariably to be used in future for stamping dates and registered numbers. It is considered that with reasonable care, and by the institution of a uniform system of marking, it should be possible to record clearly all dates required during the normal life of a flask, without the necessity for any hammering out of old dates. In this connection it is desired to emphasise the fact that stamping should in no case be made on or near the cylindrical body of any flask.

(e) When, at the time of filling, it is found that a flask is due for test or annealing within four months, a ring of red colour wash should be painted around the neck and no flask so marked is to be issued to one of H.M. Ships, Foreign Yards, other Departments of Government, Private Individuals or Foreign or Colonial Governments until the tests, etc., have been completed and the red ring removed.

(f) The record in the Naval Store Department ordered to be maintained by Admiralty Letter, N.S. 12954/7242-4, dated 16th March, 1920, in which transactions of flasks are recorded under registered numbers, is to be discontinued, and is to be replaced by a subsidiary record kept at Store and in the Naval Store Office, with headings similar to those in the specimen page shown in the Appendix to this Order, in which issues to and receipts from Professional Departments, Services, etc., are to be recorded under numbers of flasks and not under registered numbers. Separate portions of the register should be used for flasks of different capacities. It will still be necessary to keep a record of the registered numbers of all flasks issued to and returned from H.M. Ships and to other Departments of Government, Private Individuals and Foreign and Colonial Governments, including flasks sent to contractors for filling, and all such transactions should be recorded in a register similar to a loan ledger in addition to the D.186 record where appropriate. Arrangements should be made, where this is not already done, for all returns of empty cylinders to Naval Store Department from Professional Departments to be accompanied by D.83 return vouchers, showing the Department and shop or service concerned, and marked "Floating Plant—For subsidiary record only," but omitting registered numbers of the cylinders. These vouchers should be bundled in the ordinary way.

(g) In the case of cylinders retained at Malta under present arrangements and sent to Tunis for refilling, the cylinders should be stamped with the new Portsmouth initial letter and number at Malta (the numbers to be assigned being settled by direct communication between Malta and Portsmouth) and the History Sheets for these cylinders should be retained at Malta in the custody of the Engineering Department, with a view to the keeping up to date of the necessary records of dates of testing, annealing and refilling. If, however, for any reason any of these cylinders should be returned to England the corresponding History Sheet must be sent at the same time to the Engineering Department at Portsmouth Yard through the Naval Store Officer at Malta. Similarly, application should be made to the Engineer Manager, Portsmouth, by Malta Officers for the History Sheets of any flasks sent to the latter Yard from England, which it may be found necessary to retain at Malta for refilling by contract at Tunis.

(h) A similar system to that laid down in the foregoing paragraph should be adopted at other Foreign Yards in the case of Admiralty cylinders which are filled by local contractors.

OXYGEN CYLINDERS.  
SIZE, 100 CUBIC FEET.

Dr.

Cr.

Full Cylinders.				Empty Cylinders.									
Date.	Recd.	Issued to			Remaining on N.S.O.'s Charge.	Date.	Received from			Remaining on N.S.O.'s Charge.			
		CM.	EM.	Others showing Depôt or Yard concerned.			Total.	CM.	EM.		Others showing Depôt or Yard concerned.	Total.	
		E.*	*	*									
First Charge	-	F.†	†	‡	-	First Charge				-			§

\* To show for record and reference purposes the quantities of empty cylinders found on first stocktaking.  
 † To show full cylinders found on first stocktaking.  
 ‡ To show full cylinders in transit to other Yards, etc., also full cylinders in hands of other Departments found on first stocktaking.  
 § To show quantity issued off to filling plant at time of first stocktaking.

(A.F.O. 547/26.)



### **2515.—Torpedo and Gunnery Equipment—History Sheets for H.P. Reservoir Bottles.**

(G. 5714/24.—19.9.1924.)

It has been decided to institute History Sheets for the new type of H.P. Reservoir Bottles of the torpedo and gunnery equipment of Ships. Form D.218 has been added to the list of forms for this purpose.

2. These History Sheets will only be applicable to bottles now on order or as may be ordered for new construction and do not apply to Ships already in commission.

3. The first details on these History Sheets will be inserted by the Gun Mounting Overseer at the works where the bottles are manufactured and Overseers concerned should demand the number required from the R.N. Store Office, West India Docks, restricting the demand to the absolute minimum supplies required.

4. Application for the Admiralty Numbers to be assigned to the bottles should be made to the Admiralty.

5. The History Sheets on completion are to be forwarded to the Admiralty for distribution to Ships concerned on commissioning and in the case of the reserve stock bottles to the Dockyards at which they will be stored.

### **\*2607.—“Mixed Increments”—General Application of Principle where Appropriate, and Specific Application to Departmental Clerical Class.**

(C.E. 7098/24.—26.9.1924.)

The principle of “mixed increments” is to be applied where appropriate in the case of Departmental Third Grade Clerks on reaching the point in the scale where the increment changes from one of £5 per annum to £10 per annum. The increment in such cases will be made up of such fractional part of a full increment as, calculated at the normal rate, would equal the difference between existing salary and the point at which the increment changes, together with the remaining fractional part of a full increment calculated at the rate appropriate after the point at which the increment changes. Thus a Third Grade Clerk who reached a salary of £87 per annum on a given date would, on the anniversary of that date, receive an increment of £3, the difference between £87 and £90, and, since this is three-fifths of the old incremental rate of £5, would receive in addition two-fifths of an increment at the new rate of £10 (i.e., £4) or a total increment of £7.

This principle is to be applied generally where appropriate to officers on scales of salary with varying rates of increment.

### **2758.—Service Expert Witnesses—Fees.**

(N.L. 3061/24.—17.10.1924.)

Naval and Civil Officers in the service of the Admiralty are required to obtain Admiralty approval before agreeing, or on being subpoenaed, to give evidence as Expert Witnesses in Law Suits or Arbitrations between private parties.

2. When any Officer is allowed or is compelled under subpoena to give evidence in Court or at an Arbitration as an expert witness in matters coming before him in his official capacity or where his evidence is likely to involve statements of Admiralty or Naval practice, the fees to be paid for his services will be settled direct by the Admiralty with the parties asking for them, and will be credited to Navy Votes as public money. The Officer

will be entitled to be repaid his actual reasonable travelling expenses and subsistence allowance appropriate to his rank or grade as prescribed for an Officer on duty.

3. Where the evidence to be given involves no reference to Naval or Admiralty practice the Officer may submit to the Admiralty that he be allowed leave of absence, subject to the exigencies of the Service, to give such evidence and to retain any fees which may be offered. Any leave with pay so taken will be treated as part of the ordinary leave allowed by the Regulations.

**2823.—Q.F. 2 pdr. Pom-pom—Disconnection of Fuze Setter before Firing Practice Ammunition made up with C.N.F. Shell Weighted and Plugged.**

(N.O. 2865/24.—24.10.1924.)

Supplies of Q.F. 2 pdr. practice ammunition for pom-poms and sub-calibre guns are now being made up with weighted C.N.F. shell plugged with plug, fuzehole, 1.05 in., Mark I, converted from old-time fuzes, No. 121.

Owing to the liability of the toothed time ring fouling the automatic fuze-setter, arrangements should be made in future to disconnect the fuze-setter before firing this ammunition from pom-poms.

**2845.—Gymnastic Apparatus—Responsibility for Safety.**

(N.S. 9328/24.—24.10.1924.)

In Gymnasias belonging to Shore Establishments, a monthly examination of all gymnastic apparatus is to be held jointly by a representative of the Civil Engineer-in-Chief's Department, and an Officer detailed by the Commanding Officer of the Establishment, the Senior Physical and Recreational Training Instructor borne being present.

2. Where an Officer is borne for Physical Training duties, he is to be considered responsible for the efficiency and safety of all apparatus used, the responsibility of the Civil Engineer-in-Chief's Department being limited to such parts of the apparatus as are attached to the structural work.

3. In other Establishments an Officer is to be detailed by the Commanding Officer for this duty.

4. In all ships fitted with gymnastic apparatus, the Officer for Physical and Recreational Training duties, where borne, and Shipwright, will make a joint monthly inspection of all Gymnastic Apparatus; the Officer for Physical and Recreational Training duties being responsible for the efficiency and safety of such apparatus.

5. In other ships a commissioned Officer is to be detailed by the Commanding Officer for this duty.

**2871.** *Issued Confidentially.*

**2903.—Pattern 7084 Mountings, Type M.T. 14, for U.B.4 Type Rangefinders.**

(N.S./G. 13520/24.—31.10.1924.)

When pattern 7084 mountings, Type M.T.14, for U.B.4 type rangefinders are being transported, arrangements are to be made for the central tube for operating the Evershed gear to be transported separately.

**2968.—R.F. Tanks, etc.—Coating—REPORT.***Twin Screw Minesweepers.*

(S. 4603/24.—7.11.1924.)

In several instances recently it has been noted from the S.180 returns that the coating of R.F. Tanks and other parts of the hull of twin screw Minesweepers is not in accordance with the specification for these vessels.

2. As no authority for the departure from the specification can be traced, and in some instances the change is undesirable, Dockyard Officers are to carefully survey the internal hull coatings on the next occasion vessels of this class are in hand for refit, and report to the Admiralty the materials used for coating and the conditions of coating in the various spaces.

**3020.—Boats for Air Ministry.**

(N.S. 13692/24.—7.11.1924.)

The Admiralty is now responsible for the design and construction of all Air Ministry Boats, and the usual procedure adopted for receiving Dockyard stock boats should be applied to all boats delivered to the Dockyards for the Air Ministry.

2. The boats will be paid for by the Air Ministry to whom Accounts of Receipt should be rendered.

3. Any expenditure incidental to inspection, delivery, survey, and receipt is to be borne by Vote 8, and an agency fee (to cover this service) is to be charged against the Air Ministry. This Agency Fee, which as an interim measure is to be 5 per cent. of the contract price of the boats, is to be reported quarterly on Form D.72A as a charge against the Air Ministry under "Charges for use of Plant, etc.," and particulars of the boats received and of the relative Account of Receipt should be shown on the form.

4. Any expenditure subsequent to receipt should be regarded as a charge against the Air Ministry additional to the 5 per cent. referred to above.

5. As the boats are received, the Yard Officers should communicate direct with Flight Lieutenant W. E. Beaufort Greenwood, Marine Branch, Air Ministry, in order that arrangements may be made for a local representative to take over the boats at the shortest possible notice.

**3123.—Paxolin Insulation and Nickel Contacts—Description, Care and Upkeep in Breech Safety Change-over Contacts, Breech Safety Contacts, Interceptors, Locks, Electro-Mechanical Firing Gear (Submarine "X.1.")**

(G. 2339/24.—21.11.1924.)

All insulation used in the above gear of recent design is Paxolin.

2. This material consists of paper in layers, the paper being impregnated with a synthetic resin known under various names, such as "Bakelite," "Formite," etc.

3. The paper laminæ in the washers run parallel to the flat surface and in the tubes they are concentric.

4. All surfaces of this material are protected with varnish, which is baked on after machining, and care should be taken not to remove the surface of the insulation, as this will tend to make the material slightly porous (but not to any dangerous extent).

5. All Paxolin insulation is assembled with grease (Price's "Vasogene A"), in order to exclude moisture; should the bushings be stripped down at any time, care must be taken to use this grease in excess when assembling, in such a manner that all interstices between contact parts and insulation and between insulation and metal are completely filled.

6. Stripping should only be carried out when the insulation resistance of the fitting has fallen sufficiently low as to indicate that moisture has penetrated into the bushing.

7. Before re-assembly, the components of the bushings should, if they have been exposed to salt water or spray, be washed in fresh water after removing the remains of the grease filling.

8. After assembly as in paragraph 5, the fitting should, if this can be carried out conveniently, be heated to a temperature of about 130 degrees F before tightening up the nuts.

9. This precaution applies more especially to gear which is used in exposed positions.

10. All contacts in the above gear are made of 98 per cent. nickel, and care should be taken to ensure that no emery or other abrasive is used either on the nickel or close to the contacts, as the nickel, being a somewhat tough and ductile metal, will take up the emery to some extent, thereby reducing the area of effective contact.

11. The nickel contact surfaces and the exposed surfaces of the Paxolin should be kept smeared with Price's "Vasogene A," or failing this, with mineral grease, in order to prevent water causing temporary leaks across the insulation. Grease of this nature will have no effect on the electrical continuity of the firing circuit.

12. *Special information in connection with gear fitted in Submarine "X.I," 5.2 in. guns.*—The bushings on the magnet box are arranged to withstand a pressure of 300 lbs. per square inch. If any difficulty is experienced in making these sufficiently tight, it may be found necessary to heat the metal surrounding the bushing to a temperature of about 130 degrees F. in order to cause the Paxolin to become slightly plastic, when it will bed down more closely on the metal surfaces.

13. When replacing the magnet box, the two nickel contact screws passing through bushings in the breech block should be firmly seated in the blind holes in the magnet box.

14. These screws bottom in the holes in the magnet box in the same manner as studs, and the heads of the screws should, therefore, be clear of the bushings in the breech block.

15. When replacing the main cover of the magnet box, care should be taken to ensure that the rubber ring used is in good condition, and that the screws are tightened gradually and in rotation.

### 3168a.—*Issued Confidentially.*

#### \*3177.—**R.N. Personnel on Loan to Royal Australian Navy— Pay, etc., Arrangements.**

(N.P. (I) 1756.—28.11.1924.)

#### A.—OFFICERS AND MEN OF THE ROYAL NAVY ABOUT TO TAKE SERVICE IN THE ROYAL AUSTRALIAN NAVY.

An Officer of the Royal Navy appointed to the Royal Australian Navy direct from Full Pay or Unemployed Pay at the Full Pay rate should be paid by the Accountant Officer of his Ship or Depôt up to the date immediately preceding that of his appointment. A Transfer List is to be forwarded to the Naval Representative for the Commonwealth of Australia, H.M.A. London Depôt, Australia House, Strand, W.C.2, and also a duplicate to the Accountant-General of the Navy (Branch 11A).

2. When a rating is selected for service in the Royal Australian Navy the date of commencement of his R.A.N. Engagement will be determined by the Commonwealth Naval Representative and the Ship informed. Such rating should be paid by the Accountant Officer of his ship up to the date of his discharge from the Royal Navy, a Transfer List being forwarded to H.M.A. London Depôt, and a duplicate to the Accountant-General of the Navy (Allotments Branch).

3. In order to provide that Officers and ratings definitely transferred or on loan to the Royal Australian Navy shall have an opportunity to revise their contributions to their dependants on being placed on Australian rates of pay, and in order to avoid hardship through a break in the continuity of payment to the dependants by reason of the Officer's or man's transfer, the allotment (and any allowances in force in respect of ratings) at the time of transfer will not necessarily be discontinued and any adjustments or stoppages should be left for arrangement between the Accountant-General and the Australian Commonwealth.

The allotments of all Officers and ratings selected for service in the Royal Australian Navy should not therefore be regarded as stopped on transfer, but particulars of the allotment should be shown on the Transfer Lists forwarded to the Naval Representative and Accountant-General of the Navy (Allotments Branch) as in the case of transfers in the Royal Navy.

4. Form A.S.55 (R.A.N. Engagement) and the Agreement Forms which are also signed by Active Service and R.F.R. ratings, etc., loaned to the Royal Australian Navy are to be forwarded to the Naval Representative on completion.

5. Advances of Australian pay by R.N. Depôts will be authorised where necessary by H.M.A. London Depôt only, by means of Transfer List showing rate of pay, etc.

**B.—OFFICERS AND MEN OF THE ROYAL NAVY RETURNING FROM SERVICE IN THE ROYAL AUSTRALIAN NAVY.**

6. Officers and men of the Royal Navy returning from the Royal Australian Navy for reversion to the Royal Navy are to be borne nominally on the books of one of the R.N. Depôts for disciplinary purposes only, from the date of arrival in England to the date of expiration of their R.A.N. leave. Payment will be made to them direct by H.M.A. London Depôt.

7. In the case of Officers, a Transfer List will be forwarded by H.M.A. London Depôt to H.M.S. "Victory" showing the period for which such Officers should be borne nominally on that Depôt's books, a notation being made that payment will be effected direct by H.M.A. London Depôt for such period.

8. Transfer Lists in respect of ratings will be furnished to the respective Depôts to which they will return on the expiration of their R.A.N. leave, indicating the period for which they should be borne nominally on Depôt books prior to reversion to the Royal Navy. At the expiration of leave, pay documents, Service Certificates, etc., will be forwarded by H.M.A. London Depôt to R.N. Depôt.

*(K.R. and A.I., Art. 1734 (9e).)*

**3363.—Superannuation—Service with the Forces Claimed on Form D.73.**

(C. (III) 10511/24.—12.12.1924.)

With reference to Article 340 (7) of the "Instructions for Cash Duties, 1911," Superannuation Forms (D.73) are to indicate clearly any period of service, claimed for Superannuation under the Superannuation Acts, 1834-1919, during which the applicant was absent on Naval, Military or Air Force service.

Where an applicant is in receipt of Naval, Military or Air Force retired pay or pension (including a disability pension containing a service element) full details of such retired pay or pension are to be reported on the Superannuation Form, together with any available information as to whether the Naval, Military or Air Force service claimed for civil superannuation was reckoned towards such retired pay or pension.

**3367.—Carbons—Agreement with General Electric Co. for Supply.**

(C.P. 33755.—12.12.1924.)

An agreement has been entered into with The General Electric Co., Ltd., Magnet House, Kingsway, W.C.2, by the Admiralty, War Office and Air Ministry, under which the three Departments have undertaken that, so long as the Company can manufacture carbons to the specifications from time to time required, in sufficient quantities and in all other respects to the satisfaction of the said Departments, all orders placed with the trade for searchlight and other arc carbons shall be placed with this Company.

The General Electric Co., will also carry out research and experiments in conjunction with the Departments concerned with a view to evolving better carbons and carbons of different types, and any proposals under this heading should be forwarded to the Secretary of the Admiralty, for the Interdepartmental Technical Committee, D.E.E. Department, Admiralty.

In normal circumstances all orders for carbons required for Naval use under this agreement will be placed by Director of Navy Contracts, who will settle the prices to be paid. If, however, in special circumstances, direct arrangements with the Company are made by any Establishment for a small supply, particulars should be immediately reported to the Director of Navy Contracts, who will arrange the price to be paid.

The agreement with the firm lays down definite terms of payment for *all* supplies, and it is therefore unnecessary to obtain local tenders from the Company.

In any special case, where it is essential that direct order for supply should be placed locally, that order should state that a further communication will be made by the Director of Navy Contracts as to terms, and request that the carbons be put in hand meanwhile in accordance with the provisions of the Agreement of 12th November, 1924. Such orders should, as hitherto, be reported immediately, with a copy, to the Director of Navy Contracts.

**3407.—Naval Victualling and Armament Stores—Demands from H.M. Ships belonging to New Zealand Government.**

(N.S. 15961/24.—19.12.1924.)

It has been arranged that H.M. Ships transferred to the New Zealand Government shall forward to the High Commissioner in London all demands for supplies of Naval, Victualling and Naval Armament Stores for transmission to the Admiralty when supplies are required from Admiralty sources. All demands for Naval Armament Stores will be forwarded through the Commodore, New Zealand Station.

2. The instructions as to supply will be issued to the Supplying Establishments by the Admiralty but the Officer-in-Charge of the storing department at the Dockyard, Victualling Yard or Naval Armament Depot will communicate to the High Commissioner at the New Zealand Government Offices, 415, Strand, W.C.2, all shipping particulars when the stores are ready for despatch.

3. Freight will be arranged by the High Commissioner.

# 1925.

## 61.—Text Books—Supply to H.M. Fleet for Issue on Repayment—REPORT.

(Sta. 6257/24.—2.1.1925.)

For the purpose of pursuing private study, a Naval Rating or Marine may, if he wishes, obtain an educational text book from the Admiralty provided it is allowed for school use in H.M. Ships. These educational books will be issued only on repayment.

2. No stock of books will be kept in H.M. Ships for this purpose, and any required must be demanded specially. The demands are to be sent to the Admiralty (K.S.P.), and *not* to the Superintendent, R.N. Store Office, West India Docks.

3. Arrangements are to be made for all requests for these books to be incorporated in one demand instead of being separately demanded for each man. Casual demands may be forwarded when men are drafted to relieve others during a commission.

4. If a man requiring a text book has been transferred to another Ship or Shore Establishment before he has received his book, particulars of such transfer should at once be reported to the Admiralty (K.S.P.) by the Accountant Officer demanding the book, to enable the supply to be diverted as necessary.

5. The charges to be recovered from each Rating for books of this character will be inserted on the advice notes, and, when recovered, these sums are to be debited in the Ship's Cash Account as received on H.M. Stationery Office Account.

## 89.—Gunfire Practice by H.M. Ships in Vicinity of Commercial Aircraft Routes.

(M. 5509/24.—9.1.1925.)

All ships when in the vicinity of commercial aircraft routes are to take precautions against endangering aircraft by high or low angle gunfire.

The undermentioned commercial aircraft routes to and from the British Isles involve the sea crossings indicated below :—

London-Paris ... ..	...	} Approximately between the lines Dover-Dunkirk and Dungeness-Etaples.
London-Brussels-Cologne ...	...	
London-Amsterdam-Berlin ...	...	
Southampton-Channel Islands		} Approximately the direct line from Woolston to Guernsey.

## 109.—Mica and Micanite.

(D. 19118/24.—9.1.1925.)

The question of the use of mica and micanite in H.M. Dockyards and Ships has been recently under consideration, and the following instructions are issued for guidance in the future.

*Mica.*—Mica will in future be purchased in definite qualities and sizes for specific services as follows :—

- (1) *Armature Bands.*—Will be purchased cut to widths of  $\frac{1}{2}$  in.,  $\frac{5}{8}$  in.,  $\frac{3}{4}$  in., 1 in.,  $1\frac{1}{2}$  in. and 2 in. and in lengths of approximately 9 in. Hard Indian, spotted, and hard green, clear or spotted (not stained) will be accepted for this purpose.
- (2) *Heater Elements.*—Mica for heater elements will be bought cut to sizes of 6 in. by 2 in. and 10 in. by 2 in., thickness approximately 60 mils. Hard ruby, clear or stained, and hard green, clear (not stained) will be accepted for this purpose.
- (3) *Commutator Separators.*—Dockyards should include in future demands particulars of the sizes required, as denoted by the index letter on each case which indicates the average sizes of sheets contained therein, *vide* Rate Book, page 912, 1924-25. The following mica will be accepted for this purpose :—Canadian Amber, Madagascar Amber and Indian soft Clear Green.

*Commutator Micanite.*—The question of the adoption of "commutator micanite" for separators will be decided as soon as certain tests have been carried out at H.M. Dockyard, Portsmouth. In the meantime H.M. Dockyards and Ships should continue to carry out their present practice.

*Hard Board Micanite.*—There is little use for this type of micanite as most of the work in connection with micanite generally is of a moulding nature. The present patterns Nos. 2221 to 2224 will be retained, the position to be reviewed in 12 months' time. Hard board micanite in future should only be used for bases, etc.

*Moulding Micanite.*—There is only one thickness of moulding micanite at present in the Rate Book, Pattern 4455, which is 30 mils thick. The following additional thickness will be shortly included:—7 mils, 10 mils, 15 mils, 20 mils and 25 mils. The varnish content will be increased from 10–14 per cent. to 15–20 per cent.

*Flexible Micanite (cold).*—This is used for wrapping armature bars, field coils, etc., and no alteration to present practice is proposed.

*Micanite Commutator End Rings.*—In view of the special requirements for these articles, it is preferable that they be bought by contract as micanite makers have greater facilities for this work. The Dockyard Officers when possible should order these from firms specially engaged in work of this nature. Micanite and Insulators Co., Ltd., Empire Works, Walthamstow, E.17, Mica Manufacturing Co., Volta Works Bromley, S.E. and Mica and Micanite Supplies, Ltd., 1, Offord Street, N.1, make a satisfactory article. There are only a few reputable firms engaged in this business and these keep a large stock of moulds and shapes of all descriptions. When Admiralty Standard machines are in use in greater numbers, commutator end rings and separators will be made store articles.

*General.*—Micanite has a tendency to flake and disintegrate at the corners and edges. The greatest care should therefore be taken in handling, and it should be kept in stores that are immune from dampness and preferably at a temperature of about 60° F. Sheets of micanite should not be handled or lifted by the edges without support, but should be carried on stiff cardboard or on flat wooden trays. Future supplies of micanite will be supplied in very stiff non-sticking cardboard covers or envelopes or some similar device so arranged to give ample protection to the edges and corners until required for use. The material should be issued for use in order of delivery, *i.e.*, the old deliveries should always be used first. In future, micanite tubes will be lapped with silk tape and varnished overall to prevent flaking.

Future supplies for Hong Kong and Bermuda will be packed in airtight tin or zinc boxes containing small quantities in order that stocks shall not deteriorate.

## 110.—Docking Precautions.

"*Bryony*," "*Chrysanthemum*," "*Harebell*," "*Sweetbriar*" and "*Windflower*."

(D. 19693/24.—9.1.1925.)

Special care is to be exercised in the docking of H.M. Sloops "*Bryony*," "*Chrysanthemum*," "*Harebell*," "*Sweetbriar*" and "*Windflower*."

2. The draughts as painted on are now correct and can be used for guidance in docking or berthing these ships, but in all cases the docking plan should be consulted before docking.

3. The sternpost projects about 20 in. below the line of keel produced, and generally the stern is of peculiar construction as shown on the sketch (E.F.O. 2/25). The keel and framing aft of 130 have been specially strengthened to withstand docking strains, but it is advisable to close space the blocks in the vicinity whenever possible.

4. After docking, the overhang of the stern should be lightly shored.

## 112.—Defective Open-faced Indicators.

(N.S. 9416/24.—9.1.1925.)

A case recently occurred in which two open-faced indicators returned from one of H.M. ships for repair, were found to have been stripped for repair and not completely reassembled.

In order that the cause of defects in instruments which are returned for examination may be properly determined, such instruments should be complete in every respect, with the internal parts disturbed as little as possible.



165.—*Issued Confidentially.***214.—Admiralty and Director of Sea Transport—Relations.**

(M. 02306/24.—23.1.1925.)

The following memorandum regarding the relations of the Admiralty and the Director of Sea Transport is promulgated for the information of all concerned :—

RELATIONS OF THE ADMIRALTY AND THE DIRECTOR  
OF SEA TRANSPORT.

I.

Discussions have taken place between the Admiralty and the Board of Trade with the object of defining more clearly the responsibility of the Director of Sea Transport for sea transport work on behalf of the Admiralty, to the Board of Trade and to the Admiralty in peace and in war respectively, under the Cabinet decision dated 8th March, 1921.

The following main principles have been agreed to and will be observed by both Departments :—

1. In peace time the Director of Sea Transport acts under the authority of, and is responsible to, the Board of Trade for all sea transport in mercantile craft on behalf of the Navy, except in regard to any naval mobilisation arrangements and naval war arrangements that it is necessary to make in time of peace, in which matters he will act under the authority of, and be responsible to, the Board of Admiralty.

2. In time of war, the Director of Sea Transport will, as in the late war, act under the authority of, and be responsible to, the Board of Admiralty in respect of all his sea transport work on behalf of the Navy.

*Notes.*

(a) The member of the Board responsible for the superintendence of the Naval Transport Service is the Fourth Sea Lord.

(b) The Director of Sea Transport is not responsible for the Royal Fleet Auxiliaries, either in peace or war. The question of responsibility for mercantile oil-carrying vessels is at present under consideration.

(c) The Director of Sea Transport is responsible to the Board of Trade for all shipping work on behalf of the Army and the Royal Air Force, in peace and war, and, in general, for the allocation of tonnage to meet the needs of all three fighting services, except as to the vessels mentioned in paragraph 13.

3. In respect of his responsibilities to the Board of Admiralty in peace and in war, the Director of Sea Transport will have the status, powers, etc., of the head of an Admiralty Department, and the Mercantile Marine Department of the Board of Trade will, so far as the discharge of these responsibilities is concerned, be treated as an Admiralty Department, and the ordinary system of referring papers and the rest of the normal Admiralty inter-departmental procedure will apply to it. In order, however, that the Director of Sea Transport may have on record the decisions of the Board of Admiralty on important questions of policy, such decisions, when not arrived at on his own departmental papers, should be communicated by official acquaint. Questions connected with the other duties of the Director of Sea Transport (e.g., his work on behalf of the Army or Air Force) will, as an ordinary rule, be similarly dealt with by referring papers, etc., but question of policy will be dealt with by official correspondence between the Secretary of the Admiralty and the Secretary of the Board of Trade.

4. The Director of Sea Transport will carry on correspondence in his own name on sea transport matters in peace and war with principal sea transport officers, divisional sea transport officers and other sea transport officers, the other Government Departments and the general public, but all correspondence in the name of the Board of Admiralty is to be signed by the Secretary of the Admiralty.

## II.—EMPLOYMENT OF NAVAL OFFICERS ON SEA TRANSPORT WORK.

5. The "Regulations for H.M. Sea Transport Service," "Superintending Transport Officers' Instructions," and kindred regulations will be issued under the joint authority of the Board of Admiralty and the Board of Trade, and officers holding shore appointments under the Board of Admiralty at home and foreign ports will, as in the past, carry out the duties laid down in the "Superintending Transport Officers' Instructions," receiving instruction from, and communicating direct with, the Director of Sea Transport in peace and war in respect of such work. At home the Superintendents of H.M. Dockyards, and abroad the officers indicated in Article 816 of the King's Regulations will *ex-officio* carry out such transport duties. At ports where the services of a transport officer are required, and where there is no Naval Shore Establishment, arrangements will be made between the Admiralty and the Board of Trade from time to time as the occasion arises for the Commanding Officer of one of H.M. Ships, if available at such port, to act as a transport officer for the period of the visit, receiving instructions from, and communicating direct with, the Director of Sea Transport in respect of transport work.

6. The responsibilities are further defined in Appendix I.

## III.—HIRED MERCANTILE FLEET AUXILIARIES.

7. It is an understanding that merchant vessels taken up for the Admiralty will, as a rule, only be commissioned when they are to be used as fighting ships or to serve continuously with a fleet, and that the Admiralty will consult the Board of Trade before commissioning merchant vessels for other reasons should they desire to do so.

8. The Director of Sea Transport will be responsible for the provision of hired mercantile fleet auxiliaries required in time of war, whether these are to be commissioned or to be worked with purely mercantile crews, and in both cases all negotiations and arrangements with shipowners (and others possessing, either in their own rights or as agents or as managers, interests in the ship) will be carried out by the Director of Sea Transport.

9. As regards non-commissioned merchant tonnage taken up for the Admiralty by the Director of Sea Transport, the control exercised by that officer will in time of war be similar to that exercised by the Director of Transports and Shipping during the latter years of the last war after the Transport Department was incorporated in the Ministry of Shipping. The Director of Sea Transport will be primarily responsible for the issue of sailing orders to non-commissioned merchant ships taken up for the Admiralty. (In this connection sailing orders are to be distinguished from the route instructions and any confidential directions relating to the safety of the ship which will be an Admiralty responsibility.) In certain services also the responsibility for the sailing orders would be devolved by the Director of Sea Transport to an Admiralty representative.

## IV.—RECRUITING FROM THE MERCANTILE MARINE.

10. The recruiting for and the manning of fleet auxiliaries in war will be carried out by the Board of Trade on behalf of the Admiralty, so far as the personnel required from the Mercantile Marine is concerned. The question of the arrangements concerning the manning of Royal Fleet Auxiliaries in war time will be considered if and when any difficulty occurs. The manning of Royal Fleet Auxiliaries will, meanwhile, continue to be carried out by the Director of Stores' Department.

11. The Director of Sea Transport will keep the Board of Admiralty informed of the various forms of charter parties and engagement forms, and obtain their approval for the charter parties and engagement forms to be used in time of war in respect of hired fleet auxiliaries.

12. The Director of Sea Transport will sign in war or emergency charter parties on behalf of the Lords Commissioners of the Admiralty in respect of vessels chartered by him for naval service.

13. In addition to oil-carrying vessels, the question of control of which in war will be the subject of a future communication, the following class of vessels is not covered by these arrangements:—

Fishing Vessels (e.g., Trawlers and Drifters) taken up by the Admiralty in the United Kingdom.

## APPENDIX I.

INSTRUCTIONS FOR ACTIVE SERVICE NAVAL OFFICERS EMPLOYED ON TRANSPORT SERVICE DUTIES IN PEACE, AND FOR SUCH OFFICERS AND RETIRED OFFICERS SO EMPLOYED IN WAR, IN THEIR RELATIONS WITH COMMANDERS-IN-CHIEF, SENIOR NAVAL OFFICERS, AND THE DIRECTOR OF SEA TRANSPORT.

1. The officers mentioned above will communicate directly with the Director of Sea Transport by telegraph or letter on all subjects connected with their transport duties, and send direct to him all reports and papers referring purely to transport work. Other correspondence will follow the usual course laid down in the King's Regulations, and naval officers employed on transport work will furnish the Naval Commander-in-Chief, or Senior Naval Officer, with such reports as he may desire.

2. In time of war all matters relating to the safety of transports, routes to be followed, and at all times matters concerning disciplinary action in connection with the naval personnel employed on transport duties will be dealt with through the Commander-in-Chief or Senior Naval Officer, who will communicate with the Admiralty.

3. Communications regarding appointments and promotions within the Sea Transport Service are to be regarded as transport matters, and as such may be dealt with by direct communication between the principal or other sea transport officer and the Director of Sea Transport.

4. Any proposals for the *naval* advancement of personnel employed on transport duties, and any applications for appointment of additional personnel from the fleet should be submitted by the transport officers concerned through the Commander-in-Chief or Senior Naval Officer to the Secretary of the Admiralty.

*Note.*—(a) The Admiralty will nominate a number of retired naval officers for service as transport officers in war time. Whilst normally a Commander-in-Chief will neither in peace nor war be appointed for transport duties, other naval officers present at a port where transport duties require to be performed are liable to be selected for continuous or temporary transport work.

In addition to the officers mentioned in the heading, there are also retired officers appointed by the Board of Trade in peace time, e.g., Southampton and Egypt. These officers will wear naval uniform when on duty. In war time they, as well as all the officers referred to in the heading, will be placed on ships' books, if not already so appointed.

In peace time such sea transport officers appointed by the Board of Trade will be available to perform such naval duties as they are in a position and may be required to undertake.

## ADMIRALTY.

7th January, 1925.

M. 01463/24.

**\*229.—Officers of the Royal Indian Marine in H.M. Ships and Establishments at Home.**

(N.P. (I) 4076.—23.1.1925.)

All charges, e.g., for accommodation, messing, victualling, cabin furniture, washing of bedding, etc., arising against Royal Indian Marine Officers undergoing courses of instruction in H.M. Ships and Establishments at Home are to be preferred direct against such Officers for personal payment locally, and are not to be charged on the ledger. The amounts recovered are to be brought to account in the Cash Account.

## 250.—Steel for Gudgeon Pins of Diesel Engines—Reserve.

*Home and Foreign Yards and Fleet Establishments.*

(N.S. 27/25.—23.1.1925.)

The reserve of U.B.A.S. steel, authorised at Portsmouth for gudgeon pins for Diesel Engines, has been cancelled and the following substituted in lieu, viz. :—

Carbon steel bars for case hardening—

2 Bars, 8 in. diameter, each 15 ft. long.

4 " 6 " " " 15 " "

4 " 4 " " " 15 " "

This material is to be considered as available for all Yards if and when required for the above-named service and stock should be kept up by Portsmouth as necessary. The existing stocks of U.B.A.S. steel and of completed spare pins are to be used up before new material is issued.

Arrangements are being made for purchase of the following quantities to the specification given below for the delivery at Portsmouth after 1st April next, viz. :—

2 Bars, 8 in. diameter, each 15 ft. long.

4 " 6 " " " 15 " "

4 " 4 " " " 15 " "

After the existing stocks of U.B.A.S. steel and spare pins are used up, replace gudgeon pins for all Diesel engines are to be made from the Carbon Steel which is to conform to the specification detailed below :—

### SPECIFICATION OF PARTICULARS TO BE OBSERVED IN THE MANUFACTURE AND THE SUPPLY OF CARBON STEEL BARS FOR CASE HARDENING.

The carburising period should be sufficient to give an estimated depth of case of at least  $\frac{1}{16}$  in.

The steel used for making the bars is to be of British manufacture, is to be suitable for case-hardening, and is to be of the following analysis :—

Carbon	...	...	...	Not more than 0.20 per cent.
Manganese	...	...	...	Between 0.40 and 1.00 per cent.
Silicon	...	...	...	Not more than 0.30 per cent.
Sulphur	...	...	...	Not more than 0.06 per cent.
Phosphorus	...	...	...	Not more than 0.06 per cent.

The bars are to be sound, straight, free from roaks, laps, cracks, twists, seams or damaged ends.

The bars are to be supplied in the rolled condition.

#### PROVISION AND SELECTION OF MATERIAL FOR TESTING.

The bars are to comply with the undermentioned tests, which are to be carried out in the presence of the Engineer Overseer.

The Contractor is to supply bars of sufficient length to provide for the required number of test samples being cut from them, making provision for additional test samples on a further number of bars in case of retreatment or retesting being necessary.

The Contractor is to supply test samples for each test required :—

Two for every batch of 25 bars or less up to and including  $1\frac{1}{2}$  in. diameter.

Two for every batch of 10 bars or less over  $1\frac{1}{2}$  in. diameter.

For the purposes of these tests the test bars are to be subjected to the same heat treatment to which the steel will be subjected in case hardening, omitting the cementing or carburising process; i.e., they are to be uniformly heated to a temperature of 900–920° C. and quenched in water; they are then to be reheated uniformly to a temperature of 760–780° C. and quenched in water.

Test samples from bars over  $1\frac{1}{2}$  in. diameter should be turned down to  $1\frac{1}{8}$  in. diameter before treatment.

The test bars are to be machined down from the full diameter of the sample and are not to be forged or hammered.

The test pieces are to be cut longitudinally and must give the following results:—

An ultimate tensile strength of not less than 32 tons per square inch, with an elongation on a British Standard test piece "C" of not less than 25 per cent. and a reduction of area of not less than 50 per cent.

Test pieces, in accordance with the British Engineering Standards Association, must absorb not less than 45 foot pounds when tested in a 120 foot pound Izod machine. If any other size Izod machine is used the Inspecting Officer may require check results on a 120 foot pounds machine.

Should any test piece fail to fulfil the tests specified, two further samples may, if the Contractor wishes, be subjected to repeat treatments and tests, and if the results obtained from both these further test pieces are satisfactory the quality of the material is to be judged therefrom, and not from the original test which failed. If, however, any of the repeat test pieces fail the material represented is to be rejected.

Each of the bars is to be marked on the end with the customary mark or name of the maker and their brand for the class of steel supplied, so as to enable forgings, from which the bars were made, to be traced and any other important particulars to be ascertained.

The bars in all stages of their manufacture are to be subject to the inspection of an Engineer Overseer, and will be completed to his satisfaction as regards both material and workmanship. Samples of the steel will be taken for analysis.

The Contractor is to supply the material required for testing, and to furnish the necessary test pieces and supply labour and appliances for such inspection and testing as may be carried out on his own premises, or, failing facilities at his works for making the prescribed tests, the Contractor is to bear the cost of carrying out the tests elsewhere.

Prior to despatch of the steel from Contractors' works the bars are to be painted a light blue colour over their entire length.

Action should be taken at Portsmouth to repaint these bars if necessary in order that this distinguishing feature may always be in evidence.

The Authorised Reserve Memorandum should be amended in accordance with the foregoing and the colour for these bars added to the list of markings for steel materials in the Memorandum for guidance of Storehouse Staff, 1916.

**278.** *Issued Confidentially.*

### **287.—Character Assessments—Applications for Alteration.**

(N.L. 4384/24.—30.1.1925.)

Applications for reassessments of character should be carefully investigated, and should not be forwarded to the Admiralty unless the grounds of application are well founded and are considered to fulfil the conditions laid down in this and previous orders. Consideration is given—

- (a) To cases of serving ratings who would have been eligible for a V.G.\* character instead of "Good" prior to 1912 if the former award had been in force at the time;
- (b) To characters assessed below the limits prescribed in Article 605 K.R. and A.I., when the effect of the lower assessment has proved unduly severe;
- (c) To punishments and the resultant character assessments which in themselves or by reason of their consequential effects may appear unduly severe in relation to the offences committed; and
- (d) In exceptional cases to inferior character assessments awarded to men who have subsequently received recognition for individual acts of personal gallantry in war.

2. Applications under paragraph 1 (a) should be for V.G. character. It is particularly to be noted that the award of V.G.\* is in no case applicable to assessments prior to 1912, or to conditions other than those stated in the note to Article 605 K.R. and A.I.

3. Applications are not entertained in respect of character records containing an assessment below "Good," or more than one assessment below V.G. during pensionable service, unless the circumstances of the case are very exceptional.

4. If an application involves a complaint regarding a punishment, regard should be had to Articles 9 and 10 K.R. and A.I. When no fresh evidence bearing on a past conviction is adduced, a man's uncorroborated statement should be forwarded only if investigation is considered practicable and desirable.

5. Applications coming within the categories detailed in paragraph 1 will be considered on their merits, but the provisions of this order should not be construed as implying that the subsequent good conduct of an offender necessarily constitutes a ground for a remission of the penalties resulting from a punishment.

### 304.—Spring Contacts for Ring Main Switches.

*Ships concerned.*

(G. 12331/24.—30.1.1925.)

No objection is seen to spare spring contacts being supplied for replacement purposes in ring main switches, but it is not considered practicable to arrange for such provision to be made as part of Ship's Establishment, observing that in certain vessels of the post-war fleet the ring main switches fitted are not in strict conformity with the Admiralty pattern switches, Firm's own designs having been accepted during the war period in order to eliminate delay. It cannot be presumed therefore that these contacts are interchangeable and it is suggested in cases where the supply of spare contacts is considered necessary, Ships' Officers should demand these from the Dockyards, at the same time forwarding a sample contact or a detailed sketch, the dimensions of the contact being shown on the sketch.

### 314.—W/T Type 40X—Allowance of Stores.

*Submarines and Submarine Depot Ships.*

(N.S. 13826/24.—30.1.1925.)

It is very desirable for submarines in company or when working with their Depot Ship, to be able to communicate on low power on the small craft wave, 1950 metres C.W. The arc sets are unnecessarily powerful and unsuited to manœuvring requirements.

2. It has, therefore, been approved for Submarine Depot Ships to draw the stores shown below, and construct improvised C.W. W/T sets for supply to their flotillas. The sets thus fitted will be known as Type 40x.

3. Allowance of stores to each Depot Ship and Submarine:—

Patt. No.	Description.	Quantity.	
		No.	No.
568	Radiation meter, Type 10 ... ..	...	1
2486A	Condenser, No. 7 ... ..	...	1
1056	Key, P.O., Morse ... ..	...	1
1695A	Switch, automatic ... ..	...	1
4212	Rheostat ... ..	...	1
4411 or 7238	Valves, wireless, N.T.9 ... ..	...	6*
4548	Lampholder on wooden base ... ..	...	1
—	Valve sockets (screwed type) purchased to C.P. 14754 of 27.4.18 ... ..	...	2

\* If not available, valves N.R.4 or N.T.5 may be supplied in lieu.

4. A diagram of the circuit, with details of the former, are shown in E.F.O. 132/24.

The former, valves, No. 7 condenser, rheostat, and necessary terminals should be mounted on a suitable board, the size being reduced as much as possible. The switch, automatic, should be inserted at any convenient point in the lead to receiving apparatus. There is no intention to fit any change-over switch for Type 14. To bring Type 40x into action, the Type 14 lead must be disconnected from Type 14 aerial coil, and the lead from Type 40x connected thereto. The supply for valve heating is to be taken from the receiving battery.

5. A set has been made up in Signal School, Portsmouth, and tested on a small aerial. The results obtained are appended for information:—

No. 7 Condenser.			Wavelength.			Aerial amps.		
·95	...	...	2,100	...	...	·11	...	...
·81	...	...	2,060	...	...	·11	...	...
·55	...	...	1,720	...	...	·11	...	...
·335	...	...	1,380	...	...	·105	...	...
·175	...	...	1,000	...	...	·1	...	...
·12	...	...	850	...	...	·1	...	...
·09	...	...	750	...	...	·105	...	...

6. Submarine Depôt Ships are to demand sufficient stores to make up the necessary sets for their own use and for the submarines of their flotillas, quoting this Admiralty Fleet Order as authority. A notation is to be made in the first Quarterly Report after fitting, stating which submarines have been fitted, ranges obtained with, and general remarks on, Type 40x.

7. Yards should forward a special demand on Form D.273 for such stores that cannot be supplied from stock, quoting this order as authority, in order that purchase may be arranged. Such articles are not to be regarded as deficient for ships pending deliveries from contractors.

8. This order does not apply to submarines fitted with Type 32 W/T set.

### 319.—Consumable Stores—Supply of Descriptions not allowed by Establishment.

*Ships and Establishments fitted for Central Storekeeping.*

(N.S. 588/25.—30.1.1925.)

It has been brought to notice that the arrangements promulgated in regard to the procedure to be followed in obtaining consumable stores not previously shown in the Establishment, has led to considerable additional work in ships and dockyards. An examination of the reports D.64 forwarded shows that, in the main, issues have been confined to the following classes of articles:—

(i) Materials of slightly different sizes or descriptions to those actually allowed by the Establishment.

(ii) Structural and repair materials (including timber) required for making good particular defects of hull or machinery.

2. In many cases, it has been found that reports D.64 have been forwarded in respect of stores which ships have been drawing for some time, but which have not yet been actually embodied in the Establishments.

3. Pending the issue of the revised Sea Store Establishments, the following procedure should be followed in order to reduce clerical work as far as possible:—

(i) Special demands and reports on Form D.64 need not be forwarded in respect of:—

(a) Ordinary consumable stores which have been supplied hitherto to ship under Admiralty authority, but which have not yet been incorporated in the Establishments.

(b) Repair materials of similar descriptions to those already allowed by Establishment.

- (ii) Special demands and reports on Form D.64 should still be forwarded in respect of the following classes of supplies:—
- (a) Stores requiring to be specially purchased.
  - (b) Stores allowed for particular services, but which ship now proposes to utilise for some other service.
  - (c) All supplies of considerable value, say over £5 per item, except so far as they are included in categories (i) (a) or (i) (b).
  - (d) All supplies of special paints, enamels, cleaning gear and other similar stores.

(A.F.O. 3065/27.)

**337.**—*Issued Confidentially.*

**369.**—**Depth Charges with Split Flanges.**

(G. 19164/24.—6.2.1925.)

It has been brought to notice that there is a tendency for filled Depth charge cases to develop split flanges whilst in store. This defect does not render the depth charge unsuitable for issue unless the charge is exposed or there are signs of exudation.

2. With a view to expending as early as practicable the stock of Depth Charges with split flanges but showing no signs of exudation, it has been approved to issue such charges to ships for use at the quarterly exercises carried out in accordance with paragraph 2 of Chapter XIV—O.U. 5320—Depth Charge Drill Book.

3. For identification purposes these charges will be stencilled with the words "Split flange, fire first." Not more than two charges so marked are to be carried on board any ship at any one time except in an emergency.

4. Should exudation be observed in any Depth Charge through the split flange such charge should be dumped in deep water when opportunity offers. The exudation must be removed by means of a damp cloth from time to time as long as the Depth Cloth is retained on board.

**\*418.**—**English Agreement Workmen Dying Abroad—Funeral Arrangements.**

(C. (II) 177.—6.2.1925.)

In view of the fact that in tropical countries there is not sufficient interval between death and burial to permit of instructions being obtained from relatives in England as to the payment of expenses of burial, Senior Officers of Yards and Depôts abroad are authorised, in the event of the death of an English Agreement Workman, who has no relatives on the spot to arrange and defray the expenses of his funeral and interment and who is not entitled under the Regulations to burial at the public expense, to make arrangements for the funeral locally at the most reasonable and economical price obtainable and to settle the Undertaker's account from public funds, in the first instance, with a view to subsequent recovery from the estate of the deceased.

Any expenditure incurred under this authority is to be reported immediately to the Accountant-General of the Navy so as to enable a claim against the estate of the deceased to be raised at the earliest opportunity.

**423.**—**Stores Supplied by H.M. Post Office—Assessment of Claims.**

(D.A. 291/25.—6.2.1925.)

The following charges have been notified by H.M. Post Office as governing the assessment of claims by that Department in respect of stores purchased from H.M. Post Office by the Admiralty:—

**ENGINEERING STORES.**

*On Consignments of £200 or less.*

Rate Book (Post Office) Value or Replacement Cost (whichever is the greater) plus 10 per cent.



*On Consignments above £200.*

Rate Book (Post Office) Value or Replacement Cost (whichever is the greater) plus:—

- 7½ per cent. for general stores and apparatus ex depôts.
- 5 per cent. for apparatus ex Contractors' Works.
- 2½ per cent. Rubber-covered Wires and Switchboard Cables ex Contractors' Works.
- 3 per cent. Battery Material Bolts and Insulators ex Contractors' Works.
- 1½ per cent. for the first £5,000, 1 per cent. on the remainder, Copper Bronze and Iron Wire, Dry Core and Submarine Cables, loaded Cable excepted, ex Contractors' Works.

Subject to a minimum charge of £20.

## NON-ENGINEERING STORES.

## GENERAL.

*On Consignments of £133 6s. 8d. or less.*

Ledger Value or Replacement Cost (whichever is the greater) plus 15 per cent.

*On Consignments above £133 6s. 8d.*

Ledger Value or Replacement Cost (whichever is the greater) plus 15 per cent. on first £133 6s. 8d., 5 per cent. on balance.

## MAIL BAGS.

Ledger Value or Replacement Cost (whichever is the greater) plus 15 per cent. (This percentage includes 12½ per cent. in respect of Prison Labour not included in Ledger Value and 2½ per cent. for Post Office expenses.)

The percentage charges include the cost of ordering, storing, handling, packing (labour), and testing. Packing material and freight will be charged for, in addition, at the actual cost.

2. Accounts of Receipt for stores supplied by the Post Office are to include the appropriate amount of percentage charges, assessed as in paragraph 1, in addition to the Rate Book (Post Office) Ledger, or Replacement Cost Value.

**446.—Obsolete Circuits, Electrical Fittings and Voicepipes no longer required in H.M. Ships—Removal—REPORTS.**

(G. 17619/24.—13.2.1925.)

The question of the removal of obsolete circuits, electrical fittings and voicepipes in H.M. Ships which are no longer required, has been under consideration.

2. Reports are to be forwarded to the Admiralty through the usual channels from time to time, upon any approved electrical systems or fittings, or voicepipes in H.M. Ships which are no longer required and which it is considered should be removed. In forwarding the reports it should be stated if the recommendation is applicable to all ships of the class.

3. On receipt of the above reports a decision for the class of ship referred to will be given and promulgated in the form of an "approved alteration."

4. Items for the removal of redundant circuits, electrical fittings and voicepipes which do not form part of the approved equipment are to be included in the defect list for the ship.

5. Any work necessitated by paragraphs 3 or 4 above, which from its nature could not be undertaken by the Yard during ordinary refits will be deferred until the ship is taken in hand for "Large Repairs."

### **476.—Admiralty Administrative Whitley Council—Travelling Expenses of Members of the Staff Side.**

(A.G. 15/25.—13.2.1925.)

Attention is drawn to the fact that under Section H, paragraph 20, of the Constitution of the Admiralty Administrative Whitley Council, each side of the Council is responsible for its own expenses. The travelling expenses incurred by members of the Staff side in attending joint meetings of the Council or of Committees of the Council as well as in attending purely Staff side meetings are accordingly not chargeable to public funds, and railway warrants should not be issued for such journeys.

### **499.—Stoker Ratings, Examination—Notation on Service Certificate.**

(N.P. (II) 4026.—20.2.1925.)

The dates of passing the examination to take charge of a stokehold when steaming, and other examinations for stoker ratings, are to be noted in the examination section at the foot of page 3 of the Service Certificate (S. 459), until such time as provision is made for the notation of these particulars on the Employment and Ability Record (S. 1246A).

(*K.R. and A.I., Appendix XV, Part I, Nos. 36 to 40.*)

### **619.—Meetings of Scientific and other Associations, etc.—Attendance of Naval or Civilian Representatives.**

(C. (II) 959.—6.3.1925.)

When it is desired to send representatives in their official capacity to attend meetings of Scientific and other Associations, etc., prior Admiralty approval should be sought, a statement being furnished as to the expenses (e.g., in respect of travelling and subsistence allowance) likely to be incurred.

### **627.—Subsistence Allowance to Naval Officers in Receipt of Civil Rates of Pay when Accommodated in H.M. Ships or Establishments.**

(C. (II) 878.—6.3.1925.)

When Naval Officers in receipt of civil rates of pay are employed on temporary detached duty and are accommodated in H.M. Ships or Establishments, they will, in future, be paid subsistence allowance at the rates and subject to the conditions laid down for Civil Officers. They will not be entitled to Naval victualling.

These Officers will be governed by the regulations for Civil Officers so far as travelling expenses and subsistence allowances are concerned. They will, however, continue to use Naval travelling warrants.

### **720.—Guns and Breech Mechanisms—Examination at Naval Armament Depôts.**

(G. 19378/24.—13.3.1925.)

In future when guns and/or breech mechanisms are put in for examination at Naval Armament Depôts, a full description of any known defects or failures to function should accompany the requisition, and such requisition should be restricted in the case of guns to such as are due or about to become due for examination in accordance with the Regulations, and as to mechanisms (components and spares), to those which have been found

defective or have given any form of trouble since last examination; the requisition should not include spares and components which have not been brought into use since reception on board, or since last examination.

Mechanisms (components and spares) which are due for modification at Naval Armament Depôts in accordance with any Fleet or other Order, should, however, be put forward.

2. On completion of the work, the Gunnery Officer or his representative should accompany the Assistant Inspector of Naval Ordnance and the Armament Depôt Representative, when they finally check up the mechanisms on board, to satisfy himself that all defects have been made good and that the mechanisms function correctly.

**728.** *Issued Confidentially.*

**782.—Telephones in Private Residences.**

(A.G./A.S. 13269.—20.3.1925.)

Payments by Officers in respect of the rental, etc., of telephones installed for official purposes in their private residences, are to be made on the basis of the scale set out below:—

- (a) When an Officer is in receipt of emoluments of £950 per annum or over (including bonus) he will bear the whole of the rental, and the full charge for local calls.
- (b) Officers in receipt of emoluments of £750–£950 per annum (including bonus) will contribute to the extent of £1 10s. per annum towards the rental, and pay one-fifth of the cost of local calls up to 360 per annum.
- (c) Officers in receipt of emoluments of £400–£750 per annum (including bonus) will contribute to the extent of £1 per annum towards the rental, and pay one-fifth of the cost of local calls up to 360 per annum.
- (d) Other salaried Officers will contribute to the extent of 15s. per annum towards the rental, and pay one-fifth of the cost of local calls up to 360 per annum.
- (e) The whole cost of local calls in excess of 360 per annum will be borne by the Officers concerned.
- (f) *Cancelled.*
- (g) An Officer's contribution in respect of any one financial year is to be assessed on the total amount of his pay and emoluments (excluding bonus) on the 1st April of such year, plus the amount of bonus corresponding thereto as declared on the 1st September following. No change in an Officer's contribution is to be made throughout the course of a financial year in respect of any increase or decrease of pay and emoluments (excluding bonus) that he may receive during that year after 1st April.
- (h) When the transfer of a telephone is not necessitated by Service reasons, its cost in normal cases of transfer is to be borne by the Officer concerned.

(A.F.O. 939/27.)

**867.** *Issued Confidentially.*

**870.—Alterations and Additions—Unnumbered Items and Dockyard Estimates of Cost.**

(D. 2109/25.—27.3.1925.)

Before transmitting Dockyard estimates of cost of alterations and additions to H.M. Ships, the Ship's numbers, if available, are to be inserted against the items.

In cases when, due to the absence of the ship, this information is not available, the Dockyard Officers are to request the Commanding Officer to allocate numbers, but transmission of the estimate is not to be delayed thereby.

2. The Commanding Officer should report the items of alterations and additions and the numbers allocated to the Admiralty and furnish a copy thereof to the Dockyard concerned.

### 876.—Drop Keel Dinghies.

(N.S. 358/25.—27.3.1925.)

Cruisers of the "C" and "D" Classes carrying the old type 16 ft. skiff dinghy are to be supplied as necessary with this type of boat until stocks are exhausted.

If and when it becomes necessary to replace this type of boat by the drop keel type in these vessels, the question of compensation for the difference in weight of the two types should be considered, and proposals forwarded to the Admiralty for consideration.

### 879.—Stores—Package for Shipment to Canada and Ireland.

(N.S. 3857/25.—27.3.1925.)

Straw, hay and other fodders are not to be used for packing stores for shipment to Canada and Ireland, as being contrary to Foot and Mouth Disease Orders.

### 914.—Home Commands—Limits.

(M. 2964/24.—3.4.1925.)

The limits of Home Commands are as follows:—

Coast of Scotland	...	Scottish Border on East Coast to Bennane Head on West Coast. (Ten miles north of Loch Ryan.)
The Nore	... ..	Scottish Border on East Coast to Meridian of 0° 34' E. on South Coast.
Portsmouth	... ..	Meridian of 0° 34' E. on South Coast to Meridian of 3° W. on South Coast.
Devonport	... ..	Meridian of 3° W. on South Coast to Bennane Head; and Coast of Ireland. This includes the whole of the North Channel.

No definite sea boundaries between the Commands have been laid down.

### 950.—Trials of Ventilation Systems in H.M. Ships.

(S. 1936/24.—3.4.1925.)

The following instructions regarding trials of the ventilating systems of H.M. Ships are promulgated for information and necessary action, viz. :—

#### FOR SHIPS BUILDING.

1. In ships building, as soon as the state of the work permits, trials of each complete ventilation system are to be made for the purpose of ascertaining the quantity of air supplied or exhausted through each orifice

throughout the system. The following are to be observed during these trials and the results reported to the Admiralty:—

- (a) Revolutions, voltage and amperage of the fan motor.
- (b) Static pressure of the air on the inlet and outlet side of the fan in inches of water gauge.
- (c) Velocity in feet per second and quantity of air in cubic feet per minute passing through the fan, measured in a downtake for supply fans and in the uptake for exhaust fans.
- (d) Velocity in feet per second and quantity of air in cubic feet per minute supplied or exhausted through each orifice throughout the whole of the fan system.

Before the above readings are taken from any particular orifice, it should be ascertained that all the remaining orifices in the system concerned are also supplying (or exhausting) air at their full normal working capacity. In certain instances, however, where desired by the Admiralty, additional trials are to be carried out when the fan is concentrated on certain compartments.

2. A further set of trials is also to be carried out under conditions of "cleared for action, ship darkened" at a convenient opportunity during the completion trials of the vessel. For these trials only those fans and valves marked "A" should be in action. Data as in paragraph 1 hereof, with the exception of paragraph (b), are to be recorded. Such if any of these trials as would be simple repeats of those already made under paragraph 1 need not be carried out.

#### ON THE COMPLETION OF A REFIT INVOLVING LARGE ALTERATIONS OR RECONSTRUCTION.

Trials as referred to in paragraphs 1 and 2 above are to be carried out in all ships after completion of a refit involving large alterations or reconstruction.

3. With regard to any alterations in the ventilating arrangements which may take place from time to time, a trial to obtain data as in paragraph 1 is to be made of that particular system which has undergone alteration.

4. The results obtained in the trials are to be embodied in the "as fitted" tabulated statement and description of ventilation which is prepared for the ship.

5. With regard to any special features installed for protection against gas attack, specific instructions will be issued in individual instances. When a definite scheme has been evolved for this purpose further instructions as to a programme of trials will be issued.

(A.F.O. 2107/26.)

### 1042.—Test and Working Pressures of Tanks in Submarines.

*Submarines and Dockyards.*

(S. 952/25.—9.4.1925.)

There appears to be a certain amount of misunderstanding as to the term "working pressure" of tanks in a Submarine, and the following remarks are promulgated for the information of all concerned:—

- (i) The working pressure of a tank in a Submarine is the pressure to which the particular tank is tested and the personnel are to understand clearly that this pressure may be used without hesitation at any time.
- (ii) With regard to the internal tanks in the wake of the battery tanks, there is a certain amount of risk involved whenever these internal tanks are blown, as the state of the plating and rivets is not definitely known. The "blowing" of these tanks is therefore to be restricted as much as possible. Whenever it is found necessary to blow such tanks the pressure is to be limited to the minimum consistent with the operation in hand.

**1043.—C.M.B. Targets—Towage.**

(D. 2176/25.—9.4.1925.)

The question of the towage on passage of C.M.B. targets has been under consideration and it has been decided that when sailing orders are issued, the destroyer undertaking the operation is to be authorised to tow up to 18 knots in order that full advantage may be taken of favourable weather conditions.

2. The problem of towing these targets for long distances does not appear to present any further difficulty than that of towing them for actual practices at high speed. The point of tow should be the same in either case, i.e., 13 ft. abaft the stem for 70 ft. boats, and 10 ft. abaft the stem for 55 ft. boats.

3. When towing long distances and in calm water, the C.M.B. should be towed close up at all speeds, and the tow should be veered to about 100 fathoms, and the speed reduced to about six knots in a swell or "choppy" sea.

4. For towing a damaged or water-logged target, the point of tow should be about five or six feet abaft the stem, and the boat towed close up at a speed of about 9-10 knots.

**1046.—Air Loaded Accumulators.***H.M. Submarines.*

(D. 2981/25.—9.4.1925.)

With a view to obviating fitting in the rams of air loaded accumulators of H.M. Submarines, arrangements should be made for these accumulators to be worked at least once a week and the exposed parts of the oil ram wiped with an oily rag.

**1102.—Civilian Dockyard Officers and Employees proceeding to Malta—Warning regarding the use of Goats' Milk.**

(C.E. 2858/25.—17.4.1925.)

The attention of Civilian Dockyard Officers and employees proceeding to Malta is to be drawn to the danger that they incur of contracting Mediterranean or Undulant Fever if they drink Goats' Milk in Malta.

**1103.—Pay of Workmen employed on Duty at places distant from their normal place of Employment.**

(C. (II) 9004/24.—17.4.1925.)

Workmen ordered to work at other places than those for which they are engaged should be paid at ordinary time rates for the time necessarily taken in travelling to the extent to which the time so occupied, added to that of actual employment, is in excess of the sum of the normal working hours, plus the time occupied in travelling under normal conditions to and from the place for employment at which the men were engaged, or the place at which they are employed by agreement.

(A.F.O. 2042/25.)

**1105.—Damage to Effects of Civilian Officials Dying Abroad—Compensation not Payable.**

(C. (II) 1089/25.—17.4.1925.)

It is notified that where the household, etc., effects of a civil official who has died whilst serving at a Foreign Establishment are sent home, freight is provided at the public expense as an act of grace, and whilst every effort is made to secure their safe delivery in an undamaged condition, the Admiralty accept no liability for any loss or damage which may occur in transit, and no compensation is payable from Naval Funds.

The representatives of the deceased official should therefore be advised to effect insurance at their own expense against the risk of loss or damage in transit.

**\*1131.—Royal Tournament — Compensatory Allowances of Officers attending the Royal Tournament for 1925 and Future Years.**

(N.P. (I) 1048/25.—24.4.1925.)

The following revised arrangements have been approved with regard to the payment of Compensatory Allowances to R.N. and R.M. Officers attending the Royal Tournament during the current and future years.

(1) OFFICERS ON DUTY.

(a) All Officers who are paid Subsistence Allowance out of Tournament Funds are ineligible for Lodging, Provision or Servants Allowances during the period they are attending the Tournament, subject to the provision that any Officer in receipt of those allowances on the date of proceeding on Tournament duties shall be allowed to continue in receipt of Lodging and Servants Allowances for a period not exceeding 30 days, provided that their lodgings are retained and paid for, and that Lodging Allowance has previously been paid at the annual rate.

(b) No distinction will be drawn between Officers employed on duties connected with the Royal Tournament and Officers employed on disciplinary duties, unless in any case the Tournament Authorities decline to pay the usual Subsistence Allowance to the latter.

(c) All Officers' claims for allowances and all claims for travelling expenses, etc., with reference to participation in the Tournament should be referred in the first place to the Accountant-General of the Navy.

(2) OFFICER COMPETITORS.

Officer competitors not in receipt of Subsistence Allowance from Tournament Funds, who are detached from full pay appointments will be entitled during the necessary period of absence—

- (i) To continue in receipt of Lodging, Provision and Servants Allowances, if such are in course of payment in respect of their appointments, and subject as regards Lodging and Servants Allowances to the conditions laid down in 1 (a); otherwise
- (ii) To Provision Allowance if they would normally have been victualled.

The necessary period of absence at the Tournament for competitions will *not* count as ordinary leave.

**1144.—Ammunition—6 pdr. Sub-Calibre.**

(G. 3768/25.—24.4.1925.)

The following extract from the report of an accident which recently occurred to a Turret of one of H.M. Ships is circulated for information.

\* \* \* \* \*

6 Pdr. Sub-Calibre Ammunition. Accident with. The order "Load" was given and a round was inserted in the Breech of the Sub-Calibre Gun. The gun was laid at an elevation of about eight degrees.

Before the breech was closed, the round slipped back and on hitting the portable loading platform in rear, the round exploded.

\* \* \* \* \*

The base of the cartridge bears the indentations of about  $\frac{1}{16}$  in. deep. One of these extends into the cap and the latter has been driven in. The other indentation is just clear of the cap.

Round the rear of the loading platform there is a vertical angle iron which, after rounding the right rear corner terminates abruptly. This termination is immediately in line with and in rear of the breech, and it is considered that the cap came into contact with the sharp corner and caused the explosion.

Both these indentations on the base of the cartridge fit on to the corner of the angle iron and it appears that the second indentation was caused by the explosion forcing the cartridge to the rear again.

\* \* \* \* \*

2. In order to prevent a repetition of this accident the following precautions are to be observed:—

Any projection or sharp corner on the portable loading platform which might cause an accident similar to that described above is to be removed by Ship's Artificers.

Wherever sub-calibre firing is being carried out mats or other suitable material should be used to cover any projections in rear of the gun which might cause an accident similar to that described.

### **1246.—Prison-made Articles—Revised Conditions Governing the Issue of Materials Supplied by the Admiralty.**

(C.P. 1018/24.—1.5.1925.)

It has been decided that Admiralty material issued in connection with orders placed with the Prison Commissioners for making up articles in H.M. Civil Prisons shall be paid for in cash by the Prison Commissioners at the time of issue.

This procedure will apply to all orders placed by the Admiralty on and after 1st April, 1925.

The following conditions will apply:—

- (i) When an order is placed (or as soon as possible thereafter) prices of Admiralty materials to be supplied for use in making up will be stated and these prices will remain in force for all materials issued for that particular order.
- (ii) The materials required for executing orders will be issued to the Prison Commissioners on demand—
  - (a) From H.M. Dockyard, Portsmouth (or West India Docks in the case of materials for Coal Sacks and Coal Bags) for orders for H.M. Dockyards; and
  - (b) From H.M. Victualling Yards at Deptford, Gosport and Plymouth for orders for Victualling Yards;
  - (c) From H.M. Victualling Yard, Deptford, and the Royal Hospital School, Greenwich, for orders for Greenwich Hospital.
- (iii) Two valued supply notes will be furnished to the Prison to which the materials are supplied.
- (iv) The value of the materials supplied will be recovered locally by the Dockyard or Establishment from which supply is made. The transactions are to be reported in Return D.72B (Vote 8), or in the appropriate enclosure to the Quarterly Return V.108, i.e., statement of amounts recovered, or due for local recovery (Vote 2).
- (v) Responsibility for rejections and consequent loss will rest with the Prison Commissioners.
- (vi) Material for Naval Store Services will be issued at the Rate Book prices current at the date the order is placed without the addition of any percentage charges.
 

Any difference between those rates and the Rate Book prices ruling on the actual date of issue should be brought to account in the Expense Accounts under Item 6c of Section B of Account No. D.88.
- (vii) Materials for Victualling Service requirements will be issued at the rates specified in the contract.
- (viii) Deliveries of manufactured articles are to be surveyed and entered on Accounts of Receipt (or rejected) in the same manner as deliveries from a contractor.
- (ix) Under the revised arrangements the Admiralty will no longer be liable to supply free of charge materials deficient on orders and any materials surplus on orders will remain the property of the Prison Commissioners.



- (x) Carriage inwards and outwards on Oakum and Seamen's Beds to be borne by the Admiralty. Inward and outward carriage on all other articles to be borne by the Prison Commissioners.
- (xi) In the case of cancelled orders cost of carriage inwards and outwards of returned materials to be borne by the Admiralty and the amount paid for such materials to be refunded to the Prison Commissioners or retained by them against subsequent orders as may be determined in each case.

### 1290.—Marriage Gratuities to Established Female Employees.

(C. (III) 3096/25.—1.5.1925.)

The following Regulations are promulgated for information and guidance:—

#### COPY OF REGULATIONS WITH REGARD TO THE ADMISSION OF MARRIED WOMEN TO AND EMPLOYMENT OF MARRIED WOMEN IN ESTABLISHED SITUATIONS.

1. All female candidates for any established situation in any of His Majesty's Civil Establishments shall be unmarried or widows.

2. (a) Women appointed to or holding any established situation in any of His Majesty's Civil Establishments shall be required to resign their appointments on marriage, and to notify their marriage to the head of their Department immediately on its taking place.

(b) Women resigning on marriage after service of not less than six years prior to their marriage may, at the discretion of the head of the Department and with the approval of the Treasury, be granted a gratuity at the rate of one month's pay for each complete year of established service, but not exceeding in the whole a maximum of 12 months' pay.

3. Provided that exceptions may be made to Regulations 1 and 2 (a) above, on the recommendations of the head of the department, if the Civil Service Commissioners and the Treasury (in cases of recruitment) and the Treasury (in case of an Officer already holding an established position) are satisfied that it is in the interests of the Public Service that such exception shall be made.

Every such exception shall be published in the London Gazette, and Officers appointed or retained thereunder will not be eligible for marriage gratuity.

In computing the qualifying period of service required by Regulation 2 (b) above, temporary service will be counted in full, but the calculation of the amount of the gratuity will be made on years of established service only. Supplementary gratuities based on bonus will be calculated similarly to the gratuities awarded to established Civil Servants or their representatives under the Superannuation Acts.

The usual superannuation forms (D.73), together with the claimant's marriage certificate, should be forwarded in every case in which a Marriage Gratuity appears to be payable.

The Gratuities should be classified to Vote 15C (4).

### 1300.—Yard Machinery—Control of Expenditure.

(D. 5855/25.—1.5.1925.)

With reference to the annual Programme of Works, the amounts specifically provided for Yard Machinery services (labour and materials) are fixed after a careful and detailed examination into all the circumstances, and are regarded as sufficient if due care and economy in their widest sense are exercised.

2. The Yard Machinery work throughout each year is to be organised strictly on the basis of these amounts and on the distinct understanding that they represent the limits of expenditure authorised under the several items and sub-items of the Accounts concerned.

3. Excess on any item will involve close enquiry by the Admiralty into the cause thereof.

4. Notice of probable excess on any item (where absolutely unavoidable) is to be given to the Admiralty one month before approved provision is exhausted.

5. Provision to spare on any one item of this part of the account is not to be regarded as available to balance an excess on any other item without prior Admiralty sanction to that course.

6. Safety in working of all Yard Machinery is the first consideration, and this condition must be secured. Expenditure falling under this head is to be regarded as a first charge on the provision.

7. Work unprovided for, except that relating to the erection of new machinery purchased under Vote 8, Section III H, and items of new work outstanding from the previous financial year is not to be undertaken without prior Admiralty sanction. The availability of funds will be a determining factor in such cases, and the position in this respect should be stated in all applications to the Admiralty for sanction to proceed.

8. Continuous care is to be taken to reduce Repairs and Yard Machinery work generally to a minimum and using departments are to adopt the most approved methods to this end. Cases of carelessness on the part of users leading to expenditure on repairs and renewals are to be reported to the Superintendent by the Repairing Departments.

9. Departments making requisitions involving Yard Machinery expenditure by other Departments will, in any enquiry, be held responsible for such expenditure and must be prepared to justify it, not merely as desirable, but as discriminating and necessary.

10. The employment of men forming standing charges on Yard Machinery provision is to be continually under the scrutiny of the responsible Officers, and any tendency to disproportionate increase is to be discouraged. The same care is to be taken in regard to expenditure of an incidental as also of an unproductive character.

11. Special measures are to be taken to limit the expenditure incurred by Drawing Office Staff. The aim should be to regulate such expenditure within a fixed percentage of the total allowed for Yard Machinery services.

12. The inspection, test and survey of Yard Machinery is another source of expenditure which lends itself to close regulation within a fixed percentage and this should be kept in view.

13. The greatest economy is to be exercised in the use of materials, and all arisings are to be carefully credited to the work.

14. The importance of alert supervision and discrimination in the selection of work to be done cannot be over estimated. The cost of items of work on Yard Machinery should not escape full criticism because the charge is to a general heading and not to a definite estimate. Test cases should be made as a check upon undue expenditure and slackness.

15. The Heads of the three principal spending Departments (Constructive, Engineering and Electrical) are each to depute an Assistant whom they will hold definitely responsible for the conduct of Yard Machinery work.

16. Inspection of the work in progress and examination into the course of expenditure will be made from time to time by Admiralty Officers. The Assistants personally identified with Yard Machinery work should on such occasions be prepared to go thoroughly into all questions of management and expenditure with Admiralty Officers.

17. As regards Contract expenditure under Vote 8/III/H, the same care is to be exercised as under Part V of the 88 Account, to keep the expenditure for machinery ordered locally within the most economical limits. The Superintendent should satisfy himself in each case that purchase by contract is more advantageous than manufacture in the Yard.

18. In the case of machinery purchased through the Admiralty, Yard Officers formulating requirements for embodiment in specifications are to keep steadily in view the necessity for the purchase being effected within the specific provision made.

19. The foregoing instructions apply equally to the Heads of outlying Establishments as to Heads of Dockyard Departments.

### 1311.—Visits to R.N. Establishments—Australian Naval Representative.

(M. 1752.—8.5.1925.)

Permission has been granted for the Australian Naval Representative in this country or his Assistants to visit H.M. Establishments as necessity arises, such visits being arranged by him direct with the Commander-in-Chief of the port or the Senior Officer of the Establishment visited.

### 1372.—Yarrow Boilers—Shape of Fire Row Tubes.

*H.M. Dockyards.*

(D. 7154/25.—8.5.1925.)

The curvature to be given to the fire row tubes of Yarrow boilers has been under consideration, and it has been decided that when boilers of this type are completely retubed or the fire rows wholly renewed in any vessel, a sketch showing the original shape of the fire row tubes and the curvature it is proposed to give the new fire row tubes should be forwarded by the Dockyard Officers concerned for consideration before the work of fitting the new tubes is taken in hand.

### 1399.—Chain Purchases supplied for Hoisting Torpedoes in Shore Torpedo Depôts—Test Loads.

*Shore Torpedo Depôts and Yards concerned.*

(D. 9139/24.—15.5.1925.)

All chain purchases and lifting appliances used for hoisting torpedoes in shore depôts are to be examined and tested periodically in accordance with the procedure indicated in Article 892 of Home Dockyard Regulations, 1925. These examinations and tests are to be carried out by the Manager, Engineering Department, or Chief Engineer, who is to arrange with the Torpedo Engineer Officer in regard to suitable dates.

Attention of the Torpedo Depôt Officers is to be called to the increased weight of torpedoes, so that it may be ensured that the lifting appliances used are not loaded beyond their proper maximum working loads. In cases where existing appliances are of insufficient capacity to cope with the increased weights of torpedoes, the travellers should not in future be tested to overloads in excess of that required by the above-mentioned regulations as a means of obviating proposals for provision of new appliances of the requisite capacities.

### 1452.—Issued Confidentially.

### 1475.—Compensating Weights.

*“ V,” “ W ” and “ Repeat W ” Class Destroyers.*

(D. 18104/24.—22.5.1925.)

Proposals for alterations and additions to Destroyers of the “ V,” “ W ” and “ Repeat W ” Classes which would involve any addition of weight, or the movement of any existing weight to a higher position in the ship, are to be accompanied by proposals for the removal of weights sufficient to compensate for the proposed alteration or addition.

### 1525.—Royal Canadian Navy—Officers and Men serving in H.M. Ships and Establishments.

(C.W. 825.—29.5.1925.)

#### SECTION I.—OFFICERS.

1. *R.C.N. Officers sent to England for Service with Royal Navy.*

(i) Officers of the Royal Canadian Navy, who are sent to England for service with the Royal Navy, will be appointed by the Admiralty to H.M.S. “ Victory ” additional, as from the date of sailing from Canada,

and are accordingly, immediately on arrival in England, to proceed to join the R.N. Barracks, Portsmouth, for duty pending appointment elsewhere, unless specifically directed to the contrary.

(ii) They may, however, as an alternative, ask permission of the Commodore of the Barracks to be granted leave pending appointment, but, in this event, any leave in excess of seven days, whilst awaiting appointment, will be deducted from their foreign service leave on return to Canada.

2. *R.C.N. Officers Vacating R.N. Appointments for Reasons other than Misconduct or Own Request.*

(i) On vacating appointments in the Royal Navy, for reasons other than misconduct or own request, Officers of the Royal Canadian Navy for whom no orders to the contrary have been received, are to be discharged to R.N. Barracks, Portsmouth, to await disposal, and are to proceed to join the Barracks for duty.

(ii) On vacating appointments in the Royal Navy, Officers of the R.C.N., for whose disposal definite orders have been issued, are to be discharged as follows:—

(a) If vacating the appointment to take up a further appointment in the R.N., the Officer is to proceed to that appointment, or if appointment does not take effect immediately, he is to join R.N. Barracks, Portsmouth, pending taking up the appointment, and is to be placed on the books of H.M.S. "Victory" additional for the intervening period.

(b) If vacating an appointment to return to Canada, he is to be discharged to R.N. Barracks, Portsmouth, pending completion of arrangements for passage, and is to be placed on the books of H.M.S. "Victory" additional from the date of discharge from his last appointment to the date (inclusive) of leaving England for Canada.

The Depôt is to inform the Admiralty of his arrival in Barracks, and is to request information as to arrangements for his passage to Canada.

Whilst awaiting passage the Officer is to serve in Barracks, but should passage not be immediately available, he may be permitted to proceed on leave subject to the deduction of any period of such leave in excess of seven days from the foreign service leave due to him on arrival in Canada.

Pay documents are to be forwarded to H.M.S. "Victory" for adjustment of pay to date of sailing prior to forwarding the documents to H.M.S. "Stadacona" at Halifax, N.S.

3. *R.C.N. Officers Discharged from Appointment in R.N. at Own Request or for Misconduct.*

(i) As regards Officers of the R.C.N. who may be discharged from appointments at their own request or for misconduct, the circumstances will be specially considered in each instance by the Dominion Government, which will give instructions as to the Officer's disposal.

(ii) The pay documents of Officers vacating appointments at their own request or on account of misconduct are to be forwarded to the Accountant-General of the Navy, pending decision as to the Officer's disposal.

4. *Report to be made when R.C.N. Officer is Discharged to Books of "Victory."*—Whenever an Officer is placed on the books of H.M.S. "Victory" under this order, otherwise than by the Admiralty, a report is to be forwarded to the Admiralty, a duplicate being sent to the Director of the Naval Service, Ottawa.

5. *Leave of R.C.N. Officers whilst serving in the R.N.*

(i) *General Policy.*—(a) The Department of National Defence (Naval Service) of Canada has stated that the policy of the Department in availing itself of the facilities afforded by the Admiralty for service by R.C.N. Officers

in H.M. Ships, is that the Officers, during their period of loan to the Royal Navy, should, in addition to receiving instruction and acquiring experience, absorb the atmosphere of the life of the Royal Navy as a means of maintaining the closest possible touch between the personnel of the Royal Canadian Navy and that of the Royal Navy.

(b) In pursuing this policy, it is necessary to arrange that R.C.N. Officers, during their period of service in the R.N. (which counts as foreign service in the R.C.N.) should live under R.N. conditions, for the maximum time during their absence from Canada, and should not, therefore, receive more leave than is given to Officers of the R.N. whilst on foreign service.

(c) The amount of foreign service leave granted to R.C.N. Officers on return to Canada, is the same as foreign service leave in the R.N., viz., 15 days for each complete period of 6 months—leave for periods of less than 6 months being reckoned at 2 days for each complete month's service. It is not desired that R.C.N. Officers should receive long periods of leave in addition to foreign service leave whilst absent in England, and it is the wish of the Department that whilst in England, they should serve continuously, either in H.M. Ships or in the R.N. Barracks.

(d) If, for urgent private affairs they wish to be granted leave during their period of Foreign Service, they should not receive more than the maximum which they have earned up to date of making application, and such leave (except as provided in the following clauses) will be deducted from the Foreign Service Leave granted to them on their return to Canada:—

Leave granted to a Subordinate Officer of the R.C.N., whilst serving with the R.N., during the regular leave periods of the ship in which serving, will not be deducted from the Foreign Service Leave due to him on his return to Canada.

Leave granted to an Officer of the R.C.N. (whilst undergoing a Specialist Course in the R.N.) during the periods of leave granted to the Officers of the R.N. who are attending such courses, will not be deducted from the Foreign Service Leave due to the Officer on his return to Canada.

(e) As regards leave, prior to assuming appointment or whilst awaiting passage or on vacating an appointment, see paragraphs 1 and 2 (ii) (b) above.

(ii) *Leave granted to R.C.N. Officers serving with R.N. to be reported to Admiralty and to the Director of the Naval Service, Ottawa.*—Any leave granted either when appointed to H.M.S. "Victory," or when appointed elsewhere, which, under these instructions has to be deducted from the foreign service leave granted on return to Canada, is to be reported to the Admiralty and to the Director of the Naval Service at Ottawa.

(iii) *Leave of R.C.N. Officers after two years' service with the R.N.*—R.C.N. Officers serving with the R.N. may be granted leave to visit Canada after two years' absence, subject to Admiralty approval. When such leave is granted, passage to Canada will be paid by the Canadian Government. The Officers are to be discharged (not lent) to the books of H.M.C.S. "Stadacona," Halifax, from the date of sailing for Canada. Free passage to Canada after two years' service with the R.N. will not be granted to Officers who, having taken a portion of their foreign service leave in England, have less than 28 days' leave due to them.

Officers whose homes are on the West Coast of Canada should inform Naval Service Headquarters, Ottawa, in ample time prior to their arrival in Canada, so that the question of transferring them during the period of their leave in Canada, from the books of "Stadacona" to the books of "Naden" may be considered.

Their leave will commence from the date of their arrival at their homes in Canada. Time on passage from England to Canada, and when returning, from Canada to England, will not be counted as part of their foreign service leave.

Officers proceeding to Canada for foreign service leave are to be instructed to proceed to their homes on arrival in Canada, and to report their home address and date of arrival at their home to the Director of the Naval Service, Ottawa, and to H.M.C.S. "Stadacona," Halifax.

Shortly prior to the completion of the number of days' foreign service leave due to them, Officers are to report to the Director of Naval Service, either in writing or in person, and will then receive instructions as to their future appointments.

In normal cases they will return to England and will be instructed to report to the Admiralty for directions as to whether they are to rejoin the ship of the R.N. in which they were serving prior to leave.

(iv) *Free transportation to their homes, of Officers on returning to Canada after 12 months' foreign service, to take up an appointment in the R.C.N.*—Free transportation to and from their homes, if residents in Canada, and to and from the point on the border nearest to their homes, if residents of the United States, may be granted to Officers and men of the Canadian Naval Service returning from overseas to take up appointments in Canada, provided the service overseas has been continuous and has extended over 12 months, on the first occasion of their being granted leave.

(v) *Leave in England instead of in Canada after completing period of loan to the R.N.*—The Department has no objection to Officers, on completing period of loan to the R.N., taking in England the whole or a portion of the foreign service leave due to them, if they desire to do so, prior to returning to Canada.

In such cases, the Officer will be discharged to H.M.C.S. "Stadacona" for foreign service leave and for passage to Canada from date he goes on leave, and on arrival in Canada, after completing leave, will carry out the instructions which he has received from the Department as to his subsequent movements.

Officers desiring to avail themselves of this concession must forward application through the usual Service channels for permission to take their foreign service leave in England, in ample time to admit of obtaining instructions as to their movements on arrival in Canada subsequent to leave.

6. *Medical Examination of R.C.N. Officers Retired whilst serving with the R.N.*—If approval is given for the retirement of Officers of the R.C.N. whilst serving in H.M. Ships, a medical examination on discharge is to be carried out by the Medical Officer of the ship in which they are serving. The report of medical examination is to be forwarded to the Director of the Naval Service, Ottawa, and a copy of the report to the Medical Director General of the Admiralty.

7. *Procedure when R.C.N. Officers are Recommended for Invaliding whilst serving with the R.N.*—R.C.N. Officers who, whilst serving with the R.N., are, as a result of medical survey, recommended for invaliding, are to continue on full pay until termination of their services in the R.C.N. is approved.

(ii) If, as in normal circumstances will be the case, they wish to return to Canada for final discharge, they are to be dealt with as prescribed in paragraph 2 of this order—"R.C.N. Officers vacating R.N. appointments for reasons other than misconduct or own request."

(iii) If they are unfit to travel, Admiralty decision as to their disposal is to be obtained.

(iv) If they wish to remain in England instead of returning to Canada for invaliding, telegraphic report should be made to the Admiralty, stating (a) name and rank; (b) nature and date of origin of the disability and whether due to service; (c) summary of recommendation of Board of Survey; (d) whether further medical treatment necessary. The Admiralty will inform the Director of the Naval Service, Ottawa, and the latter will communicate his wishes as regards further treatment, transfer of the case to representative of the D.S.C.R. in England, etc.

Officers who are recommended for further treatment, who elect to be discharged in Great Britain or Ireland, are to be informed prior to discharge that their unwillingness to return to Canada for treatment will be considered by the Department of National Defence and by the Board of Pension Commissioners, for Canada, as a refusal to accept such treatment, and the matter of a claim for pension will be dealt with accordingly.

(v) Whether the Officer wishes to remain in England or not, the report of Medical Survey, in triplicate, is to be forwarded to the Admiralty as soon as possible for transmission to the Director of the Naval Service, Ottawa.

*Note.*—Officers falling sick—*see* paragraph 17 (iii).

8. *Service and Promotion of Subordinate Officers of the R.C.N.*—Subordinate Officers of the Military Branch of the R.C.N. will serve in H.M. Ships until they have completed their courses for promotion to Lieutenant.

Paymaster Cadets and Paymaster Midshipmen will serve in H.M. Ships until they have been promoted to Paymaster Sub-Lieutenant or to Paymaster Lieutenant, as may be found necessary in each case, according to appointments for them which are available in Canada.

The regulations for promotion of Officers of the R.C.N. are the same as for Officers of the R.N., and Subordinate Officers of the Military and Accountant Branches of the R.C.N. will be promoted by the Admiralty on obtaining the necessary seniority and qualifications.

Promotion from Sub-Lieutenant to Lieutenant will be made by Ottawa.

9. *Service Certificates.*—The attention of Commanding Officers is called to the necessity for issuing certificates (S.450) to Officers of the R.C.N. serving in the Royal Navy.

## SECTION II.—MEN.

### RATINGS OF THE ROYAL CANADIAN NAVY SERVING WITH THE ROYAL NAVY.

10. *Courses.*—The Admiralty provide facilities for men of the R.C.N. to undergo courses in the Technical Schools of the R.N. and, in certain cases, permit men to serve in H.M. Ships to acquire experience.

When a rating of the R.C.N. is sent to one of H.M. Ships or Establishments, the Director of the Naval Service, Ottawa, will inform the Admiralty as to whether, on the expiration of his course, etc., he should be sent to "Stadacona" at Halifax, or to "Naden" at Esquimalt.

11. *Reports to be rendered of Entry, Discharge, etc.*—On receipt of Royal Canadian Navy ratings from their own service and on discharge for reversion thereto, His Majesty's Ships and Establishments concerned are to render to the Admiralty (Registry of Personnel) Forms S.160 (Return of Entries, etc.) or S.161 (Return of Changes) respectively. S.161 is also to be forwarded on all occasions similar to those on which it is rendered for Royal Navy ratings. Form S.165 (Reports of Movements) is to be completed in the case of men and forwarded to the Accountant-General of the Navy.

12. *Leave.*—The period of service of men of the R.C.N. whilst in ships of the R.N., counts as foreign service and carries with it foreign service leave on the scale authorised for ratings of the R.N.

Men of the R.C.N., sent to England for courses, may be granted by the Commanding Officer of H.M. Ship or Establishment in which they are serving, leave up to 14 days on completion of the course and before returning to Canada.

The leave so granted is to be noted on the man's transfer list, and will be deducted from any foreign service leave due to him on his return to Canada.

Leave granted to a rating of the R.C.N. (whilst undergoing a non-substantive course in the R.N.) during the periods of leave granted to the ratings of the R.N. who are attending such courses, will not be deducted from the Foreign Service Leave due to the rating on his return to Canada.

13. *Passage to Canada.*—The Commanding Officer of H.M. Ship or Establishment in which a man of the R.C.N. is serving, should inform the Admiralty three weeks prior to completion of his course as to when he will be available to return to Canada (taking into account any leave which the man has requested) in order that the necessary arrangements for his passage may be made.

14. *Procedure when a Rating of the R.C.N. is Recommended for Invaliding whilst serving with the R.N.*—The procedure followed will be the same as in the case of Officers—*see* paragraph 7 above.

*Note.*—Men falling sick—*see* paragraph 17 (iii).

## SECTION III.—OFFICERS AND MEN.

## PAY AND ALLOWANCES AND INSTRUCTIONS FOR ACCOUNTANT OFFICERS, ETC.

15. *Pay and Allowances.*—

(i) The transfer lists of R.C.N. Officers and men lent for service with the Royal Navy, will specify their rates of pay and duty allowances in sterling. Should an Officer of the R.C.N. become entitled to an increase of pay or to a grant of any duty allowance whilst serving with the R.N. application is to be made to the Director of the Naval Service, Ottawa, for authority to make or commence the payment.

(ii) *Hard Lying Money* is payable to ranks and ratings of the R.C.N. serving in H.M. Ships, at the rates and under the conditions laid down in the King's Regulations and Admiralty Instructions.

(iii) *Difference of Mess Subscription* is payable to Gun Room and Warrant Officers of the R.C.N. when messed in the ward room of H.M. Ships, at the rates shown hereunder :—

(a) To Gun Room Officers ... ..	9d. a day.
(b) To Commissioned Officers from Warrant Rank and Warrant Officers ... ..	1s. a day.

(iv) *Income Tax* is not chargeable on the ledger of H.M. Ships against Officers or men of the R.C.N. The Department forwards annually, to each Officer and man of the R.C.N., an Income Tax Form with instructions as to completing and rendering the form, and as to remitting the amount of his Income Tax direct to the Commissioner of Taxation, Ottawa.

(v) *Grog Money.*—Petty Officers and men who do not take up the spirit ration, should be credited with grog money in accordance with the provisions of Article 1832, King's Regulations and Admiralty Instructions.

(vi) *Servant's Allowance* is not payable to Officers of the R.C.N. whilst serving in the R.N.

(vii) *Travelling Expenses.*—Claims for travelling expenses incurred by Officers and men in proceeding from Canada to join Ships and Establishments of the R.N. are to be forwarded to the Secretary to the High Commissioner for Canada, Kinnaird House, Pall Mall East, London, for transmission to the Director of the Naval Service, Ottawa, for authority of payment.

(viii) *Lodging and Provision Allowances.*—Officers are to be paid lodging and provision allowances under the conditions and at the rates applicable to R.N. Officers of corresponding rank.

(ix) *Clothing.*—Clothing, etc., will be issued on repayment for cash.

16. *Allotments.*—(a) Payment of allotments of all Canadian Officers and men being made from Ottawa, all new allotments within the ordinary limits are to be executed in dollars, and invariably notified to the Chief Accountant, Department of National Defence (Naval Service), Ottawa, for payment.

(b) The appropriate charges against pay in respect of these allotments are to be made at the rate of \$4·86½ to the pound sterling.

(c) Alterations and stoppages of allotments are similarly to be notified to the Chief Accountant, Department of National Defence (Naval Service), in time to reach Ottawa at the latest by the 18th of the month in which the change occurs. Where necessary, the stoppage should be notified by cablegram, the cost of which will be chargeable to Canadian funds.

17. *Ledger Accounts.*—The Ledger Accounts of Officers and men of the R.C.N., whilst serving in H.M. Ships and Establishments, are to be rendered on separate lists—14 R.C.N.; 17 R.C.N.—of the ledger, and pay and victualing shown separately in the abstracts.

(ii) *Discharge involving cessation of pay to be reported.*—Particular care is to be taken that all cases of discharge involving the cessation of Naval pay are reported to the Director of the Naval Service, Ottawa, as they occur.

In the case of desertion, the report should be made by cable. Where it is found necessary to furnish information to Ottawa by cable, the cost of the message should be charged to the Canadian Government.



(iii) *Officers and men falling sick. Continuation of pay.—*

(a) Officers and men of the R.C.N., who fall sick whilst serving in H.M. Ships and Establishments, but who are not cases for invaliding, will, whether the sickness is due to causes within or beyond their control, continue in receipt of full pay until cured, or until information is received from the Director of the Naval Service as to the date on which they should cease pay, or, in the case of men, as to whether, and from what date, hospital charges should be charged.

(b) Officers and men of the R.C.N., whilst serving on loan to the R.N., may be sent on such sick leave as is recommended by the Authorities of the R.N.

(c) When an Officer or man falls sick with a complaint which is likely to require long treatment or sick leave, the ship on whose books he is borne is to obtain from the hospital in which he is confined a report as to his sickness, and its probable duration, and is to forward the report to the Director of the Naval Service.

*Note.*—Procedure when R.C.N. Officers or men are recommended for invaliding when serving with the R.N.—see paragraphs 7 and 13.

(*K.R. & A.I., Arts. 601, 1639, 1732, Cl. 4, and App. V.*)

### 1531.—Rabies and its Treatment.

(M.D.G. 2377/25.—29.5.1925.)

#### A.—PROCEDURE FOR ENGLAND AND WALES.

When persons are bitten by dogs in areas in which rabies in dogs is suspected, the wound should be treated as soon as possible with undiluted carbolic acid, undiluted Izal or similar disinfectant. The disinfectant should be allowed to come into contact with all parts of the wound, and should then be washed out with water or dilute disinfectant. If no disinfectant of the kind is available, the wound should be thoroughly washed and irrigated with hot or cold water. Where it is possible to get the immediate services of a doctor the treatment should be placed in his hands.

2. If the diagnosis of rabies in the dog is confirmed, or notice is received from the Ministry of Health that the case should be regarded as one of rabies for purposes of treatment, the person bitten should be urged to secure specific anti-rabic treatment as soon as possible, no matter what local treatment has been applied to the bite. Applications for anti-rabic treatment should be made through the Medical Officer of Health of the district in which the patient resides.

3. Persons bitten by stray dogs or by dogs exhibiting unusual behaviour should at once inform the police with a view to the necessary inquiries being made. By arrangement with the Ministry of Agriculture and Fisheries, the names of all persons known to officers of that Department or to the Police to have been bitten by dogs suspected of being rabid will be communicated at once to the Medical Officer of Health of the district in which the bitten persons live.

4. As soon as information reaches the Medical Officer of Health that a person in his district has been bitten by a dog suspected of being rabid, the facts of the case should at once be reported to the Medical Department of the Ministry of Health with the following particulars:—

- (a) Name, age and address of the person bitten.
- (b) Date when bitten.
- (c) Severity of the bite and part of the body bitten; the report should state whether the bite penetrated through the skin and caused bleeding.
- (d) Name and address of owner of the dog, or other information which will enable the dog to be identified.
- (e) Whether rabies in the dog has been diagnosed locally.

5. On receipt of information from the Medical Officer of Health the Ministry of Health will ascertain the opinion of the Veterinary Officers of the Ministry of Agriculture and Fisheries on the facts in their possession regarding the suspected dog, and will inform the Medical Officer of Health if the Veterinary Officers advise that the dog is to be regarded as rabid. Should it happen, for reasons which are unavoidable, that a definite diagnosis cannot be furnished without delay, the Ministry of Agriculture have undertaken to advise the Medical Officer of Health whether the symptoms in the dog are sufficiently suspicious to justify anti-rabic treatment before the confirmatory diagnosis is available, and this information will similarly be forwarded to the Medical Officer of Health. The Medical Officer of Health should await instructions from the Ministry of Health before sending patients away for treatment.

6. The following is a brief summary of the principles which should guide a Medical Officer of Health in recommending anti-rabic treatment:—

- (a) There should be evidence that the bite penetrated through the skin and caused bleeding.
- (b) Treatment should be strongly urged on all persons who have been bitten by animals which are, in the view of the Ministry of Agriculture, affected with rabies.
- (c) As regards persons bitten by animals captured and killed or kept under observation, in which there is no clinical or post-mortem evidence of rabies, treatment should, as a rule, be deprecated as unnecessary.
- (d) As regards the treatment of persons bitten by untraced stray dogs or other animals, distinction should be made between—
  - (i) Cases occurring in the scheduled or immediately adjoining areas, where presumably there is greater risk of the dog being rabid: to cases in this category treatment should be recommended.
  - (ii) Those occurring outside the scheduled areas—here treatment should be offered, but not pressed.

7. When, after consideration of all the circumstances of the case, and after communicating with the Ministry as above advised, the Medical Officer of Health is satisfied that anti-rabic treatment is essential, and has obtained the consent of the patient, he should arrange for treatment direct at the following centre:—

London: Dr. Dudgeon, Department of Pathology, St. Thomas's Hospital, Westminster Bridge, London, S.E.1.

The vaccine employed at this centre is a carbolised anti-rabic vaccine prepared at the Ministry's Laboratory. It should be understood that the hospital named above does not, except by special arrangement, provide internal accommodation for patients undergoing anti-rabic treatment.

8. The Medical Officer of Health should follow the same procedure in dealing with cases occurring in any of the services of which he receives notification.

9. In any case where the Medical Officer of Health is satisfied that a person who needs anti-rabic treatment cannot stay at a centre at his own expense for the two or three weeks necessary for the completion of the course, he should at once represent the matter to the District Council or to the Chairman of the Council in order that the funds required may be provided by the Council. The Ministry of Health, as previously announced, are prepared to sanction reasonable expenditure incurred by the Council for this purpose.

10. Attention may again be drawn to the importance of securing all possible expedition in the above procedure.

11. Should any Naval Rank or Rating be bitten by a dog suspected to be rabid, information should be forwarded to the Naval Health Officer if the case occurs in the Portsmouth, Devonport or Chatham Command, and to the Medical Department, Admiralty, if the case occurs elsewhere.

This is additional to and not in lieu of the preceding instructions contained in paragraphs 1-10 which are issued by the Ministry of Health.

12. It is to be noted that at present the only centre for treatment in England and Wales authorised by the Ministry of Health is—

Dr. Dudgeon,  
Department of Pathology,  
St. Thomas's Hospital,  
Westminster Bridge, London, S.E.1.

#### B.—PROCEDURE FOR SCOTLAND.

The Scottish Board of Health have made arrangements with the Laboratory Committee of the Royal College of Physicians' Laboratory, 2, Forrest Road, Edinburgh, whereby specific anti-rabic treatment can be given in Edinburgh. It will be necessary for those under treatment to obtain accommodation for themselves in Edinburgh; but arrangements have been made for exceptional cases requiring institutional treatment to be received into the wards of the Royal Infirmary.

2. The person bitten should be informed that the matter is under inquiry, and that he should be prepared, if so advised, to go to Edinburgh for anti-rabic treatment on receipt of a telegram.

3. On receipt of information from the Medical Officer of Health, the Scottish Board of Health will ascertain the opinion of the Veterinary Officers of the Board of Agriculture and Fisheries on the facts in their possession regarding the suspected dog, and the Board will inform the Medical Officer of Health if the Veterinary Officers advise that the dog is to be regarded as rabid. Should it happen, for reasons which are unavoidable, that a definite diagnosis cannot be furnished without delay, the Board of Agriculture and Fisheries have undertaken to advise the Scottish Board of Health whether the symptoms in the dog are sufficiently suspicious to justify anti-rabic treatment before the confirmatory diagnosis is available, and this information will similarly be forwarded to the Medical Officer of Health. In any case a definite decision for purposes of treatment will be available 24-48 hours after the material for diagnosis from the dog has been received by the Board of Agriculture and Fisheries. The Medical Officer of Health should await instructions from the Scottish Board of Health before sending patients away for treatment.

4. When, after communicating with the Board as above, the Medical Officer of Health is satisfied that anti-rabic treatment is essential, and has ascertained that the person bitten is prepared to begin the treatment, he should communicate with:—

The Superintendent,  
Royal College of Physicians' Laboratory,  
2, Forrest Road, Edinburgh,

stating whether the place and date of the patient's first attendance for treatment are to be telegraphed to himself or to the patient direct.

5. In any case where the Medical Officer of Health ascertains that a person who needs anti-rabic treatment cannot stay in Edinburgh at his own expense for the two or three weeks necessary for the completion of the course, he should at once represent the matter to the Local Authority or to the Chairman in order that the funds required may be provided by the Local Authority.

6. Should any Naval Rank or Rating be bitten by a dog suspected to be rabid, information should be forwarded to the Naval Health Officer if the case occurs in the Coast of Scotland Command, and to the Medical Department, Admiralty, if the case occurs elsewhere.

This is additional to and not in lieu of the preceding instructions contained in paragraphs 1-5 which are issued by the Scottish Board of Health.

## 1550.—Insulation Tests on Electric Circuits and Fittings of Vessels after Completion or Large Repairs.

*All Home Dockyards.*

(G. 1436/25.—29.5.1925.)

It has been decided that the standard of insulation required from circuits and fittings of vessels completing Large Repairs shall be not less than 75 per cent. of the standard value for new vessels completing, except that Evershed circuits are to be maintained at 100 per cent. of the standard value.

Reconstructed ships are to be considered as new ships for this purpose.

A similar procedure is to be followed when testing for non-contact.

2. A revised schedule is attached showing the standard insulation values for new construction.

3. The values of conductivity resistance required are not affected by this order.

### SCHEDULE OF STANDARD INSULATION VALUES FOR NEW CONSTRUCTION.

Fitting or Circuit.	Standards of Insulation required for New Construction (Megohms).	Remarks.
Motors, motor generators, complete with starting, regulating and control gear.	2.0	—
Switchboards, panels, etc. ...	2.0	—
Motor and searchlight circuits ...	1.0	—
Incandescent circuits and fittings	10.0	—
	No. of lamps in circuit.	
Bell, hummer and rattler circuits and fittings.	1.5	The minimum number of pushes being taken as six.
	No. of pushes.	
Telephone circuits and fittings ...	5.0	The minimum number of telephones being taken as six.
	No. of telephones.	
Warning telephones, circuits and fittings.	10.0	The minimum number of receivers being taken as ten.
	No. of receivers.	
Electric telegraphs, indicators, etc. (all in).	1.0	—
Electric clocks, sector watches, etc. (all in).	5.0	The minimum number of instruments being taken as five.
	No. of instruments in circuit.	
Director, fire and torpedo control circuits, etc. (all in).	8.0	The minimum number of motors being taken as five.
	No. of motors in circuit.	
Firing and illuminating circuits ...	1.0 per group.	—
Evershed circuits, including Evershed control in enemy bearing indicator and searchlight stabilising circuits.	3.0 per group.	—
Searchlight stabilising circuits (all in but excluding Evershed circuits).	1.0 per group.	—
Gyro compass repeater circuits, etc. (all in).	10.0 per panel.	The minimum number of repeaters being taken as ten.
	No. of repeaters.	
Turret training indicators ...	5.0	—
Turret danger signals ...	1.0	—
Indicating lamp circuits and fittings (20–25 volts).	5.0	The minimum number of lamps to be taken as ten.
	No. of lamps in circuit.	
Ring main sections ...	20 per section.	—

**1558.—Submarine Batteries—Incidence of Cost of Repair.**

(C.P. 12658/25.—29.5.1925.)

Cases have occurred where incidental expenses, e.g., contingent labour charges, cost of electric current, etc., have been incurred at a Dockyard when assistance has been given to Contractors carrying out repairs to submarine batteries of their manufacture. The liability for the cost of such expenditure should be determined with reference to the date of expiry of the guarantee period ruling in the contract under which the battery was supplied.

2. If the defects arise before the expiry of the guarantee period, the whole cost of making them good is normally the liability of the contractor and incidental expenses should be recovered in the usual way.

3. If the defects arise after the expiry of the guarantee period the manufacturers are under no contractual obligation to effect any repairs or replacements to the battery. In cases, therefore, where the manufacturers offer to carry out work of this description free of cost to the Crown, it has been approved that any contingent expenditure at the Yard shall be borne by the Crown and not recovered from the Battery makers.

4. Any case of doubt should be reported to the Admiralty for decision.

**1562.—Delahay's Patent Davit Head Pins.**

(N.S. 7264/25.—29.5.1925.)

Extended trials under service conditions have been carried out with a patent davit head pin invented by Mr. C. Delahay, c/o Messrs. The Steamship Specialities Supply Co., of 9, London Street, Fenchurch Street, London, E.C.3, and it has been decided to adopt and fit these pins where possible for new construction and for replacements, subject in both cases to Admiralty approval.

2. Yard requirements should be demanded on Admiralty, giving particulars of service and type of boat for which the pins are required.

3. A typical sketch with table of dimensions for various sizes of davit head pins was promulgated in 1923.

4. These pins are to be incorporated in the details of boats' davits for vessels now building when drawings are submitted for approval.

5. Skefko single thrust ball bearings are to be fitted in all future supplies of these head fittings unless definite instructions are given to the contrary.

**1563.—Keys of Locked Cupboards containing Valuable Naval Stores.**

(N.S./N.L. 5034/24.—29.5.1925.)

Instances having occurred of the loss of valuable articles from the locked cupboards in which they are deposited, the keys of such cupboards are not to be kept on "ready use" boards, but in the custody of an Officer or a responsible supply rating.

**1772.—Boiler Rooms—Re-wiring.***H.M. Submarines.*

(D. 9144/25.—19.6.1925.)

Paper insulated cable should be used in all cases of the re-wiring of boiler rooms of H.M. Submarines when it becomes necessary.

2. A suitable Service pattern paper insulated cable for small currents is Pattern No. 4652 which is 1/17 L.S.G. paper insulated conductor.

1840. }  
1893. } *Issued Confidentially.*

**\*1894.—Anti-Gas Instruction—Officers.**

(C.W./N. 1149/25.—3.7.1925.)

The instruction of Commissioned and Warrant Officers in the three Anti-gas Schools is now conducted separately from the instruction of men, classes for Officers being formed for one week in each month as follows:—

Week commencing the first Monday in each month at Portsmouth.

Week commencing the second Monday in each month at Devonport.

Week commencing the third Monday in each month at Chatham.

2. Officers of all branches should be given a course at an Anti-gas School when this can be arranged, i.e., Executive, Engineer, Medical, Instructor, and Accountant Officers, Chaplains and Schoolmasters.

3. Arrangements are to be made for Officers who have not taken the anti-gas course to attend the local Anti-gas School whenever the stay of their ship at a home port will permit.

4. The Admiralty will also appoint Officers to attend anti-gas courses as opportunities occur.

5. The burning of smoke floats for instruction at the anti-gas schools is to be confined in future to Officers' classes, an explanation only of the method of burning being given to mens' classes.

(*A.F.Os. 368/28 and 2769/29.*)

**1899.—Anti-Gas Schools—Courses for Instructors.**

(C.W. 2644/25.—3.7.1925.)

Commissioned Officers appointed to Anti-Gas Schools for Instructional duties will undergo a 21 days' Army Course at the Experimental Station, Porton, prior to taking up their appointments.

Warrant Officers who receive similar appointments will be appointed to the R.N. Anti-Gas Schools additional for a period of three weeks prior to the commencement of their appointments.

**1923.—Damage caused to Boats and other Fittings of H.M. Ships at Gun Trials.**

(D. 6242/25.—3.7.1925.)

A case having recently occurred in which extensive damage to boats and other fittings of a ship was caused at gun trials, attention is drawn to the necessity of taking steps to prevent this. Such boats as would appear likely to be damaged if carried during the trials should be left in harbour, Carley Floats being temporarily drawn for life-saving purposes if necessary. The decision as to what boats are to be carried during the gun trials in addition to the sea boats, is a matter for the Commanding Officer's discretion.

With reference to ships' fittings, although a certain amount of damage may be unavoidable at gun trials owing to guns being fired on extreme bearings, it is considered that by careful forethought and un-shipping fittings where necessary, the damage can in most cases be avoided.

**2003.—Issued Confidentially.**

### **2015.—Steam Cooking Appliances—Precautions against Accidents.**

(D. 11477/25.—10.7.1925.)

The fracture of a steam heated serving table in one of H.M. Shore Establishments recently was found to have been due to failure to make proper use of the drainage arrangements and to interference with the settings of the reducing and relief steam valves on the part of ratings concerned in the working of the plant, excessive steam pressure thus being allowed to act upon and through water lodged in the table.

The Commanding Officers of H.M. Ships and Establishments in which appliances of this nature are installed are to ensure that the ratings responsible for their working are properly instructed in the management of them. In all cases the reducing valves are to be locked or otherwise efficiently secured in the position that will properly control the pressure in the steam supply, and the relief valves throughout the steam supply, and where fitted on these appliances, are to be set to the specified working pressure and rendered incapable of adjustment by unauthorised persons.

### **2017.—Boot Topping Compositions.**

(D. 10707/25.—10.7.1925.)

It has been decided to adopt black boot topping compositions for use on H.M. Ships under peace conditions, except where the ships are painted white, in which latter cases the use of grey boot topping composition is to be continued.

If so decided, the colour of the compositions will revert to grey under war conditions.

The attention of the Ships' Officers concerned is drawn to the necessity for the cleaning and touching up, by the Ships' Staffs, during the period between dockings, of the water line area of H.M. Ships coated with boot topping compositions.

The touching up should only be done with the stiff boot topping compositions, suitably broken down, which is allowed to H.M. Ships for that purpose. The use of any other paint or composition is prohibited.

### **\*2041.—Labourers Employed on Writing Duties—Position.**

(C.E. 4945/25.—10.7.1925.)

Attention is called to the fact that the writing duties on which skilled labourers or storehouse assistants may be employed cannot be regarded as being clerical duties. The designation "clerical duties" is applicable only to the work of men who are borne as clerks, and service as a skilled labourer or a storehouse assistant, even when it includes service on writing duties, cannot count for increments in a subsequent appointment as a clerk.

### **2042.—Travelling Expenses and Subsistence Allowance of Officials and Workmen Proceeding on Detached Duty Direct from their Homes.**

(C. (II) 3051.—10.7.1925.)

The general rule is that only extra travelling expenses over and above the employee's ordinary liability for the journey between his home and his usual place of duty are refunded and the payment of subsistence allowance at the daily rate (rate 4) is allowable only when the period of absence from home (which is not covered by any subsistence allowance paid at the nightly rate) after deduction of the time ordinarily occupied in travelling between home and usual place of duty, is not less than 10 hours.

2. An exception to this general rule may be made when the place of detached duty is on that side of the employee's home which is remote from his usual place of duty, and the journey thither lies in the opposite direction to that performed in proceeding to his usual place of duty. In that case, the whole of the reasonable travelling expenses incurred may be refunded, and the whole time of absence from home allowed to reckon for subsistence allowance.

3. The foregoing rules, so far as they concern travelling expenses, apply only to employees who do not hold season tickets for the daily journey between home and usual place of duty. Where season tickets are held, all reasonable travelling expenses not covered by the season ticket may be refunded.

4. If doubt arises as to the application of these rules in particular cases (e.g., where there are several railway stations, as in the London area) further instructions should be obtained from the Accountant-General.

(*A.F.Os. 1103/25, 1463/26 and 2268/29.*)

### 2052.—Antifouling Composition—Application.

(D. 9367/25.—10.7.1925.)

A second coat of antifouling composition is not to be applied on the bottoms of H.M. Ships unless there are any special reasons for doing so, in which case the reasons are to be stated on the report of docking (Form D.495).

### 2105.—Capacities of Log Sawing Machines—ANNUAL REPORTS.

*H.M. Dockyards at Home and Abroad.*

(D. 11524/25.—17.7.1925.)

Reports are to be forwarded annually on 1st April, of any modifications in the log sawing plant at the respective Dockyards, such reports to include full particulars as follows:—

- (a) The type and capacity of the sawing machines.
- (b) Maximum diameter and length of timber which can be dealt with at the Yard.
- (c) Maximum size square logs which can be dealt with.
- (d) Limiting weight of log that can be handled.

2. The entries in the Machinery Books D.150 are also to be amplified so as to record the foregoing information against the machines concerned.

### 2187.—Examination in Navigation for Command of a Destroyer.

(C.W. 6070.—31.7.1925.)

The following is the revised syllabus of the examination in Navigation for the Command of a Destroyer.

#### EXAMINATION FOR COMMAND OF A DESTROYER—SYLLABUS AND EXAMINATION.

##### SECTION 1.—MAGNETIC COMPASS.

Properties of magnets. The earth as a magnet. Deviation caused by permanent, sub-permanent and induced magnetism in a ship and the function of the various correctors. Principal causes of heeling error and its practical correction at sea. Changes in deviation due to changes of latitude. Precautions necessary before swinging. Methods of swinging ship and obtaining deviations. Practical correction of semi-circular deviation. Precautions as to the proximity of electrical instruments. Construction and management of compass and binnacle (destroyer pattern).

Reference:—“Admiralty Manual of Navigation,” Vol. I.



## SECTION 2.—ASTRONOMICAL NAVIGATION.

To obtain the deviation of the compass by time azimuth of any heavenly body. To fix the ship's position by sights of all heavenly bodies, including latitude by *Polaris*. (Special methods of working "Ex mer alt.," &c., need not necessarily be employed.) To find the approximate time of the rising and setting of the sun and moon.

Use of *W/T D/F* for fixing the ship's position, including the application of convergency.

References :—"Admiralty Manual of Navigation," Vol. I.  
 "Abridged Nautical Almanac."  
 "Admiralty List of Wireless Signals."

## SECTION 3.—CHRONOMETER.

Supply, return and care of chronometers and watches. When unfit for use. Precautions as to the proximity of electrical instruments. Obtaining errors by *W/T*, time ball and depot clock. Comparison and calculations of rate. System of zone time-keeping.

Reference :—"Admiralty Manual of Navigation," Vol. I.

## SECTION 4.—METEOROLOGY.

Principle of mercurial and aneroid barometers. How to keep an aneroid in correct adjustment. Causes of wind and fog. Construction and use of a synoptic chart. Cyclonic and anti-cyclonic forms of isobars and consequent weather. Study of weather charts in daily papers. Information contained in Air Ministry *W/T* weather bulletins for shipping. Knowledge of British storm signals. Indications of approach and laws for avoiding revolving storms.

References :—"Admiralty Manual of Navigation," Vol. I.  
 "Admiralty List of Wireless Signals."

## SECTION 6.—TIDES.

Elementary theory of the cause of tides. Cause of springs and neaps. Use of the Admiralty Tide Tables to find—

- (a) Time and height of high and low water at any place.
- (b) The height of the tide at any intermediate time.
- (c) The time at which the tide has reached any required height.

Sections "D" and "E," p. 301, "Admiralty Tide Tables," Part II, should be omitted. Practical use of publications giving information on tidal streams. Tidal information on Admiralty charts.

References :—"Admiralty Manual of Navigation," Vol. I.  
 "Tide Tables," Part I and II.

## SECTION 7.—SHIP AND FLEET WORK.

Action of propellers, rudder, wind, &c., when turning ships. Weighing, anchoring and handling torpedo craft singly and in company. Station keeping by day, night, or in a fog. Use of the Battenberg course indicator for simple problems of changing station. Keeping the reckoning during exercises without allowance for turning circle or loss of speed. Elementary knowledge of the system of reporting enemy positions and the use of a reference position.

References :—"Manœuvring Manual," Vols. I and II.

## SECTION 8.—GENERAL NAVIGATION AND PILOTAGE.

(a) Supply, arrangement and correction of charts and sailing directions. Use of all hydrographical publications supplied to Destroyers.

(b) All methods of fixing by the land. Shaping a course allowing for tide.

(c) The track of the ship and avoidance of dangers in pilotage waters. Navigation in a fog. Anchoring in a pre-determined spot. Conning the ship.

(d) General knowledge of the use of all navigational instruments supplied to Destroyers.

References :—"Admiralty Manual of Navigation," Part I.

## EXAMINATION.

	<i>Marks.</i>
<i>Section 1.</i> —Compass (magnetic), <i>viva voce</i> ... ..	75
<i>Section 2.</i> — } Astronomical navigation } Paper, 2½ hours ... ..	100
<i>Section 3.</i> — } Chronometer } ... ..	50
<i>Section 4.</i> —Meteorology } Paper, 2 hours ... ..	50
<i>Section 6.</i> —Tides } ... ..	50
<i>Section 7.</i> —Ship and Fleet work, <i>viva voce</i> ... ..	75
<i>Section 8.</i> —General navigation :—	
(a) <i>Viva voce</i> ... ..	25
(b) Fixing paper ... ..	75
(c)* <i>Viva voce</i> ... ..	75
(d) <i>Viva voce</i> ... ..	25
	600

\* To include preparing a chart for approaching an anchorage.

A total of 360 marks and not less than 50 per cent. in each section is required to pass.

(*K.R. and A.I. will be amended in due course.*)

### \*2193.—R.C.N. Personnel—Passages for Dependents.

(C.W. 7042/25.—31.7.1925.)

Canadian Naval Order 59/25 is promulgated for information :—

N.O. 59.

#### TRANSPORTATION OF DEPENDENTS WHEN OFFICERS AND MEN ARE APPOINTED FOR SERVICE WITH ROYAL NAVY.

(P.C. 933 of 19th June, 1925.)

(N.S. 41-4-2.)

(1) Free ocean transport from Canada to England shall be granted for the dependents of officers and men of the Royal Canadian Navy who are sent to England for service with the Royal Navy for a period of two years, and similarly the dependents of such officers and men shall be granted free ocean transportation from England to Canada on the completion of two years' service with the Royal Navy.

(2) It is provided, further, that should the officer or man be sent to England for a period of appointment which, in normal cases, would extend over two years, and should such appointment be curtailed through the exigencies of the Service, and not on account of misconduct or at the request of the officer or man, free ocean transportation from England to Canada shall be granted to the dependents of such officer or man, although two years' service with the Royal Navy has not been completed.

(3) The class of ocean transportation granted to the dependents of officers and men on the above occasions, shall be the class of transportation to which the officer or man is entitled under the regulations of the Royal Canadian Navy.

(4) Free ocean transportation of furniture and effects shall not be granted on the above occasions.

(5) "Dependent" is to be interpreted as meaning wife, or son under 16, or daughter under 17, subject, however, to the discretion of the Minister in special cases.

The above regulations are effective from 1st April, 1925.

(*A.F.O. 2066/26.*)

### 2213.—W/T—Internal Communications.

(S.D./G.19935/24.—31.7.1925.)

The internal communications for signalling purposes have recently been under revision, and new specifications, No. 9501A for heavy ships, up to and including H.M.S. "Hood," and No. 9502B for cruisers, up to and including H.M.S. "Enterprise," have been approved.

2. The communications are shown in E.F.O. 78/25. The drawings are self-explanatory. For the remote control circuits, a line from a cabinet or central receiving room indicates reception, a line from an office indicates transmission; where an office is shown singly, e.g., Type 31, two lines indicate transmission and reception. The line from transmitting station to fore top indicates remote control of aldis lamp.

3. The alterations necessary to comply with these new specifications will only be made in ships fitted with Types 35 or 36.

4. The ship's internal communications should be carefully examined to see in what way they differ from those shown in this A.F.O. and in ships fitted with Type 35 or Type 36, such items are to be included in their Alterations and Additions List as are essential to secure efficiency and uniformity. A sketch should always be included with the list, showing the existing arrangement of internal communications and the modifications proposed.

5. Full use is to be made of existing arrangements when these will serve the required purpose though not necessarily as conveniently as the revised arrangements.

6. Estimates are to be forwarded from the dockyards concerned for vessels building or in hand for "large repair."

7. The necessary amendments to Establishment of Stores will be made in due course.

### **\*2252.—Retired Pay of Retired Officers of Royal Navy and Royal Marines serving in the Inspection, Experimental and Compass Departments.**

(C.E. 4738/25.—7.8.1925.)

The following regulations have been approved in substitution for all previous regulations on the subject dealt with therein :—

1. These regulations have effect from 1st February, 1919, and apply to all Officers of the R.N. and R.M. who were serving on that date in any of the posts (except those on the staff of the Compass Department) referred to in Rule 2 as well as to all Officers appointed to any of them thereafter. As regards Officers on the staff of the Compass Department they have effect from 1st April, 1920, and apply to all Officers then serving as well as those subsequently appointed.

2. The posts to which these regulations apply are :—

- (a) All posts on the staff of the Inspection and Experimental Departments, and all posts at the Admiralty connected with those Departments;
- (b) The posts of Superintendent and Assistant Superintendent of the R.N. Torpedo Factory at Greenock;
- (c) The posts of Superintendent of Torpedo Experiments and First Technical Assistant to the said Superintendent at Stokes Bay;
- (d) The post of Technical Assistant to the Director of Armament Supply for duty as Ordnance Inspector of Depôts and Factories; and
- (e) All posts on the staff of the Compass Department at the Admiralty.

3. Service in any of the aforesaid appointments before retirement from the R.N. or R.M. will count for increase of retired pay under the ordinary regulations from time to time in force for Officers on the active lists of the R.N. and R.M. and increased retired pay under these regulations will accrue only in respect of service rendered in any of the appointments after retirement from the R.N. and R.M.

4. The retired pay of all retired Officers of the R.N. and R.M. serving in any of these appointments will be suspended during such service, and their service will count for increase of retired pay on the scales and subject to the conditions set forth hereunder, subject, however, to the proviso that an Officer of the R.M. who at the date of his retirement from the R.M. had earned retired pay in excess of the maximum at that date permissible in the case of a Lieutenant-Commander, R.N., shall not count his further service for increase of retired pay.

5. All Officers in any of the appointments referred to in these regulations who have not previously been discharged to retired pay at their own request or for some other reason, will be liable to such discharge on attaining 60 years of age.

6. An Officer who is discharged to retired pay at his own request, or on completion of any period for which he may have been appointed or as unfit for further employment from any cause other than those specified in Rule 7, may have the retired pay earned by his service before retirement from the R.N. or R.M. increased by one-sixtieth of the pay and allowances of the appointment held on discharge for each complete year of service after retirement in any of the appointments to which these regulations relate.

7. An Officer who is discharged to retired pay on account of age, or medical unfitness, or abolition of office, or reduction or reorganisation of establishment may have the retired pay earned by his service before retirement from the R.N. or R.M. increased :—

- (a) If with 10 or more years' service after retirement in any post to which these regulations relate, by one-sixtieth of the pay and allowances of the appointment held on discharge for each complete year of service after retirement ;
- (b) If with less than 10 years' service after retirement in any post to which these regulations relate, by one-fiftieth of the pay and allowances of the appointment held on discharge for each complete year of service after retirement, provided that the total addition shall not exceed ten-sixtieths of such pay and allowances.

8. For the purposes of Rules 6 and 7, service on the retired list before 1st February, 1919, in any post to which these regulations relate may reckon for increase of retired pay in the case of any Officer who was then so serving.

9. Officers on the active list of the R.M. who are appointed to any of the posts to which these regulations relate, shall be seconded from the corps of the R.M. until they reach the rank of Lieutenant-Colonel, when they will become supernumerary. They will be subject to the same rules as regards qualifications for promotion and retirement for age in any rank as other Officers of the R.M.

10. The increases of retired pay granted under Rules 3, 4, 6 and 7 will be subject to variation with reference to the cost of living to the same extent and at the same dates as the salaries payable in respect of the posts concerned may be varied for the same reason, except in the case of Officers in receipt of salaries which are augmented by a cost of living bonus on the Civil Service scale. In these cases the supplementary retired pay based on bonus will, as in the case of civil servants in receipt of cost of living bonus on the Civil Service scale, be based on the bonus appropriate to the average cost of living figure for the three months preceding the quarter in which retirement takes place and will be subject to re-assessment quarterly according to the rise or fall in the cost of living and to an overriding maximum equivalent to the amount of supplementary retired pay calculated on the actual bonus received at the time of retirement.

### **2325.—Surveyor of Stores—Foremen Eligible for Appointment thereto.**

(C.E. 3886/25.—7.8.1925.)

The following Foremen are to be regarded as eligible for appointment to the position of Surveyor of Stores :—

Foremen of the Yard.  
 „ „ Engineer Branch.  
 „ „ Electrical Branch.  
 „ „ Ship Fitters.  
 „ „ Boilermakers.

Seniority as a Foreman carries no right to appointment as Surveyor of Stores, such appointment being made by selection, having regard to the experience, qualifications, and general suitability of the candidates.

**2370.—Issued Confidentially.****2372.—Portable A.C. Submersible Pumps—Starting.**

(G. 9513/25.—14.8.1925.)

With reference to the starting of these pumps with the auto-transformer starter cut out of circuit by means of the adapter supplied for use in such an emergency, trials have been carried out in H.M.S. "Vernon" to ascertain the effect on the D.C. starting current of starting the pump direct from the alternator (voltage of supply 220). The pump was submerged and not pumping against a head of water.

2. The results were as follows :—

<i>Trial.</i>	<i>Condition.</i>	<i>Starting Current.</i>	<i>Steady Current.</i>	<i>Time taken to operate D.C. Starter.</i>
1	A/C starter "off"...	55	25	—
	A/C starter "on" ...	80	70	—
2	Started from ...	100	70	15 secs.
	Alternator direct ...	130	67	9 "

3. These results indicate that when starting from the alternator direct a heavy D.C. starting current is taken by the motor alternator.

4. Care is therefore necessary when starting the motor alternator and pump together under emergency conditions, to ensure that the motor starter is not worked too rapidly.

**2452.—Clocks, Pattern 307—Loss of Keys.**

(N.S. 12891/25.—21.8.1925.)

Two keys are supplied with the above clocks for removing the backs. The loss of these keys causes considerable expense, as the backs have to be forced open if the clocks require repair.

2. On issue from store two keys for each clock should be shown on the supply note, and receipts should be obtained accordingly.

3. When one of these clocks is issued on permanent or temporary loan on board, one key is to be issued with it and included in the receipt signed by the officer to whom issued. The other key is to be retained by the Accountant Officer in centrally stored ships, or by the Store-keeping Officer in other ships. Both keys are to accompany the clock if returned to store.

**2455.—Jigs and Gauges and Parts of Apparatus (ex-Admiralty Property) arising at Contractors' Works—Disposal.**

(C.P. 38304/24.—21.8.1925.)

In the case of contracts which involve the return of Admiralty property to contractors' works for modification or conversion, it is necessary to ensure that any parts arising therefrom are properly dealt with unless the contract provides for such parts to remain the property of the contractors.

2. A list of any such articles, also of jigs and gauges which are Admiralty property, known to be at any firm's works in connection with any completed or current contract should be forwarded by the Overseer, Inspecting Officer, or District Electrical Engineer concerned to the appropriate Admiralty Department, the authority for its retention being stated, in order that the disposal of such articles may be considered.

3. Similar action should also be taken in regard to future contracts, and in any other cases of Admiralty property lying at contractors' works, which has become redundant from any other cause.

**2494.—Colours to be used for Piping Systems in H.M. Ships.**

(S. 01859/25.—28.8.1925.)

The colours shown on the diagram E.F.O. 79/25 are to be used for painting pipes on board H.M. Ships and in representing these pipes on the drawings supplied to the ships.

2. This diagram is to be substituted for that previously issued.

3. The new diagram is only to apply to new ships and to ships taken in hand for a large refit, when care is to be taken by Dockyards that a copy of the order is placed in the ship's book.

4. In submarines, the several pipes detailed below should be painted in the appropriate colours on the flanges so that they be readily traced in any compartment. In the event of there being no flanges suitably placed a band of colour 3 in. broad should be painted round the pipe:—

High pressure air service	...	...	...	Queen's green.
Low pressure air service	...	...	...	Vermillion.
Telemotor system...	...	...	...	Egyptian blue.
Oil fuel filling and suction	...	...	...	Burnt sienna.
Main line system and suction therefrom	...	...	...	Black.

5. The diagram E.F.O. 79/25 is not applicable to submarines.

**2512.—Superannuation Forms—Service in the Royal Irish Constabulary—REPORT.**

(C. (III) 718/25.—28.8.1925.)

Where a civil employee, in respect of whom a superannuation form (D.73 or D.73A) is rendered, has had service in the Royal Irish Constabulary, it will be necessary in future for a notation to be inserted on the form as to the period of such service.

**2516.—Buoyancy Tests of Boats—REPORTS.***H.M. Dockyards.*

(D. 13541/25.—28.8.1925.)

All reports of successful buoyancy tests of boats (i.e., entailing no fitting of tanks) are to be forwarded together at the following specified intervals, instead of being rendered independently as at present:—

End of October, 1925.  
 „ January, 1926.  
 „ April, 1926.  
 „ July, 1926.

Subsequent reports are to be forwarded half-yearly.

**2528.—Air Force Personnel Serving on Board H.M. Ships—Allowances.**

(N.P. (II) 2200.—4.9.1925.)

Airmen on leave from H.M. Ships or when otherwise required to victual themselves from other than Service sources are not to be paid Naval Leave Allowance or Provision Allowance but are to receive Ration Allowance at Royal Air Force rates.

**2559.—Plate Glass Windows in Control Positions, etc.**

(N.S. 10886/25.—4.9.1925.)

Where plate glass has been fitted in place of triplex glass, there may be a risk of fragments falling and causing injury to personnel in positions below.

2. In such cases the windows are always to be open during gunfire, and steps should be taken to ensure that the housing for the window will retain the fragments should the glass become broken. In cases where windows hinge upwards to open they should be unshipped during gunfire.

**2637.—Issued Confidentially.****2638.—CO<sub>2</sub> and NH<sub>3</sub> Plant—Additional Spare Pinions.***Vessels proceeding on Foreign Service or Recommissioning Abroad.*

(D. 11476/25.—11.9.1925.)

Commanding Officers of all vessels detailed for service in foreign waters or about to recommission abroad for foreign service, are informed that they should demand additional spare raw hide pinions for CO<sub>2</sub> and NH<sub>3</sub> plant. The additional number of spare pinions to be demanded are to be sufficient to double the number ordinarily allowed, so that they will raise the number of spares on board from two to four for each raw hide pinion fitted. When these additional spare pinions are appropriated they are not to be replaced except in the circumstances already stated, viz., in the case of the vessel being about to leave England for foreign service or on being about to recommission abroad. In the former case, demands should be forwarded through the usual channels in time for purchase to be made before the vessel leaves England.

2. The Superintendents of all Foreign Dockyards are informed that, when forwarding demands for these pinions, it is desired that one comprehensive demand to cover all ships based on that particular Dockyard should be forwarded in preference to separate demands for individual ships.

3. All demands are to be accompanied by a tracing or six prints showing full details of the pinions with the following data thereon, viz. :—

- (a) Pitch circle diameter or diametral pitch.
- (b) Number of teeth.
- (c) Overall width of pinion.
- (d) Thickness of shroud (if any) and whether teeth cut.
- (e) Material of pinion.
- (f) Diameter of shaft.
- (g) Particulars of keyway.

4. It should also be stated for each machine whether the pinions demanded are to replace those defective or as additional spares. This information is required for guidance as regards "Head of Charge."

**\*2702.—Fire Precautions in Motor Launches, Motor Drifters, Motor Boats, etc.**

(N.L. 2670/25.—18.9.1925.)

*Hoses from Shore.*—Fires have occurred in vessels in which no steam was available for dealing with the outbreak and where no steps appear to have been taken to provide the necessary appliances. The attention of all Senior Naval Officers is called to the necessity for providing suitable arrangements (hoses from shore, etc.), to deal with such outbreaks. Proper disciplinary measures should also be taken to ensure that the matter is promptly dealt with.

2. *Motor Drifters*.—Wherever possible, means should be provided on the upper deck for shutting off the fuel supply to engine in case of emergency.

3. Commanding Officers of Motor Drifters or similarly fitted vessels should take all necessary steps to minimise the risk of fire, and for dealing with same should an outbreak occur. Fire extinguishers and buckets of sand should be kept in readiness. Ratings in charge of the engines should be instructed and exercised in the steps to be taken should a fire occur. The necessity for shutting off the fuel supply to engines immediately a fire occurs should be impressed upon all concerned.

4. The instructions contained in paragraphs 5 to 9 below should be carried out in so far as they apply to Motor Drifters.

5. *Motor Launches and Motor Boats*.—Investigations into the circumstances attending the unduly large number of fires which from time to time have occurred in Motor Boats, indicate that, in the majority of cases, the immediate cause of the fire may be attributed to back firing, i.e., the sudden emission of flame from the carburettor intake or from the extra air valve. It is considered that this circumstance alone would not lead to serious consequences, but might do so if fuel is allowed to accumulate in the bilge, and about the engine and its casings. That fires so frequently assume serious dimensions can only be attributed to the leakage of fuel and to neglect in regularly attending to the cleanliness of the boat and engine in this respect.

6. *Smoking*.—Smoking is only permitted on certain parts of the upper deck at the discretion of the Commanding Officer during non-working hours. In Motor Launches men are not to smoke abaft the after end of wheel shelter nor forward of gun screen. In Motor Boats the part of the upper deck that may be used for smoking is to be clearly defined by the Commanding Officer, and the Officers and men so informed.

Smoking is prohibited below the upper deck.

In the event of bad weather the Commanding Officer may grant permission to smoke in certain parts of the ship between certain hours, but in no circumstances is permission to smoke in the engine room or galley (where fitted with petrol or paraffin stoves) to be granted.

7. *General*.—(a) Petrol, or water drawn from the carburettor when draining same, should be emptied into a can or tin with a screwed stopper, and, at intervals, the contents strained through double gauze—(on the upper deck)—the petrol being returned to the main tanks, and the residue, water, etc., being thrown overboard when the boat is in open water.

(b) When any motor craft is laid up for refit, the fuel tanks and pipes are to be pumped out, and drained of all petrol, paraffin, etc.

The tanks should then be filled with water and again pumped out, and the process repeated until all signs of fuel or vapour has disappeared.

(c) After taking in fuel the Commanding Officers and Chief Motor Mechanics of Motor Launches should in all cases personally inspect the bilges throughout the vessel and satisfy themselves that no leakage of petrol or other fuel, however small, is taking place.

(d) On no account are the galley stove, any warming stoves or naked lights to be lighted or used for at least one hour after the completion of fuelling, and only then with the permission of the Commanding Officer of the vessel, after the instructions in (c) have been carried out.

8. *Cooking and Heating Stoves*.—Stoves are not to be fitted in the same compartment as internal combustion engines, and if already so fitted they are to be moved to another suitable part of the vessel.



9. (a) Care is always to be taken to see that the fuel supply valve is properly closed to prevent any leakage when the galley or stove is not in use.

(b) In petrol stoves (as fitted in Motor Launches) the plates under the three kettle boiling burners and under the No. 1 Oven heating burners are to be carefully wiped over with waste in case of any leakage from burners, and the waste thrown overboard. This should be done before any of the burners are lighted.

(c) Stoves are not to be left alight unattended.

(d) A box of sand is always to be kept in the galley.

(e) Petrol savealls where fitted are always to contain sand.

(f) In the event of any leakage from the galley stove, fittings, or connections being discovered, the fact is to be immediately reported. All burners are to be at once extinguished, and the stove is not to be again used until the defects have been made good.

### 2730.—Mitre Wheels—Demands.

(N.S./C.P. 21774/25.—18.9.1925.)

In all future demands forwarded for Mitre Wheels for the gearing of valves for pumping, flooding, draining and ventilation purposes, the specification on the prints forwarded for tender purposes should contain the following clause :—

#### *Machining of Teeth.*

The clearance on pitch circles at every point along every pair of teeth shall not exceed five thousandths of an inch per linear inch. For instance, in the case of bevel wheels with teeth of  $\frac{1}{2}$  in. circumferential pitch, the clearance between the back of any driving tooth and the face of the following tooth shall not exceed  $2\frac{1}{2}$  thousandths of an inch at any point along the teeth measured on the pitch circles.

### 2753.—Branch Breaker Switchboard Control Units.

#### *Ships concerned.*

(G. 13346/25.—25.9.1925.)

A report has been received from one of H.M. Ships stating that if the fuze in the positive supply to a ring main section of branch breaker switchboard control unit is blown, the closing of the "on" switch attached to a branch breaker unit controlling a motor on that section, subjects the whole of the 20-volt indicating lamps for the control units on the same section to an excessive pressure, with consequent fuzing of the lamps.

2. To minimise the risk of such occurrences, switchboard attendants should be instructed that, if the positive supply to a section of branch breaker switchboard control units is interrupted (indication of which would be given by the control unit indicating lamps on that section ceasing to glow), the switchboard control switches of all breakers controlling motors on that section should immediately be opened and kept open until the fault has been rectified.

2758.—*Issued Confidentially.*

## 2796.—Director Firing Installation—Spare Parts.

*H.M.S. "Bluebell," "Foxglove," "Hollyhock," "Laburnum," "Magnolia,"  
"Veronica," "Crocus," "Cyclamen," "Valerian," "Verbena," "Wallflower,"  
"Wistaria," "Delphinium" and "Daffodil."*

(G. 10319/25.—2.10.1925.)

Arrangements have been made for the supply of the following spares for the Director Firing Installation of the Sloops shown above:—

Motors, "detachable" type ... ..	2 per sloop.*
Contact plates for motors ... ..	1 per 2 sloops.† ‡
Transmitter switches, slow break, new type ...	1 per 2 sloops.† ‡
Transmitter switch brush springs (for old type slow break transmitter switches).	12 per sloop, if fitted with old pattern switches.
Glasses for training receivers ... ..	2 sets per sloop.
Screws for training receivers ... ..	1 set per sloop.
Rubber rings for training receivers ... ..	1 " "
Glasses for training repeats ... ..	1 " "
Screws for training repeats ... ..	1 " "
Rubber rings for training repeats ... ..	1 " "
Screws for motor casings ... ..	1 " "
Lubricating oil (as supplied for fire control instruments).	2 bottles per quarter per sloop.
Training receivers ... ..	1 per 2 sloops.† ‡
Training repeat receivers ... ..	1 per 4 sloops.† §
Sliding plungers, bracket, complete (strengthened type).	1 per 4 sloops.† §
Sliding plungers, bracket, complete (weak type) ...	1 per 4 sloops.† §

\* One motor to be carried on board and the second motor to be stored at base.

† These items to be stored at base.

‡ One per sloop if only one sloop on station.

§ If less than 4 sloops on station, the allowance to be as shown for 4 sloops.

2. The distribution of these spares will be arranged by Portsmouth Yard.

3. The new type of slow break transmitter switch is supplied as spare, both for ships with the old and ships with the new type of transmitter switch. The new type of transmitter switch will replace, therefore, a defective switch of the old type.

4. Spare motor alternators and control panels, together with spare switches of the patterns used in the director installation systems, and secondary cells, are kept at all dockyards to which the sloops are attached.

## 2809.—Emergency Electrical Supply Arrangements.

*Battleships, Battle Cruisers, Cruisers and Aircraft Carriers in full Commission.*

(G. 917/25.—2.10.1925.)

The question of extending the emergency electrical supply arrangements, and completing the same in certain vessels of the "Royal Sovereign," "Queen Elizabeth" and "Renown" Classes has been under review, and it has been decided that no addition to the scheme approved is to be made.

2. In considering the emergency supply arrangements which are likely to be required it is impossible to allow for every conceivable breakdown, or combination of breakdowns, it is therefore necessary to compromise between estimated reliability, weight and expense.

3. It must be realised that there will not be much opportunity of carrying out actual repairs in action, also that much of the electrical machinery is non-essential in action and that emergency arrangements are only required for the most essential services.

4. The ring main system in which most important electrical appliances are fed from both sides of the ring, is considered, if properly used, to be as reliable as can reasonably be expected, and it is not desired to fit anything in the nature of a permanent auxiliary ring main or section of ring main, but to provide means by which the output of a dynamo can be diverted, in the event of damage to the section of ring main to which it is connected, so that it can supply a proportion of the total load, and not remain idle pending repair of the damaged portion of the ring main.

5. Alternative wiring is just as liable to damage as primary wiring, also large quantities of flexible cable distributed about the ship and connected up for emergency purposes are a source of considerable weight and expense and deteriorate rapidly, particularly in hot climates, and so may fail at the critical moment.

6. *Battleships, Battle Cruisers and Aircraft Carriers.*—The following are the approved arrangements in regard to the alternative means for supplying power to the essential electrical circuits in Battleships and Battle Cruisers and Aircraft Carriers:—

(A).—In each dynamo room a pair of omnibus bars is to be provided and fitted with two double-pole switches and double-pole fuzes; one switch and fuze to be rated at 750 amperes and the other at 500 amperes. Each dynamo is to be directly connected to its own pair of omnibus bars without the intervention of fuzes. The outgoing cables from the 750 amperes switch are to be led into "B" and "X" spaces (or those two spaces in which are situated the most important branch breakers forward and aft) the leads from the two forward dynamos going into the forward space, and those from the after dynamos into the after space. In these spaces each pair of cables is to connect to a further pair of omnibus bars through a double-pole switch supplying other double-pole switches and/or fuzes suitable for carrying flexible cables for alternative feed to the more important breakers, etc., situated in that space; a double-pole switch is to be fitted between the two pairs of omnibus bars in each space. Linking cables for connecting the boards in "A" or "B" space to those in "X" or "Y" space are not to be provided.

Where turret spaces are adjacent to one another, as in the case of superimposed turrets, a pair of permanent 100 ampere leads is to be run from each switchboard in "B" or "X" space to a pair of emergency terminals in the adjacent space, for alternative feed of branch breakers, etc., in that space.

In Aircraft Carriers the compartments forward and aft in which is situated the bulk of the important electrical machinery and fittings are to be considered the turret spaces referred to above.

*Note 1.*—Four dynamos only are to be connected to the turret spaces. In ships having more than four dynamos, no extension is to be taken into the turret spaces from the additional machines and one switch and fuze only will be required in these dynamo rooms for supply to the portable fuze board.

*Note 2.*—In future purchases of turret space switchboards and dynamo switch and fuze boards the 750 ampere and 500 ampere switches will be 500 and 300 ampere switches respectively.

(B).—One portable double-pole fuze board for each dynamo is to be provided with six circuits fused for 60 amperes each. A pair of flexible cables to carry 300 amperes is to be provided for a run of 100 ft. to be used in connecting the fuze board to the corresponding dynamo.

(C).—One pair of emergency terminals is to be arranged for in each compartment through which the ring main passes and connected to the ring main. If both port and starboard sides of the ring main pass through a compartment one pair is to be arranged for on each side.

*Note.*—In some ships spare ways of link boxes or ways for unimportant services will be available for this purpose.

(D).—A pair of terminals is to be provided on all control gear of essential services, to which a pair of emergency cables can be readily connected.

(E).—Through-bulkhead terminals are to be fitted in the bulkheads of those compartments through which the ring main passes and also the compartment beyond the forward and after end of the ring main. The underlying idea being to provide supply connections from an auxiliary source for joining up to the important boxes or machines, should their usual supply fail and also to obviate the necessity for keeping open W.T. hatches and doors in order to pass flexible cables into a compartment.

(F).—A pair of flexible cables is to be stowed in each compartment fitted with bulkhead terminals; and the cables are to be of sufficient length to connect the bulkhead terminals or ring main terminals to each other or to a portable fuze board or direct to any important electrical apparatus in that compartment.

*Note.*—Cable Patterns 20 and 1296 are allowed as sea stores for this service.

(G).—All ring main disconnecting switches are to be geared where necessary to enable them to be worked from easily accessible positions.

7. *Cruisers.*—The foregoing decisions apply also to Cruisers having ring main installation with the following exceptions as regards Clauses (A) and (B), viz. :—

*Clause (A).*—No extension is to be taken into the spaces, and the one switch and fuze in each dynamo room should be of a smaller rating to suit local conditions.

*Clause (B).*—The fuzes are to be of smaller rating to suit local conditions.

8. No increase of duplication of electrical circuits is to exceed the limits laid down above without prior Admiralty sanction. This is not intended to order the removal of more elaborate systems already existing in certain ships, or to cancel previous decisions not to fit or complete the emergency electrical supply arrangements in regard to certain older vessels.

9. Only such work is to be carried out as can be done by Ships' Staffs, with materials supplied on demand, and provided such items as bulkhead terminals, single link boxes, fused links, and emergency ring main terminals are available at the Dockyards.

10. The principle of the requirements as laid down in the foregoing clauses is shown diagrammatically on drawings E.F.O. 100/25 (1), (2) and (3).

(A.F.O. 1010/28.)

## 2816.—Paint Mixing—Re-introduction of Turpentine Spirit.

(N.S. 6452/25.—2.10.1925.)

It has been decided to revert to the use of turpentine spirit for mixing paint for *weather work and boats* in H.M. Ships generally and also for *mixing flatting* for enamel for both inside and outside surfaces. Mineral vaporising oil should continue to be used for the present for mixing paint for surfaces other than those mentioned and for all paint mixing until supplies of turpentine become available.

2. In regard to the supply of ready-mixed paints to certain services, such as Destroyers, turpentine should be used as the vehicle in grey paints, Patterns 507B and 507C, although the former pattern is used for inside work as well as outside, and mineral vaporising oil should be used for other colours of paints supplied ready mixed.

3. This decision to revert to the partial use of turpentine spirit in spite of its high price has been reached as the result of representations from the Fleet that the much higher expenditure involved in the purchase of turpentine will be more than covered by a decrease in the quantities used (not only of turpentine as compared with its substitute, but of the other ingredients)

due to the greater durability and covering capacity of paint mixed with turpentine. After a suitable period an examination of the expenditure of all paint ingredients in ships will be made with a view to seeing to what extent the use of turpentine spirit has proved a real economy, and whether its continued use can be justified.

4. In preparing future demands for turpentine spirit care should be exercised to ensure that provision is only made to meet expenditure for the purposes for which the use of the spirit has been approved.

(A.F.O. 3012/29.)

### 2838.—Insulating Materials.

(G. 12390/25.—9.10.1925.)

The following particulars relating to materials which have been tested and found most satisfactory, as an alternative to micanite, are promulgated for general information :—

Designation of Material.	Makers' Name and Address.	Service for which Material is most suitable.
	<b>MOULDED MATERIAL.</b>	
"Miocarta" ... ..	Messrs. The Ioca Rubber Co., Head Office and Works, Annies- land, Glasgow.	May be accepted for small moulded parts.
Elo ... ..	Messrs. Berkby's, Liversedge, Yorks.	Do. do.
	<b>SHEET AND ROD MATERIAL.</b>	
Paxolin, "P" and "Q" grades.	Messrs. Micanite Insulators, Empire Works, Blackhorse Lane, Walthamstow, London, E.	May be accepted where external screwing is not required.
Super quality bake- laque.	Messrs. Attwater & Son, Hop- wood Street Mills, Preston.	May be accepted for general use.
Bakelite Dilecto (American Product).	Messrs. R. Blackwell, 36, Em- peror's Gate, South Kensington, London.	May be accepted for general use, but pre- ference should be given to British products.
Bakelised cambric ...	Messrs. British Thomson- Houston Co., Rugby.	May be accepted for certain services, such as switch bases, where parts are clamped to it and the material is well supported.
Dellite (Grade A) (Swiss product).	Messrs. A. V. Willmott & Phillips (agents), 124-127, Minories, London, E.1.	May be accepted for certain services, such as switch bases, where parts are clamped to it and the material is well supported. But pre- ference should be given to British products.
	<b>TUBULAR MATERIAL.</b>	
Natural super quality bakelaque tube.	Messrs. Attwater & Son, Hop- wood Street Mills, Preston.	May be accepted for tubular insulators.
Bakelite Dilecto (American product).	Messrs. R. Blackwell, 36, Em- peror's Gate, South Kensington.	May be accepted for tubular insulators, but preference should be given to British products.

Designation of Material.	Makers' Name and Address.	Service for which Material is most suitable.
Natural Sindanyo ...	ARC SHIELD MATERIAL. Messrs. Turner Bros., Asbestos Co., Ltd., 120, Fenchurch St., E.C.3.	May be accepted for arc shields.
"Siluminite" ...	Messrs. The Siluminite & Insulators Co., Ltd., The Green, Southall, Middlesex.	May be accepted for arc shields.
"Paxolin" covered steel bar (Q Grade).	INSULATED STEEL BARS. Messrs. Micanite Insulators, Empire Works, Blackhorse Lane, Walthamstow, London, E.	May be accepted as an alternative to micanite covered bars.
Bakelised paper covered steel bar (B.M. material).	Messrs. The General Electric Co., Head Office, Magnet House, Kingsway.	Do. do.
"Formaceine" covered steel bar.	Messrs. Allen, West & Co., Ltd., Lewes Road, Brighton.	Do. do.

### 2890.—Alterations and Additions—Ventilation Items.

*H.M. Ships.*

(D. 13540/25.—9.10.1925.)

When including ventilation items in the lists of alterations and additions, the Ships' Officers should include a diagrammatic sketch of the existing arrangements or a statement to the effect that they are as originally fitted.

### 2948.—"Magnolia"—Survey.

(D. 16864/25.—16.10.1925.)

In view of the general condition of the structure of H.M.S. "Magnolia," this vessel is to be surveyed annually in future, instead of biennially as at present.

### 2959.—Sale of Naval Vessels—Notification to Board of Trade.

(C.P. 17118/25.—16.10.1925.)

Arrangements have been made for an immediate notification to be sent by the Admiralty to the Board of Trade, in future, on all occasions of sale of vessels out of H.M. Naval Service, stating date of sale, name and address of purchaser, and destination of vessel, as well as the time allowed to the purchaser within which the vessel has to be removed from the Naval Establishment concerned.

2. The necessary facilities are to be afforded for inspection of any such vessel by a duly accredited Board of Trade representative on request.

3. The Board of Trade state that it will not be necessary for the Admiralty to insist on a Board of Trade certificate of seaworthiness before giving delivery of any vessel to the purchaser as, on receipt of Admiralty notification, they will take the necessary steps to ensure that appropriate action is taken in all cases.

4. This procedure is to apply to sale of all Admiralty surplus ships and vessels, except Trawlers and Drifters, to which the procedure will not apply.

### 3014.—Aviation Spirit—Supply in Bulk to Aircraft Carriers.

*Aircraft Carriers, H.M.S. "Vindictive," and all Yards.*

(N.S. Fuel 4650/25.—23.10.1925.)

The Air Ministry are arranging a contract for the supply of Aviation Spirit in bulk in contractors' tank vessels to Aircraft Carriers lying at the

Dockyard ports of Portsmouth and Devonport, and they have been requested to embody the following regulations, for the guidance of contractors, in the new contract:—

- (a) During the whole of the time occupied in transference, no smoking, or naked light of any description whatever, is to be permitted on board the supplying vessel anywhere in the vicinity of the operations, and every other possible precaution is to be taken to eliminate, as far as possible, any cause of ignition.
- (b) All pipes, valves, hoses, and other appurtenances used in connection with the transference, are to be suitable for the purpose, guaranteed free from leakages, and otherwise in good, serviceable condition.
- (c) Before any aviation spirit is delivered to an Aircraft Carrier, the permission of the Commanding Officer of the Carrier is to be obtained, thus confirming that all necessary precautions have been taken to ensure safe transference.
- (d) Transference is to take place in daylight as a rule, but in exceptional circumstances, requiring this rule to be suspended, the time for the operation shall be left to the discretion of the Commanding Officer of the Carrier.
- (e) No transference is to be undertaken during periods of atmospheric electrical disturbance.
- (f) When transference is begun, the contractors' pump discharge valve is to be opened gradually to ensure the spirit being delivered in a regular and constant flow.
- (g) A representative of the Engineer Officer of the Carrier is to be present in the pump room of the contractors' vessel during transfer operations. He will be in direct communication with the Officers of the Carrier during this period, and will superintend the working of the pump discharge and relief valves. He will see that the delivery pressure is maintained at the required amount, and that a pressure of 60 lb. per square inch is not exceeded.
- (h) The rate at which transference is to be conducted shall be controlled entirely by the Officers of the Aircraft Carrier.
- (i) Where possible, the Aircraft Carrier's own hoses are to be employed for transfer purposes.
- (j) Fire extinguishers and supplies of dry sand are to be immediately available for use in the event of fire.

2. The above regulations should be observed whenever aviation spirit is transferred in bulk from contractors' craft to Aircraft Carriers at any Dockyard port.

3. These regulations should also be observed, as far as applicable, by R.F.A. spirit carriers ("Hickorol," "Petrella," "Petrobus," etc.), and the new petrol lighters, which are being provided at certain yards, whenever bulk supplies of petrol are being transferred to or from Aircraft Carriers, except that paragraph (i) above, in regard to the use of the Aircraft Carrier's own hoses, need not be insisted upon.

### 3137.—"Daffodil" and "Delphinium"—Stores for.

(N.S. 17228/25.—6.11.1925.)

Demands for any Naval Stores required to be sent from England by H.M. Ships "Daffodil" and "Delphinium," while employed on the West Coast of Africa, are to be forwarded by these ships to the Admiralty (Naval Store Department). Supply will, in ordinary circumstances, be met from H.M. Dockyard, Chatham.

### 3214.—Destoring Trawlers and Drifters paid off for Disposal.

(N.S. 17886/25.—13.11.1925.)

The following procedure is to be observed in destoring all trawlers and drifters paid off for disposal.

## GUNS AND GUN MOUNTINGS, ETC.

All guns, gun mountings, gun mounting gear, ammunition and other Naval armament and torpedo stores, including any depth charge items are to be removed before the vessels are sold.

## TRAWLERS.

*Stores, Special and Miscellaneous.*

Steps are to be taken by the Dockyard at which the ship is paying off to remove any special Naval stores and equipment of a confidential nature, and any stores required for stock, provided such items are not included in those to be retained on board to fulfil the conditions laid down, and are not required for the safe navigation of the vessels. Any stores which are not required for stock owing to surpluses should be left on board for sale with the vessel, together with any gear special for the ship, e.g., spare gear.

## DRIFTERS.

A similar procedure should be followed as laid down for trawlers, due regard being paid to differences in equipment.

(A.F.O. 553/26.)

### 3227.—Civilian Salaried Staffs at the Outports—Class of Railway Accommodation.

(C. (II) 4374.—13.11.1925.)

It has been decided to revise the Regulations as to class of railway accommodation to be allowed to civil Salaried Officers at the Outports at Home to bring them into line with the corresponding Regulations for Headquarters staffs. The following revised Regulations are accordingly to come into force forthwith.

2. The class of railway accommodation allowable is governed by the rate of salary, exclusive of bonus, viz. :—

- |  |        |  |
|--|--------|--|
| (a) £350 a year and above                  | ... .. | First class.   |
| (b) £200 a year and above, but under £350. |        | Normally second class, or third class in the absence of second. In exceptional cases first class is allowable for Officers of Administrative rank subject to special approval. |
| (c) Below £200 a year                      | ... .. | Normally third class, but in exceptional cases second class can be allowed subject to special approval.  |

3. In the case of Temporary Officials first class railway accommodation is to be allowed only to those with salaries exceeding £450 (inclusive), and second class or, in the absence of second class, third class to other Temporary Officials.

4. When an Officer (e.g., a private secretary) ordinarily entitled to second class railway fares is required for service reasons to travel in the same carriage with a Superior Officer entitled to first class fares he will be allowed the higher class. In such a case prior approval of the Head of the Establishment should be obtained. A like concession may be made to members of the overseeing staff on occasions when it may be necessary for them to travel with representatives of manufacturing firms with whom they are associated. Both cases are to be regarded as special; on each occasion the circumstances are to be explained on the travelling expense claim, and the name of the Officer, or the name of the firm, and name and rank of the representative, with whom the journey was made, should also be stated.

5. The following grades are allowed first class rail accommodation exceptionally, irrespective of rate of salary:—

- Assistant Constructors, First Class.
- Assistant Constructors, Second Class.
- Assistant Electrical Engineers.
- Assistant Civil Engineers.
- Assistant Surveyors.
- Assistant Surveyors of Lands.



- District Surveyors of Works.  
 Assistant Officers in the Supply and Accounting Departments.  
 Senior Assistant Masters, Dockyard Schools.  
 Junior Assistant Masters, Dockyard Schools.  
 Assistant Technical Examining Officer.  
 Assistant Chemists.  
 Chemists II.  
 Junior Assistant Chemists.  
 Senior Analysts.  
 Assistant Analysts.  
 Demonstrators, R.N. Colleges, Greenwich and Keyham.  
 Assistant Masters, R.N. College, Dartmouth.  
 Assistants, Greenwich and Cape Observatories.  
 Assistants, Second Class, Compass Observatory.
- S. R. E. Department—  
 Scientific Assistants.  
 Junior Scientific Assistants.  
 Chemists.  
 Assistant Analysts, First Class.
- Mining and Signal Schools—  
 Technical Officers.  
 Junior Technical Officers.  
 Engineers, Grade I.  
 Engineers, Grade II.
- Admiralty Engineering Laboratory, West Drayton—  
 Assistant Chief Designer.  
 Designers.  
 Assistant Designers.  
 Assistant Testing Engineer.  
 Technical Secretary.
- Designers—R.N. Torpedo Factory, Greenock.  
 (*Home Dockyard Regulations, Art. 1142 (5).*)

### 3270.—Vote 8, Section III, Subhead L—Appropriations-in-Aid REPORT.

*Dockyards and Fleet Establishments.*

(S. 6438/25.—20.11.1925.)

It has been decided that estimates and records of receipts under Vote 8, Section III, Subhead L—Appropriations-in-Aid—shall distinguish between the following classes of receipts in future:—

- (a) Proportion of contribution from the Government of India.
- (b) Estimated amount of repayment by other Departments of State, Governments, etc., for supplies of machinery, gun mountings, etc.
- (c) Proceeds of sale of old steamboats, machinery, gun mountings, etc., on the sale list.
- (d) Miscellaneous receipts.

*Head (b) relates to receipts for issues of gun mountings, or machinery from stock, or from plant surplus to Admiralty requirements, or following special purchase.*

*Head (c) relates to receipts for sale of old machinery, gun mountings and steamboats, etc., on the sale list, and in respect of issues to other Votes of such machinery, etc.*

2. A statement is to be forwarded forthwith, and at the end of each subsequent quarter, to the Secretary of the Admiralty (Ship Branch), giving under the several heads the amounts realised to date, and the further amounts it is anticipated will be realised during the remainder of each financial year. Details of the items to which the amounts relate are to be shown.

**3296.—Gunmetal and Copper Articles—Sale.**

*Home and Foreign Yards.*  
(N.S. 16898/25.—20.11.1925.)

As arisings of copper, old exclusive, and gunmetal are insufficient to meet requirements, articles made of gunmetal (1st or 2nd quality) and/or copper, when condemned, should be brought to arisings instead of being sold as complete articles, if their estimated sale value as complete articles is the same as, or only slightly in excess of, the arisings value.

2. Full advantage should be taken of the appliances at the "breaking up" pounds for reducing the complete articles to arisings where the cost is not prohibitive.

**\*3315.—Remittances—Payment to Persons in Australia.**

(C. (III) 10176.—27.11.1925.)

It is notified that the Naval Board of the Commonwealth of Australia is prepared to make payment of sums which officers and men of H.M. Ships may desire to remit to persons resident in Australia.

2. All Remittance Lists for payments anywhere in Australia are to be forwarded to the Director of Navy Accounts, Navy Office, Melbourne.

(*K.R. and A.I., Art. 1787.*)

**3332.—Motor-Alternators used in Types 35 and 36 W/T Transmitting Sets.**

(N.S. 15352/25.—27.11.1925.)

It is considered desirable to detail the various types of main motor-alternators (and the motor and alternator field-regulators which are used with them) in Types 35 and 36 W/T transmitting sets. The following details are to be noted and arrangements for supply and fitting made accordingly.

2. Types of main motor-alternators which have been, or will be fitted :—

Type of W/T Set.	Supply Volts.	Patt. No. of Mot. Alt.	Normal A.C. Output.			Remarks.	Maker.
			Kw.	Volts.	Cycles.		
35 & 36	100	427	14	350	350	Not to be fitted in future for Type 35. Not to be fitted in Type 36 if Patt. 7104 available.	Crompton & Co.
35	100	{ 7214 7214M	8	350	500		
35 & 36	220	431	14	350	350	Three bearing set ; not to be fitted in future. Four bearing set ; not to be fitted in future for Type 35.	Crompton.
-	-	431A	14	350	350		
35	220	{ 7212 7212M	8	350	500	See paras. 5 and 6 below.	{ Newton. Mackie.
			8	350	500		
36	100	7104	20	300	500	See para. 4 below.	{ Crompton. Crompton.
36	220	7100	20	300	500		

3. *To Naval Store Officers.*—Endeavour is to be made, wherever possible, to issue pairs of the same pattern of main and filament lighting motor-alternators respectively, to any one vessel fitting with, or requiring replacements in, Types 35 and 36. The main alternators are listed in the preceding paragraph; the filament alternators are, for Type 35, Patterns 3171/A and 3177/A/B; and, for Type 36, 6597/A, 6854/A, 4102 and 4151.

4. In all existing Type 36 power boards, and in the Type 35 power boards allowed when Patterns 427 or 431/A motor-alternators are installed, Patterns 429 or 433 motor-field regulators are components of the boards. In Type 36, when Patterns 7100 or 7104 "Motor-alternators, 500 cycles" are fitted, these regulators are to be short-circuited at the motor-field regulator terminals (below the magnetic keys). In the later deliveries of power boards, manufactured by Messrs. Whipp & Bourne, Limited, a label is attached to the boards to this effect and for C.P. orders placed after this date, no motor-field regulators of these patterns will be provided. For Type 36 sets the alternator-field regulators remain as at present fitted, viz., Patterns 430 (100 volts supply) and 434 (220 volts supply), irrespective of whether the old or new motor-alternators are fitted.

5. In Type 35, 100 or 220 volts, where Patterns 7214/M or 7212/M, 8 kw., 500 cycles "Motor-alternators," respectively, are installed, no motor-field regulators are necessary, and they are therefore not fitted in the power boards. The alternator field-regulators to be used with these alternators are as follows:—

- (a) For the 100 volt sets:—Pattern 434 "Regulator field, for alternator, 220 volts supply.

In future supplies of Pattern 434 regulators, the nameplate will indicate that they are suitable for Patterns 431/A or 7100 "Motor-alternators, 220 volts." or for Pattern 7214/M, "Motor-alternators, 100 volts."

- (b) For the 220 volt sets:—It has been necessary to introduce a new alternator field-regulator, and this article will be known as—  
"Admiralty, Pattern 7390, Field Regulator (Alternator)  
for Pattern 7212/M Motor-alternator, 220 volts."

The present Establishment allowance of Pattern 430 and 434 regulators to Type 35 sets, 100 and 220 volts, respectively, is to be considered amended accordingly.

6. In order to cover possible existing requirements of alternator field-regulators for use with Pattern 7212/M motor-alternator until supplies of the new pattern are available, it may be necessary to issue and to modify slightly the Pattern 434 regulators connecting them as potentiometers in lieu of the present plain series arrangement. Instructions regarding the modifications will be issued as necessary to the Officers in charge of fitting-out.

7. *Filament Motor-alternators, Type 36.*—Patterns 4102 and 4151 motor-alternators, 5 kw. were originally fitted in Type 36 for filament lighting, and the alternator-field regulators for them are components of the power boards. Patterns 6597 and 6854 motor-alternators, 3 kw., were introduced at a later date. It was, still later, desired to use these 3 kw. sets in Types 37 and 38 also, and the design was slightly modified so that the output voltage range could be adapted for Types 36, 37 and 38 whilst still using the original alternator-field regulators fitted in Type 36 power boards. The modified type of 3 kw. motor-alternators were therefore called

Patterns 6597A and 6854A. When these patterns are issued, the following instructions will be found upon them:—

“ When used with Types 37 and 38 transmitting sets the machine should be used as delivered by the contractors. When used for filament lighting with Type 36 transmitting set, the alternator voltage should be reduced by short-circuiting the compound coils on the alternator field system. This will enable the required voltage to be obtained with the field regulators already in use in Type 36 power boards.

“ To short-circuit the compound coils, remove the bush of insulation from the cable-eye, coloured red, which is connected to “ Com-” in the motor terminal box.”

Care is to be taken that these instructions, which apply to Patterns 6597A and 6854A only, are carried out.

### 3345.—Tools and Other Articles in Loan Tool Store—Policy as to Description to be kept.

(N.S. 10313/25.—27.11.1925.)

The question as to the descriptions of Tools and other articles which should be stocked in the Loan Tool Stores at H.M. Dockyards has been under consideration with the twofold object of (a) standardising the various descriptions kept for loan to workpeople, and (b) reducing, so far as possible, the accumulation of articles not required. In consequence of the conditions of working varying at different dockyards, complete agreement as regards the types, etc., of articles required from the Loan Tool Store cannot be attained, yet some improvement in this direction can be effected.

The following remarks are therefore promulgated for general information and for guidance.

A standard list of tools and other articles in common use for certain specified trades has been prepared by the Yard Officers at Portsmouth, after consultation with the Yard Officers at Chatham and Devonport. This list which is shown hereunder indicates the descriptions of articles under two categories, viz. :—

- (a) Articles for use in trades of which the workpeople are not attached to workshops keeping “ conversion ” accounts.
- (b) Articles for use by workpeople who are attached to workshops having “ conversion ” accounts.

The descriptions of articles kept at the Loan Tool Store are to be based on those shown under category (a).

Tools, etc., for use of workpeople coming under category (b) will, under ordinary circumstances, not be obtained from the Loan Tool Store, but occasions may arise when such personnel will be required to draw upon the Loan Tool stocks for temporary services as laid down in Admiralty letter D.A. 3268/22, dated 29th November, 1922. The Yard Officers are to exercise their discretion, based upon actual experience, as to the extent to which articles should be held at the Loan Tool Store for occasional use of workpeople attached to workshops having “ conversion ” accounts.

- (a) Tools, etc., for workpeople not attached to workshops keeping “ conversion ” accounts :—

<i>Dockyard Department.</i>	<i>Trade.</i>	<i>General Description of Articles.</i>
Constructive	Shipwrights ...	... Hammers, hand. Hammers, flogging. Hammers, coppering. Mauls, double-headed. Spanners. Punches, coppering.

<i>Dockyard Department.</i>	<i>Trade.</i>	<i>General Description of Articles.</i>
Constructive ( <i>contd.</i> )	Shipwrights ... ( <i>contd.</i> )	... Punches, rubber. Punches, rivet. Taps and wrenches. Drills. Rimers. Saws, iron-cutting. Saws, hack. Arm for cutters. Cutters, Snowden. Countersinks. Bits, dowelling. Augers. Shears, hand. Pliers. Die-nuts. Cramps. Clamps. Scrapers, deck. Braces, ratchet. Drifts. Rivet snaps. Dolleys. Bolt drawing machines. Crows, link. Knives, corticine. Stamps. Measuring tape. Caulking tools. Goggles. Bars, chisel. Wedges, steel. Hack saw frames. Knives, shoemakers'. Saws, cross-cut. Screws, collapsing. Bits, deck. Bits, auger bolt. Crows, claw. Armour-plate gear— Plugs, bolts, centres, spanners, sockets ratchets for. Engines, ring. Monkeys for launch. Auger, bolt. Spanners, stud. Knives, rasing. Punches, parallel. Engines, coak. Punches, hose. Screw, clamps. Beetles, reaming. Screws, butt. Shears, bench. Keys for launching. Shanks. Jacks, hydraulic— 4 tons. 5    " 10   " 20   " 25   " 30   " 40   "

<i>Dockyard Department.</i>	<i>Trade.</i>	<i>General Description of Articles.</i>
Constructive ( <i>contd.</i> )	Shipwrights ... ( <i>contd.</i> )	... Adzes for old work. Vices, bench and hand. Bears, small. A crow similar to that used for bending railway bars. A similar pattern with about 2 in. screw. Expanding bits to replace old pattern dowelling or deck bit spanners to be supplied, made of steel tubing to fit nuts from $\frac{3}{8}$ in. up to $1\frac{1}{4}$ in. diameter, about 20 of each size. Collapsing screws, similar to couplings on railway trucks, with right and left handed screws to be supplied—length of each screw about 15 in., diameter $1\frac{1}{8}$ in., square thread. 6 in No. each store.
	Rivettors ...	... Forge. Tongs. Snaps. Hammers, rivetting. Spanners, closing. Oil can. Dolleys, various. Drifts. Sets, various. Pneumatic rivetting hammers. Pneumatic holders on.
	Drillers ...	... Post and arm cramps. Reamers. Oil can. Brace ratchet. Taps. Syringe. Spanners, various. Brace, wimble. Drills, hand and twist. Sockets, morse taper. Screws, clamps. An adaptor to fit into pneumatic tools. Pneumatic drills, various. Pneumatic grinders.
	Welders and burners	Goggles. Spanners, McMahon. Brushes, steel wire.
	Caulkers ...	... Irons, caulking, various. Beetles, reaming. Hand hammers. Mallets. Buckets, pitch. Caulking tools, hand and pneumatic. Beetles and ladles. Irons, grease. Goggles. Oil feeders. Pneumatic chipping and caulking hammers.
	Labourers ...	... Handles, broom. Nippers, wire. Brushes, scrubbing. Marline spikes.
Engineering (C18807)	... ..	... Pneumatic hammers and drills.

<i>Dockyard Department.</i>	<i>Trade.</i>	<i>General Description of Articles.</i>
Electrical Engineering.	Fitters, Wiremen and Fitter apprentices.	Hammer, helved, engineer's. Pliers, side cutting, electrician's. Pliers, round nose. Screwdriver, large. Screwdriver, small. Hacksaw frame. Spanners, all sizes. Footprint wrenches. Taps and wrenches. Punches, large.

*For General Use.*

Helves for hammers.	Eye protectors.
Machine balance.	Thermometers.
Bosses and bars.	Stocks, taps and dies.
Stop watches.	Screw cut.
Lanterns, hand.	Screw die plates.
Brooms, bass.	Wells' lights.
Oilskins—	Diving gear.
Trousers.	Flatteners.
Jackets.	Whistle, mouth.
Sou'westers.	Caps, with white covers.
Combinations.	Torches, electric.
Scoops, beech.	Torches, batteries for.
Ground cloths.	Torches, bulbs for.
Buckets, wood.	Hoses of sorts.
Shovels.	Hydrometers.
Spudgel bars.	Lamps, safety.
Adaptors and connections for hoses.	Machines, ventilating.
Blocks, various.	Pots, pitch.
Branch pipes.	Respirators.
Boxes, tool.	Indicators, speed and gear.
Ballast, inclining.	Hatchets.
Brushes, paint and tar.	Hammocks.
Candlesticks.	Kettles, paint.
	Locks, various.

(b) Tools, etc., for workpeople attached to workshops having "conversion" accounts.

<i>Dockyard Department.</i>	<i>Trade.</i>	<i>General Description of Articles.</i>
Captain of Dockyard.	Riggers ...	... Hammers, splicing. Marline spikes. Nippers, wire.
Constructive	Joiners ...	... Spanners. Knives, corticine. Stamps, letter and figures. Brushes, scrubbing. Augers. Knives, shoemaker's. Shears. Knives, rasing. Punches, parallel. Bits, auger bolt. Augers, bolt. Taps and wrenches. Trowels. Punches, dies and cutters for gromets. Screws, butt. Shears, bench.
	Plumbers ...	... Punches, hollow. Ratchet braces. Wrenches. Anvil, tinman's.

<i>Dockyard Department.</i>	<i>Trade.</i>	<i>General Description of Articles.</i>
Constructive ( <i>contd.</i> )	Plumbers ...	Spanners, various.
		Letters and figures.
	Painters ...	Iron cutting saws.
		Drills.
		Vices as demanded by inspectors.
		Transferred to "B" List.
		Scrapers.
		Brushes, steel wire.
	Smiths ...	Clogs, various sizes.
		Hammers, chipping.
Fitters ...	Brushes, scrubbing.	
	Anvil, smiths.	
	Jacks, hydraulic—	
	5 tons.	
	10 "	
	25 "	
	40 "	
	Gauges, tube.	
	Jacks, hydraulic—	
	4 tons.	
20 "		
30 "		
Naval Store	Skilled labourers ...	Spanners, stud.
		Vices as demanded by inspectors.
		Awls, brad.
		Bits, brace.
		Chisels.
		Coopers, drivers.
		Hammers, hand.
		Hammers, claw.
		Knife, drawing.
		Plane, jack.
		Plane, smoothing.
		Spirit levels.
		Hatchets.
		Gimlets.
		Rule, 2 ft.
		Spokeshaves.
		Saw, hand.
		Saw, tenon.
		Saw, compass.
		Squares.
Turnscrews.		
Oil stones.		
Augers, screw.		
Pincers.		
Diamond, glazier's.		
Brace, carpenter's.		

### 3386.—Ventilator Gratings.

*H.M. Ships.*

(D. 16262/25.—4.12.1925.)

A series of ventilation trials has recently been carried out in one of H.M. Ships with the object of measuring the air supplied to the various compartments, and it was found that the passage of the air was greatly impeded when the gratings at the ventilator inlets and outlets were dirty and heavily painted.

2. The attention of all Commanding Officers is therefore drawn to the serious effects of painting these gratings or letting them become clogged, and they should arrange for all gratings to be examined and kept clear.



### 3483.—Form D.284 and D.211 for Destroyers and Leaders— Preparation.

(D. 20242/25.—11.12.1925.)

Several cases have arisen of late where the displacements of destroyers and leaders deduced from the particulars of weights, etc., inserted in D.284 and D.211 Forms have shown unaccountably large increases since the completion dates of the vessels. Increases of 80 to 120 tons are involved if the particulars inserted are correct, whereas the total weight of authorised additions is estimated at less than 30 tons. Some doubt, therefore, arises as to the accuracy of the information rendered on the forms.

2. The attention of the Dockyard and Ships' Officers is drawn to the above, and it is desired that special care should be exercised in the preparation of these forms.

Among the principal points to be observed are:—

- (i) The following records should be taken *concurrently* with the drafts of water the vessel is floating at and as recorded on forms, in order that weights may be estimated as accurately as possible:—
  - (a) Density of water in which vessel is floating.
  - (b) Density of oil fuel.
  - (c) Soundings of oil fuel, reserve feed, main feed, and fresh water tanks.
  - (d) Weight of water in boilers.
  - (e) Particulars of stores on board.
- (ii) Drafts should be taken on both sides of vessel and the mean taken. As far as is practicable vessel should not be restrained in any way when these drafts are being recorded.

### \*3488.—Examination for Locally Entered Writers—Fees Payable to Examiners.

(C.E. 7037/25.—11.12.1925.)

Dockyard Officers conducting examinations for the entry of local writers at Foreign Yards are to be remunerated on the following basis:—

	£	s.	d.	
For preparing questions, tables of results, etc. ... ..	1	0	0	}
For correcting worked papers of any number of candidates up to 25 ...	0	10	0	
Do. from 26 up to 50 ... ..	1	0	0	
Do. from 51 up to 75 ... ..	1	10	0	
Do. from 76 up to 100 ... ..	2	0	0	
Proceeding by similar increments for every 25 candidates.				Plus a temporary percentage increase equivalent to that authorised in the case of allowances to part-time employees.

For conducting oral tests examiners are to be paid at the rate of 3d. per candidate.

### 3518.—Fleet Air Arm Aircraft—Tracing of Defective Parts.

(M. 4415/25.—18.12.1925.)

In order to facilitate the tracing of defective parts which may be found in under-carriages or other aircraft components, the inspection number should always be quoted. This is stamped on every part, and is either an "A.I.D." number or, where the parts are inspected at the maker's works, a maker's number, such as "F.A.1927," which stands for "Fairey Aircraft 1927." The number of the aircraft itself should be stated at the same time.

### 3519.—Circulating Water Inlet Pipes, etc., in H.M. Submarines —Examination.

(D. 13378/25.—18.12.1925.)

All Submarines are to carry out an examination in order to ascertain the necessity for supporting the circulating water, or other pipes connected with the sea, whose fracture would endanger the safety of the Submarine, and where found necessary supports are to be fitted by the Ship's Staff.

2. Particular care should be taken, especially when Submarines are refitting, to ensure that pipes connected to openings in the hull are not disconnected in such a manner as to leave the remaining sections unsupported. A case of this nature has occurred, which, if it had not been discovered, might have had serious consequences.

3. In all Submarines where steel pipes, open to the sea, pass through tanks external to the pressure hull, these pipes are to be examined during refits of the vessels.

### 3523.—W/T—Insulator, Deck, Group N—Introduction.

(N.S. 17802/25.—18.12.1925.)

Owing to the fact that in many cases D/F offices are now being placed at a distance from the base of the D/F aerials, it is necessary to connect the aerials to the D/F receiving apparatus by means of special lead-cased cable.

2. In order to provide a suitable method of connecting the base of the D/F aerials to the lead-cased cable, a special deck insulator group consisting of a connecting box fitted with insulators and glands, has been introduced. This group, described as "Insulator, Deck Group N," is illustrated in E.F.O. 138/25, and the following stores are required for fitting:—

		<i>No.</i>
Pattern	7457. Box for four insulators for D/F aerials ...	1
„	7458. Conductor, central 11 in., $\frac{3}{8}$ in. diameter ...	4
„	7459. Shield for Pattern 7458 conductor, central ...	4
„	7600. Insulator, porcelain, terminal, $\frac{3}{8}$ in. bore, 4 $\frac{1}{2}$ in. high ... .. . . .	4

3. With the introduction of the new box with insulators, the present system of four Group G deck insulators and connections to the receiving apparatus becomes obsolescent, and will not be fitted in future. Where fitted, however, the present system is to be retained until extensive alterations, necessitating a change in the position of either the D/F aerials and/or office, are carried out, when the new group will be fitted. One insulator, deck, Group N, will entirely replace the present system of four separate insulators, Group G, in the new specification for Model Outfit SD, now in course of preparation.

4. The method of mounting Group N insulator is shown in E.F.O. 138/25. The height of the stand depends on the position in which the box is mounted and on the arrangements of the D/F aerials, and this height will therefore have to be decided at the ship when fitting, and the nature of the supporting framework will have to be modified to suit ship's structure. The new specification for Model Outfit SD will show various arrangements for the different types and classes of ships, and will serve as a guide.

5. When fitted and when all connections are made, the box is to be filled with Pattern 7002 box filling compound, grade A.

6. The actual position in which the deck insulator is to be fitted will depend on the type and class of ship, but it will always be at the point of intersection of the bases of the fore-and-aft and beam loops.

7. In connecting up the cables, it is necessary that the two cores of each twin should be connected to opposite and not to adjacent insulators, so that the fore-and-aft loop may use one twin cable and the athwartship loop the other.

8. Yards, except Portsmouth, are to forward demands for stores required in connection with this order to Admiralty, stating names of vessels for which provision has been made and quoting this order as authority.

9. The necessary alterations to establishment will be promulgated in due course.

### 3526.—Storing Arrangements—H.M.A. Ships Attached to H.M. Squadrons.

(N.S. 19302/25.—18.12.1925.)

The following arrangements have been made and are to be complied with in connection with the supply, etc., of naval stores from H.M. Dockyards and Naval Depôts to H.M. Australian Ships whilst attached to H.M. Squadrons, etc. :—

(i) *Demands for Naval Stores.*—Five copies of the demands will be supplied to the Naval Store Officer by the ship, which should be disposed of as follows:—

One copy ... ..	For daily bundle.	
One copy ... ..	Supply note to ship.	
One copy ... ..	To be forwarded direct by the Naval Store Officer to the Director of Naval Stores, Navy Office, Melbourne.	
One copy ... ..	For Return D.72	} For claim purposes.
One copy ... ..	For Duplicate Return D.72A	

Care should be taken to secure in every case the signature of the responsible Officer of the ship on supporting vouchers for supplies made.

(ii) *Return of Naval Stores.*—Five copies of Reports of Survey will be provided, one to be forwarded to the Navy Office and two for Return D.72 accompanied by the respective transcripts.

(iii) The copies of the issue and return notes for the Navy Office should be forwarded direct as enclosures to Forms D.74 and D.74A respectively.

(iv) *Naval Stores issued in excess of Establishment.*—One copy of Form D.64 to be forwarded to the Director of Naval Stores, Navy Office, Melbourne.

(v) *Alterations to Fixture List.*—Two copies of Form D.526 to be forwarded to Director of Naval Stores, Navy Office, Melbourne.

### 3536.—Port, Dock and Harbour Dues on Ships, Goods and Stores.

(C.P. 18541/25.—18.12.1925.)

The arrangements for the payment of Port, Dock and Harbour Dues in the United Kingdom to all authorities, including the Railway Companies who own docks and harbours, are as follow:—

I.—On ships belonging to or fully chartered by the Crown (i.e., entirely engaged in the Service of the Crown) and on goods or stores imported or exported by or on behalf of the Crown, where the Ship is employed or the goods or stores are imported or exported (as the case may be) for purposes other than (a) those of the Naval, Military or Air Force Services of the Crown, or (b) the direct use of a Government Department and not for sale or re-sale, or for any trading purpose, full dues will be paid.

II.—On ships, goods or stores, exempted from para. I by (a) and (b) hereof, the dues payable will be as follows:—

## (a) IN RESPECT OF SHIPS belonging to or fully chartered by the Crown—

*Percentage of Ordinary Tariff.*

- (i) Port, Dock and Harbour Dues, where vessels have the use of berths in open or closed docks, or at other quays or jetties in the Port—
- |                     |        |               |
|---------------------|--------|---------------|
| Colliers and Oilers | ... .. | 100 per cent. |
| All other ships     | ... .. | 75 „          |
- (ii) Port and Harbour Dues in open harbours where use is not made of the facilities specified under (i) above—
- |                     |        |               |
|---------------------|--------|---------------|
| Colliers and Oilers | ... .. | 100 per cent. |
| All other ships     | ... .. | 75 „          |

Provided that no dues shall be paid in respect of ships, to which this Clause applies, passing to or from a Naval or Military Establishment within the limits of the Port, which Establishment is not situated on land forming part of the undertaking of a Dock or Harbour Authority.

## (b) IN RESPECT OF GOODS AND STORES—

*Percentage of Ordinary Tariff.*

- (i) Coal, coke, oil, to be used to generate heat and produce power, and railway materials ... 100 per cent.
- Other oils, such as lubricating, edible and medicinal, and all other goods and stores ... 75 „

Provided that no dues shall be paid in respect of goods and stores transhipped to or from one of H.M. commissioned ships of war without the use of quay or jetty, or in respect of goods and stores proceeding to or from a Naval or Military Establishment within the limits of the Port, which establishment is not situated on land forming part of the undertaking of a Dock or Harbour Authority.

- (ii) Where a consolidated rate is charged inclusive of dues and other charges the rebate of one-fourth or total exemption as the case may be applies only to that portion of the consolidated rate which represents *dues*, the remainder of the consolidated rate being payable in full.
- (iii) The Government accordingly pays:—
- The full consolidated *wharfage and portorage* rate on coal, coke, oil, to be used to generate heat and produce power, and railway materials.
  - On other oils, such as lubricating, edible and medicinal and all other goods and stores, the *portorage charge* in full, plus 75 per cent. of the *wharfage charge*, i.e., 100 per cent. of two-thirds plus 75 per cent. of one-third equals eleven-twelfths of the consolidated rate.
  - The full appropriate *port rate* on coal, coke, oil to be used to generate heat and produce power, and railway materials, and three-quarters of the rate on other oils, such as lubricating, edible and medicinal and all other goods and stores, except as provided below.
- (iv) No port rates are payable in respect of stores sent by water to or from the London Docks, and the Admiralty Establishments within the Port of London, i.e., Deptford, West India Docks, Woolwich and Sheerness.
- (v) No port rates are payable in respect of stores coming from another port and transhipping in the London Docks direct to another vessel, without passing over the Dock Company's premises. For example, no port rates are payable in respect of stores sent by store carrier from Portsmouth direct to a freightship in the Thames nor in respect of stores lightered from Chatham and discharged direct to a freightship.

III.—*Payment for Services.*—Graving Dock rates and payments for towage, cramage, water, light, power, labour, and all other specific services to be in accordance with the ordinary tariff applicable to such services, the Crown having the benefit of any reduced charges allowed to other large customers.

2. Claims for dues on commissioned ships or other Admiralty-owned ships arising from these arrangements should be duly certified correct or otherwise and forwarded to the Accountant-General of the Navy for payment. Claims for dues on non-commissioned requisitioned ships, etc., should continue to be dealt with under existing instructions from the late Ministry of Shipping (now Shipping Liquidation, Mercantile Marine Department, Board of Trade) until further notice.

3. Claims for port rates and dock dues on Naval Stores *at all ports in the United Kingdom* are to be dealt with by the Superintendent, West India Docks, and Yards concerned should forward any claims received to West India Docks for settlement.

4. Claims for payments for services should continue to be dealt with as at present.

5. It has been decided that the Superintendent, West India Docks, is to be responsible for furnishing the Port of London Authority with the necessary exemption certificates as regards Naval Stores in cases where port rates are not payable. He will also supply the Port of London Authority with the necessary information on the forms prescribed for commercial undertakings.

6. Similar arrangements as regards Victualling Stores will be made by the Superintendent, Royal Victoria Yard, and the Naval Armament Supply Officer, Woolwich, will act similarly in regard to Naval Armament Stores in the Thames.

7. The Civil Engineer-in-Chief will deal with claims and furnish Port Authorities with necessary certificates and forms in respect of Works Stores shipped to Naval Establishments abroad. Similar arrangements as regards Hydrographic Stores will be made by the Hydrographer of the Navy.

8. Owing to the fact that H.M. Ships are not subject to the provisions of the Merchant Shipping Acts, it has been necessary to revise the net tonnage by British Rule on which dues are usually payable. Particulars of the revised tonnages have been issued or are available at the Admiralty in most cases, but adjustments of claims as regards tonnage will be made after receipt at the Admiralty if necessary.

#### PORT DUES ON GOODS DELIVERED UNDER CONTRACT.

9. The Director of Navy Contracts advises contractors that they can obtain rebates (and in certain circumstances exemption) of Port Dues in respect of goods entering or leaving ports in Great Britain in the course of delivery under Admiralty Contracts.

10. Certificates may, therefore, be given authorising rebates or exemption as the case may be, if applied for by contractors, and if no objection is apparent, by the Officer to whom the goods are consigned.

11. Contractors applying for certificates should be requested to forward in duplicate the form of certificate required by the Dock or Harbour Authority with all necessary particulars filled in. After signature, one copy should be returned to the contractors and the other retained by the signing Officer. Certificates should generally be to the effect that the goods mentioned "are intended for the service of H.M. Government."

12. If any considerable portion of the goods referred to on the certificate, should be rejected, lost before delivery, or from any other cause should not become Admiralty property, an endorsement to that effect should be made on the duplicate certificate, which should then be sent to the Dock or Harbour Authority concerned.

13. In the case of goods delivered f.o.b. freightship for shipment abroad, or brought into the Port of London for transshipment, the certificates required should be given by the Superintendent, West India Docks, for "Naval" Stores; by the Civil Engineer-in-Chief, for "Works" Stores; by the Superintendent, Royal Victoria Yard, for "Victualling" Stores; and by the Naval Armament Supply Officer, Woolwich Arsenal, for Naval Armament Stores.

**3555.—R.F.A. Oilers—Duration of Refits.***H.M. Dockyards at Home and Abroad.*

(N.S. Fuel 7007/25.—18.12.1925.)

Owing to the number of Fleet Attendance Oilers that have been withdrawn from active service, and to the extensive programme of Overseas Freighters, it has been decided that the periodical docking, refit and any necessary Lloyd's surveys of these vessels should be carried out with all possible expedition, and in no case should a period of four weeks be exceeded without special Admiralty sanction.

**3574. Issued Confidentially.****3593.—Store Rooms of New Construction—Ventilation.**

(S. 7101/25.—24.12.1925.)

Consideration has recently been given to the ventilation of certain Store Rooms in H.M. Ships. It has hitherto been the usual practice to ventilate Store Rooms by artificial supply, either fixed pipe or hose, and by natural exhaust through hatches or doorways.

2. It is not proposed to alter this system for Store Rooms in general, but in Store Rooms where food is kept, e.g., Canteen Store, Wardroom, Gunroom, and Warrant Officers' Stores, the system is to be reversed in new construction, viz.: a natural supply is to be fitted direct from the open air, exhaust being provided by fan in order to obviate odours being forced into living spaces, passages, etc.

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**1926.****28.—Fuzes, Time, and Time and Percussion—Supply of Rubber Covers, No. 3, Mark I.**

(G. 18289/24.—1.1.1926.)

Pettman cement will be gradually replaced by R.D. cement, No. 1, for fixing the above covers.

When using R.D. cement, No. 1, for this purpose, the following instructions should be followed:—

- (i) Remove any grease from the nose of the shell where it will come into contact with the cover.
- (ii) Paint a ring of R.D. cement about  $\frac{1}{2}$  in. wide round the head of shell so as to coincide with the mouth of the cover when in position, care being taken that the cement does not come in contact with the fuze itself.
- (iii) Turn back about 1 in. of the mouth of the cover and paint with R.D. cement the extreme  $\frac{1}{2}$  in. of the mouth of the cover, allowing this to dry for about five minutes.
- (iv) Place the cover over the fuze and when the nose of the cover is in contact with the nose of the fuze, turn back the cover into position on the shell so that the studs on the time ring and body are under the thickened band.
- (v) Paint round the joint between the cover and shell. When dry, remove surplus cement, care being taken not to touch the joint between the cover and shell.
- (vi) The operation of fitting the covers should be carried out under dry conditions.

**39.—C.E.11 Periscopes for Rangefinder Mountings—REPORTS.**

(N.S. 11335/25.—1.1.1926.)

C.E.11 periscopes are for use with rangefinder mountings, types M.Q.12 and M.Q.13, patterns 5773 and 5774 respectively.

2. Whenever C.E.11 periscopes are returned to store with rangefinder mountings to which they do not properly belong, they should be allocated to M.Q.12 and M.Q.13 mountings.

3. Reports should be forwarded to the Admiralty when mountings M.Q.12 and M.Q.13 are not available, or when C.E.11 periscopes are no longer available for issue with the mountings.

**43.—Ready-Use Store Rooms in Centrally Stored Ships.**

(N.S./S. 2340/25.—1.1.1926.)

The following ready-use store rooms will be provided in new construction and in ships being converted to central storekeeping, but no alterations to ships already fitted for central storekeeping will be considered unless the present arrangements are reported to be unsatisfactory:—

- Two Gunner's armament stores (one forward and one aft).
- Gunner's ready-use store.
- Gunner T.'s torpedo store.
- Gunner T.'s electrical ready-use store.
- Boatswain's ready-use store.
- Boatswain's canvas room.
- Warrant Shipwright's ready-use store.
- Engineer's ready-use store.

2. The use of these departmental store rooms is to be strictly limited to stowage of articles which are in constant use by the departments, and the sizes of the compartments will be restricted accordingly. They are not to be used to stow stores obtained in bulk from the central store, which could equally well be drawn direct by the users from the central store as required.

3. The Gunner's armament stores and Gunner T.'s torpedo store are to contain such armament and ordnance stores and fixtures and spare gear as may require lock up stowage.

4. The Gunner T.'s electrical ready-use store is to contain the fitted circuits for navigational lights and for use at fire and collision quarters, and stowage for ullages of "consumable" stores issued by central stores in tins, etc. A space with bench for torpedo ratings to work at will be included.

5. The Engineer's ready-use store will be in as close proximity as possible to the Engineer's workshop, for care and maintenance of tools used in connection with machines in the workshop, and will be in addition to such other store rooms as may be necessary for the stowage of gear supplied under the Machinery Specification and shown in the Engineer's Spare Gear and Fixture List.

6. The Accountant Officer in charge of central stores is to receive on deposit for stowage in his store rooms, such fixtures and small spares as are not required for frequent use.

7. In order to assist the system of central storekeeping being worked to its fullest extent and to prevent the departmental ready-use stores being regarded as places in which to work up stocks of "consumable" stores other than those authorised to be issued in bulk, the system of issuing stores should be kept as simple as possible. The central storekeeping staff should issue, where feasible, all stores in the smallest quantities that may be required. There is no objection to duly authorised ratings being supplied with small quantities of stores without the presentation of formal demands. A receipt for the stores should be obtained at the time of issue by the central storekeeping staff and arrangements made that, at the end of each day, a demand covering the total quantities supplied is presented to the head of the department concerned for signature.

**47.—“ Shaydolite.”**

(N.S./C.P. 4363/25.—1.1.1926.)

In view of it having been reported that “ Shaydolite ” of the quality hitherto supplied for the purpose of colouring incandescent electric lamps does not darken the lamps sufficiently, or uniformly, even after dipping several times, and wears off quickly under the influence of the heat generated in the lamp; the matter has been investigated, and greatly improved results have been obtained with Messrs. Griffiths Brothers and Company’s No. 230B, “ Shaydolite.” This quality will be purchased in future.

2. When dipping the lamps, the following instructions should be carefully observed.

- (a) The operation should be carried out in a warm room, free from draughts.
- (b) The lamps must be carefully cleaned and polished before dipping, and the fingers should not touch the glass after cleaning.
- (c) The lamps should be on circuit when dipped. With lamps taking 60 watts or above, a reduced voltage is desirable, as the heat generated at full voltage causes the “ Shaydolite ” to crack before it has time to dry.
- (d) There should be enough “ Shaydolite ” in the container to cover the lamp without twirling it, as this gives a streaky effect.

3. It should be noted that:—

- (i) The lower wattage lamps give better results than those of higher wattage, both in the increased life of the “ Shaydolite ” and in illuminating effect.
- (ii) Lamps with spiral and helical filaments tend to wear away the Shaydolite in the vicinity of the filament; lamps with squirrel cage filaments should, therefore, be used if possible.

**48.—Stop Watches—Numbers carried in Ships not in Full Commission.**

(N.S. 8742/25.—1.1.1926.)

In view of difficulties experienced in the safe custody, etc., of stop watches in ships in reserve, or in commission with reduced complements, it is desired that the number of these watches retained on board such ships should be reduced to the minimum number necessary to meet requirements in each ship.

2. With this in view any stop watches at present on board in excess of requirements should be returned to store. At the same time dormant demands (which should also show the quantities allowed by establishment and those retained on board) are to be lodged with the Naval Store Officer by all ships affected, for the stop watches necessary to complete to full established allowances.

3. Special reserves are to be maintained at the Yards concerned and shown in annual and review demands to meet the dormant demands lodged in accordance with the above, this order being quoted in the demands as authority.

**51.—Metallic Packing—Local Purchases.**

(C.P. 12276/25.—1.1.1926.)

In all cases when local purchases of metallic packing are being made, the actual makers of the packing are, if known, to be invited in competition with the makers of the machinery for which the packing is required.

2. When reporting future purchases of metallic packing, certificates are to be added stating whether or not competition has been obtained, and if not, the reason.



### 103.—Breech Mechanisms—Boxes, Slide K—Modification— REPORT.

(G. 16917/25.—8.1.1926.)

Boxes, slide K, should be modified by fitting new pattern V.S. tube retaining catches and extractor levers, modified in accordance with Instructional Print N.O.D. 2119/6.

2. The work should be carried out by Naval Armament Depot Staff at the first opportunity.

3. The stores required to carry out the alteration are on order, and will be distributed when available.

4. A report should be forwarded to the Admiralty (C.S.A.S.) by the Officer carrying out the work when it has been completed.

(*A.F.Os. 2620/27, 2170/28 and 1264/29.*)

### 118.—Fire Control Instruments—Supply of Stores for Vickers .303 in. Guns.

(N.S./G. 19026/25.—8.1.1926.)

With reference to the stores to be supplied for the equipment of Vickers machine guns for use of Royal Marines, arrangements should be made for the total quantities required for Malta, Hong Kong, Trincomali, Cape and Bermuda to be despatched to those Yards in the order quoted for distribution to the ships on the stations.

### 173.—Guns, 6 in.—Ejector.

(G. 0127/24.—15.1.1926.)

Trials have been carried out to evolve the best form of ejector for 6 in. guns for use where the muzzles are not easily accessible. The fitting, as shown in the photograph (E.F.O. 3/26) has been found satisfactory, and should be made on board by Ship's Artificers where considered necessary.

2. The flexible stave is of 3½ in. flexible steel wire 16 ft. long, one end fitted with a male connection, the other being fitted with a metal cap to prevent unlaying.

3. A central disc is fitted to the joint connection between the flexible and fixed stave.

4. The wire should be served with spun yarn to prevent chafing the bottom of the bore of the muzzle; to give a better grip, and to prevent broken wire causing injury to the hands.

5. With a flexible stave a travel of from 10 in. to 12 in. is required to unseat the projectile without forcing it against the mushroom head.

6. The wire for this purpose should be demanded, as necessary, and should be issued from stocks of old wires returned to store.

178.—*Issued Confidentially.*

## 209.—Torpedo Tubes—Classification of Expenditure.

(D.A. 1201/25.—15.1.1926.)

Expenditure on Torpedo Tubes should be accounted for as follows :—

- |   |                                 |
|---|---------------------------------|
| 1. Cost of manufacture by a Dockyard of Torpedo Tubes and purchase of unfinished articles, or of articles appearing in the Rate Book for Naval Stores, required for the manufacture of the tubes.               | } Vote 8,<br>Sections I and II. |
| 2. Purchase of articles in a finished state (other than articles appearing in the Rate Book for Naval Stores as normally chargeable to Vote 8, Section II) required for the manufacture of tubes by a Dockyard. |                                 |
| 3. All completed Torpedo Tubes and their spare parts (whether manufactured by a Dockyard or by Contract) when on store charge.  | } Vote 8,<br>Section III G.     |
| 4. Purchase of replace finished parts for completed tubes.  | } Vote 8,<br>Section III G.     |

## 244.—Swivel Blocks—Lubrication.

(D. 22453/25.—22.1.1926.)

A fatal accident recently occurred on one of H.M. ships owing to the gin block, Patt. 35A, of the topping lift being carried away from the stump mast head, causing the derrick to fall on to the deck.

2. It is highly important that frequent attention should be given to the efficient lubrication of the moving parts of all swivel blocks, and particularly blocks, Patt. 35A, both during service on H.M. ships and also during the overhaul of the blocks at the dockyards.

3. Unless this is carefully attended to there is the risk of the nut seizing up due to corrosion and to the set screw shearing, thus allowing the nut to work off the binding.

4. In blocks, Patt. 35A, 35B, and any other blocks of similar design at present in use or in store, a steel pin (of H.H.T. or D.R. quality made from rivet material available at the Yards) is to be fitted through the nut, and screw portion of the binding as an additional security. The steel pin should be  $\frac{1}{4}$  in. diameter, clenched on slightly countersunk holes on each side of the nut.

## 288.—Military Rifle Ranges—Use by Royal Navy and Royal Marines.

(C. (II) 12050/25.—29.1.1926.)

The War Office have intimated that as from 1st April, 1925, the charge for the use by the Royal Navy and Royal Marines of Military Rifle Ranges will be on the basis of the cost per 100 rounds fired as shown by the Department's Cost Accounts, and that the charge for the current financial year will accordingly be at the rate of 4s. per 100 rounds, except at the ranges at Gibraltar where a reduced rate of 2s. per 100 rounds will apply.

2. Payment to the War Office in respect of the use made by Naval and Marine firing parties of Military Rifle Ranges will be made annually by the Admiralty, and, in order that the amounts claimed may be verified as far as possible, reports indicating the number of rounds fired are to be rendered to the Accountant-General of the Navy by Flag and Commanding Officers, who arrange courses on Military Ranges, at the end of each financial year.

The first annual report should cover the period 1st April, 1925, to 31st March, 1926.

3. With regard to the Military Ranges at Gibraltar, it is understood that heretofore only the Southern Range has usually been made available for the use of Naval parties.

The War Office has been asked if arrangements can be made which will ensure for the Navy a prior claim on the North Range during January and April, and on both ranges during February and March in each year. The War Office has undertaken to request the local Military Authorities to meet the wishes of the Admiralty in this respect whenever possible.

(A.F.O. 2880/27.)

### 296.—15 in. Mountings—Footholds in Gun Houses, Working Chambers and Shell Rooms.

*“Queen Elizabeth,” “Royal Sovereign,” “Renown” and “Hood” Classes.  
Portsmouth, Devonport and Malta Yards.*

(G. 14793/25.—29.1.1926.)

Foothold strips of the pattern shown in sketch (E.F.O. 147/25) are to be fitted to the floor plating in turrets, working chambers and shell rooms, where ratings are normally stationed during drill, and all ships referred to above are to include an item for carrying out this work in the next lists of alterations and additions.

2. Drawings showing the extent of the footholds will be forwarded to Dockyards concerned by Portsmouth Dockyard.

3. The material required will be supplied from Portsmouth Yard and all demands should be made accordingly.

### 302.—W/T—Reports.

*Auxiliary Vessels and Dockyards Concerned.*

(S.D./G. 7613/24.—29.1.1926.)

On occasions when a W/T set has been fitted in, or removed from an Auxiliary Vessel, or one type of set substituted for another a report is to be forwarded by the vessel.

2. The only details required are—

- (a) Transmitting set (e.g., Marconi  $\frac{1}{2}$  k.w. set or Type 4 Service set).
- (b) Receiving set (e.g., No. 31 Marconi receiver or Model Outfit P Service set).

3. Periodical reports are not required.

### 364.—B.L. 6 in., Mark VII, Breech Mechanism—Modification to Link.

(G. 16578/25.—5.2.1926.)

Owing to wear of bearing surfaces, etc., it is found that difficulty is experienced in centring the lock on closing the breech mechanism, due to pressure between the guide belt and the upper side of the slot in the link breech screw. Where found to be necessary, metal should be removed from the side of the slot in accordance with the sketch (E.F.O. 7/26).

The work, both on board ship and in store, will be carried out by Naval Armament Fitters.

**373.—Aircraft Accumulators—Charging in H.M. Ships.**

(N.A.S. 5993/25.—5.2.1926.)

The charging in parallel of aircraft accumulators in H.M. Ships is prohibited as this involves additional fire risks.

**382.—Maintenance and Repair Stores—Adjustment of Charge.***Repair and Depôt Ships, Mechanical Repair and Training Establishments.*

(N.S./D.A. 534/25.—5.2.1926.)

In order that information may be available as to the cost of the Maintenance Naval Stores supplied to Submarines of "K" and "M" Classes, also "X.1" and "O," arrangements are to be made in future for copies of all vouchers supporting supplies and returns of Naval Stores by Depôt Ships or Fort Blockhouse to or from the Submarines in question, to be forwarded by the Depôt Ship, etc., to the Expense Accounts Officers at the Dockyards to which they are attached, on the first day of every month, in order that the value of such supplies may be transferred as necessary in the Dockyard Accounts.

2. It has also been decided that the value of stores expended by all Repair and Depôt Ships, Fort Blockhouse and Mechanical Training and Repair Establishments in connection with repair work for other ships, is to remain charged against the service to which the stores were originally supplied by the Dockyard, and it will no longer be necessary, therefore, for vouchers relating to such expenditure to be forwarded to the Expense Accounts Officers at the Dockyards.

3. The necessary amendments to Appendix II of the Instructions for Guidance of Officers, etc., relating to Central Storekeeping, and the Instructions for Guidance of Officers in accounting for Naval Stores (Form S.117E) will be promulgated in due course.

**429.—Maintenance Stores—Returns of Cost—RETURNS.**

(N.S./D.A. 91/26.—5.2.1926.)

Returns are to be forwarded as soon as possible after the close of each quarter from all Dockyards and Naval Store Depôts at Home and Abroad showing separately for each ship and Establishment the value of issues and returns of Maintenance Stores (excluding the cost of electric current and of distilled water) supplied to and returned from the following:—

Battleships,  
Battle Cruisers,  
Cruisers,  
Aircraft Carriers,  
Flotilla Leaders,  
Destroyers,  
Sloops,  
Depôt and Repair Ships,  
Stationary Ships,  
Shore Naval Establishments, including R.N. Colleges.

2. The first complete Return in accordance with this Order should be rendered in respect of stores supplied, etc., during Lady Quarter, 1926, and the details necessary to complete returns already forwarded in respect of the period 1st April, 1925, to 31st December, 1925, should be reported as soon as practicable.

(A.F.O. 802/26.)

### 451.—Disposal of Personal Effects, etc., of Officers and Men of the Royal Air Force who Die while Serving with the Royal Navy—Procedure and Accounting.

(C. (III) 2142.—12.2.1926.)

The following procedure is to be adopted in dealing with the personal effects, etc., of Officers and airmen of the Royal Air Force who die while serving with the Royal Navy and away from the unit of the Royal Air Force to which they belong:—

Personal effects of—

(a) Officers, together with their kit, are to be forwarded to:—

Messrs. Cox's Shipping Agency, Ltd.,  
13, Regent Street,  
London, S.W.1.

(b) Airmen, together with Pay Books (after extraction of any wills), are to be forwarded to:—

The Officer in Charge of Records,  
Royal Air Force,  
Ruislip,  
Uxbridge,  
Middlesex.

2. Any money found among the effects of Officers or airmen may be applied to defray any debts owing to the public or debts of a semi-public nature (e.g., mess bills), but no private claims are to be met in this manner. An account of this money, supported by vouchers, and verified where practicable by two Officers, together with any claims against the estate, should be forwarded, in the case of both Officers and airmen, to:—

The Secretary,  
Air Ministry (Accounts 2B),  
Kingsway,  
London, W.C.2.

3. Any balance of this money remaining after payment of the above-named debts, is to be taken on charge in the Cash Account, under the heading of "Air Ministry," and the accounts forwarded to the Air Ministry should contain a reference to the debit entry.

4. Any available information as to will, marriage and next-of-kin, should also be transmitted immediately to the Air Ministry at the above address. Any wills found in pay books or otherwise are to be forwarded by registered post; certified copies of the same being kept in case of the loss of the originals.

### 467.—Electro-megaphones—Adjustment.

*All Dockyards and Ships.*

(G. 1560/26.—12.2.1926.)

A case having occurred of damage to electro-megaphone receivers through an attempt at adjustment by means other than that provided for the purpose, attention is called to the fact that these instruments are in approximately correct adjustment when despatched from the maker's works.

2. Final adjustment should be carried out, after connecting up, by means of the adjusting screw provided for this purpose. The adjusting screw may be at once identified by the fact that it is provided with a clamping screw and limit stops. Left-handed rotation of the adjusting screw causes the reed and pole pieces to approach one another. Right-hand rotation causes separation of the reed and pole pieces. The clamping screw should be slackened before adjustment is made and should be subsequently set up tightly again. The limit stops should not be removed.

3. *Unless it is certain that severe mechanical damage has been done, adjustment of electro-megaphone receivers should never be attempted by resetting the nuts and screws securing the magnet to the yoke, or the yoke to the base ring.*

The magnets and yoke are accurately assembled by the manufacturers and adequate adjustment is provided by the adjusting screw.

**\*503.—Zones of Promotion to Engineer Captain and Engineer Commander and Commander (E).**

(C.W. 1424.—19.2.1926.)

The zones of promotion for the selections for promotion to Engineer Captain and Engineer Commander or Commander (E), respectively, are as follows:—

*Engineer Captain.*—7-10 years' seniority as Engineer Commander inclusive on the dates on which the promotions are to be made, viz., 30th June and 31st December each year.

*Engineer Commander and Commander (E).*—2½ years' seniority and over as Engineer Lieutenant-Commander or Lieutenant-Commander (E) on the dates on which the promotions are made, viz., 30th June and 31st December each year.

Recommendations should be forwarded through the usual channels in accordance with Article 985, K.R. and A.I.

The above zones will remain in force until further notice.

**\*509.—Sailmakers' Mates—Payment of Difference of Pay.**

(N. 5509/25.—19.2.1926.)

Sailmakers' mates serving in lieu of Sailmakers allowed by complement are not to receive difference of pay as Sailmaker without prior Admiralty authority in each case, which will only be granted if special circumstances justify it under Article 1591 (2) of the K.R. and A.I.

All such payments at present being made are to cease as from the date of the receipt of this Order. Any payments made in respect of past periods may stand.

**520.—Gun Mountings, 2 pdr. H.A., Mark II—Periodical Examination of Base, etc.**

*All Ships and Establishments concerned.*

(G. 1598/26.—19.2.1926.)

In order to prevent damage to the leather ring and consequent access of water to the ball race, etc., care should be taken, before lifting the above-mentioned mountings, for examination of ball races, etc., to ensure that this ring is completely disconnected and slung well clear of the clip ring.

2. The leather rings are to be examined periodically, and, if found to be damaged, an item to cover the renewal of the rings is to be included in next defect list.

**\*545.—Civilian Employees—Uniform.**

(P.L. 3829/25.—19.2.1926.)

Articles of uniform clothing issued free of charge to civilian employees are, as a general rule, to be surrendered by the employee on his discharge from the service, whether or no a deduction for uniform upkeep is made from the wages of the employees concerned.

An exception to the general rule, subject to the removal of uniform buttons, badges, etc., may be made at the discretion of the Officer-in-Charge of the Establishment, on hygienic or other grounds.

These instructions do not affect the existing regulations regarding the surrender of uniform on discharge by shipkeepers and caretakers, R.N.V.R. Any uniform cap badges that may have been issued free of charge to Masters, First Class, and Engineers, First Class, of Yard Craft, need not be surrendered on discharge.

**546.—Smoke Floats and Ignitors—Survey.**

(N.S. 011/26.—19.2.1926.)

The storage of stocks of Smoke Floats and Ignitors at Home is centralised at Chatham, and except when special instructions to the contrary are issued, all such stores which may be returned at other Home Ports should be forwarded to the Superintending Naval Store Office, Chatham, by free water conveyance, provided that the Floats and Ignitors are serviceable or capable of repair. Smoke Floats are costly to handle and their bulky nature makes it important that no Floats which are likely ultimately to be condemned as scrap iron should be shipped. Before shipment is arranged, therefore, the stores should be surveyed by the Assistant Inspector of Naval Ordnance at the port to which they are originally returned, and only such Floats and Ignitors as are found to be serviceable or capable of repair should be shipped to Chatham.

2. In the case of Floats or Ignitors returned at Portland, survey will be carried out by the Assistant Inspector of Naval Ordnance of Weymouth Torpedo Range.

**547.—Oxygen, etc., Gas Cylinders—Accounting Procedure.**

(N.S. 18820/24.—19.2.1926.)

The following instructions in regard to the procedure to be adopted when accounting for Admiralty cylinders used in connection with the supply of oxygen and other gases to other than Vote 8/2 services are promulgated for information and guidance:—

- (a) *Supplies of Gas to other Navy Votes, other Departments of the Home Government, Indian, Dominion, Colonial and dependent Governments, Foreign Governments and Private Individuals, etc.*—The cylinders used for the gas are to be dealt with as “floating plant” articles on loan and are to be passed through the Loan Records of the Dockyard or Establishment. When returned, the cylinders are to be surveyed and their values adjusted as necessary.
- (b) *Missing and Damaged Cylinders.*—Charges for loss of or damage to cylinders, including damage to or loss of parts (e.g., protecting caps) are to be made against the services concerned. Charges are to include the authorised percentage additions when applicable. Credit for missing cylinders is to be given under the “floating plant” heading of Section A of Account No. 88 and a debit set up in the Stock Accounts. This debit is to be cancelled by a credit entry upon which the claim (D.72) will be raised.
- (c) *Charges for Rental of Cylinders.*—When supplies of gas are made to Indian, Dominion, Colonial and dependent Governments, Foreign Governments and private individuals, etc., charges for rental for the cylinders on loan should be assessed at the scale, etc., laid down in paragraph 4 (a), Article 409 of the Expense Accounts Instructions 1904. When gas is supplied to other Departments of the Home Government any necessary cylinders are to be lent free of charge for a period not exceeding one month from date of actual supply. If retained beyond one month, rental charges are to be levied from the date of expiry of the month on the same terms as those laid down above for loans to Indian, Colonial, etc., Governments and private individuals. The Departments concerned should be informed of this regulation when applying for supply of gas in Admiralty cylinders.

For loans of cylinders to other Navy Votes no rental or other charges should be raised other than those due for missing or damaged cylinders under paragraph (b) above.

- (d) *Deposits to Cover Value of Cylinders when Lent.*—When required under the present instructions governing the loan of Naval stores, deposits of amounts covering value (plus percentage) are to be obtained for cylinders lent in connection with the supply of gas.

(A.F.O. 2495/24.)

**548.—Tylor Engines in A.E.C. Lorries—Cylinder Foot Joints.**

(N.S.M.T. 96/26.—19.2.1926.)

Examinations of A.E.C. lorries have revealed the fact that the cylinder blocks of Tylor engines in these vehicles have, on occasions, been mounted and bolted down on packings or "foot-joints" made from thick asbestos, etc., sheet, and this has been the cause in some instances of the lugs, through which the holding down studs pass, breaking away when the cylinders are finally pulled down to the crank case.

2. The correct type of joint to be used in this position is made of red vulcanised fibre  $\frac{1}{8}$  in. in thickness. Joints of this material are obtainable from R.N.M.T. Dépôt, Albany Street, under the following description:—

A.E.C. Ref. 1420—Cylinder foot joint

3. In pulling the cylinders down on the joint the nuts should be tightened up evenly commencing with the centre nuts at each side of the cylinder foot.

**553.—Trawlers and Drifters—Preparation for Sale—REPORT.***Trawlers and Drifters.*

(D. 1593/26.—19.2.1926.)

The following procedure is to be generally observed in preparing Trawlers and Drifters for sale:—

- (i) All minesweep fittings (except winch, gallows and deck fairleads which are used for fishing purposes), stowage for minesweep stores, bow defence gear, fittings and stowage, armament and magazine fittings to be removed.
- (ii) Winches, gallows and deck fairleads are to remain on board for sale with the vessels.
- (iii) Compasses and compass gear should be left on board for sale with the vessels.

2. A report should be forwarded by Dockyard in special cases when it may be considered desirable to remove or retain fittings other than those mentioned herein.

3. A list of the fixtures and stores which it is proposed to include in the sale of the vessel should be forwarded with the sale particulars form for concurrence.

*(A.F.Os. 3214/25 and 756/27.)***556.—Appointments of Officers—Duration.**

(C.W. 4432/25.—26.2.1926.)

The period of service in individual appointments will be at the discretion of the Admiralty.

As a general rule, however, the appointments of Commanders, Lieutenant-Commanders and Lieutenants will be approximately for the following periods:—

- (a) In ships and establishments at home, 2 years.
- (b) In establishments abroad, 2 to 2½ years.
- (c) In ships abroad—for the period of the commission.

In the undermentioned Home appointments an extension of one year may be considered, provided:—

- (a) The extension is necessary in the interests of the Service, or
- (b) Personal hardship would be caused by relief at 2 years. Such extensions will be confined to—

I.—Commanders and Lieutenant-Commanders serving as King's Harbour Masters (not Assistants), in charge of Detention Quarters, as Superintendents or Assistant Superintendents in the Hydrographic or Compass Departments.



II.—Warrant Officers and Officers promoted from Warrant rank serving in Dockyard appointments.

In all cases where applications for extensions are made they must be supported by a recommendation from the Commander-in-Chief, and full details under (a) and (b) must also be given.

2. *Engineer Officers*.—The appointments of Engineer Officers will normally be for the following periods:—

(a) In seagoing ships at home, 2 years.

(b) In ships abroad, 2½ years.

(In each case irrespective of the date of commissioning.)

(c) In establishments at home and abroad—for 2 or 3 years, according to the nature of the appointment and the requirements of the Service.

3. *Special Cases*.—The normal duration of the following appointments will be as stated:—

I.—Ships in Irish Waters

Commanding Officers will generally be relieved after 12 to 18 months' service in Irish Waters.

Officers not in command will be relieved after 12 months' service unless they apply to remain longer.

II.—Ships in the Red Sea and Persian Gulf

Officers who have served for two hot seasons will be relieved not later than March or April, irrespective of the date of commissioning.

III.—Assistant Fuelling Officers

3 years, including time required for turnover.

No extension will be permitted.

IV.—Officers of W/T Stations

(a) Gibraltar, Hong Kong, Malta, Matara (Ceylon), and Seletar (Singapore), 2 years.

(b) Aden, 1 year.

Officers of the W/T Stations coming under categories (a) and (b) will be allowed the option of an extension of their appointments up to a maximum of three years and one and a half years respectively. A list of the officers requiring relief is to be sent in by the station concerned, so as to reach the Admiralty three months before the date they are due for relief, this date being stated.

V.—Officers serving on shore at Abadan, Aden, Bombay, Colombo, Singapore and Trincomali.

2 years, except as provided in IV.

VI.—Gunnery, Gunnery (T), Boatswains, Signal Boatswains, Warrant Telegraphists, Warrant Shipwrights, Warrant Ordnance Officers, Warrant Electricians.

and above, as laid down in paragraph 1 for Lieutenants, etc., except that appointments at the Admiralty will normally be for 3 years.

### 593.—Telephone Stores for use with Field Gun Batteries.

(N.S. 16847/25.—26.2.1926.)

The telephone stores, with the exception of the drums, are now available for supply, and arrangements have been made for distribution as follows:—

Description.	Quantity.	Service.	
		For 6 in. and 4 in. Batteries.	
Telephones, D.3 ... ..	4	—	—
Microphone, capsules ... ..	4	*1 set	Chatham.
Cells, inert, "S" ... ..	16	3 sets	Portsmouth.
Cable, D.3 ... ..	2 miles	4 sets	Malta.
Drums ... ..	1	1 set	East Indies.
Barrows, drum ... ..	1	1 set	China.

\* This set should contain six telephones with cells.

For 12-pdr. Batteries.			
Description.	Quantity.	Service.	
Telephones ... ..	6	1 set	Chatham.
Microphone, capsules ... ..	6	1 set	Devonport.
Cells, inert, "S" ... ..	24	2 sets	Fleet Flagship of Atlantic Fleet.
Cable, D.3 ... ..	2 miles	3 sets	Malta.
Drum ... ..	1	2 sets	Flagship, Mediterranean Fleet.
Barrow, drum ... ..	1	2 sets	China.
		1 set	Cape.
		1 set	East Indies.
		1 set	North America and West Indies.

2. The stores for Malta and Flagship of Mediterranean Fleet with exception of the drums, have already been sent to Malta (Admiralty Letter, 15th January, 1926, N.S.20176/25/1077). The stores for the remaining vessels will be sent from Chatham as early as possible.

(A.F.O. 2629/26.)

### 594.—Telephone Stores for Control of Machine Guns.

(N.S. 7467/25.—26.2.1926.)

The following stores are allowed to ships named for telephone communication between a machine gun post and platoon or battalion headquarters:—

Description.	Quantity.	Remarks.
Electric cable, D.3 ... ..	$\frac{1}{2}$ mile	} To be supplied from Chatham.
Reels, cable ... ..	1 No.	
Bars, carrying ... ..	1 "	
Telephones, D.3 ... ..	2 "	
Microphones, capsules ... ..	2 "	
Cells, inert, "S" ... ..	8 "	} To be met from ship's resources.
Tape, rubber ... ..	$\frac{1}{2}$ lb.	
Tape, insulating ... ..	$\frac{1}{2}$ lb.	

#### List of Vessels to be supplied.

"Revenge"	} 1 set each.	"Barham"	} 1 set each.
"Ramillies"		"Malaya"	
"Royal Oak"		"Valiant"	
"Resolution"		"Warspite"	
"Royal Sovereign"		"Iron Duke"	
"Hood"		"Benbow"	
"Repulse"		"Marlborough"	
"Renown"		"Emperor of India"	
"Queen Elizabeth"			
"Curacoa"		} 4 sets between squadron.	
"Caledon"			
"Calliope"			
"Carysfort"			
"Cleopatra"			

"Delhi "	} 1 set each.	"Emerald "	} 1 set each.
"Frobisher "		"Hawkins "	
"Danae "		"Carlisle "	
"Dragon "		"Vindictive "	
"Dauntless "		"Despatch "	
"Cardiff "		"Durban "	
"Calypso "		"Birmingham "	
"Caradoc "		"Dublin "	
"Ceres "		"Calcutta "	
"Concord "		"Capetown "	
"Enterprise "		"Constance "	
"Effingham "	"Curlew "		

2. The stores required for ships on the Mediterranean Station have already been sent to Malta (Admiralty Letter, 15th January, 1926, N.S.20176/25/1077). The stores for the remaining ships will be sent from Chatham as early as practicable.

3. The stores are to be retained on the stations to which supplied, being transferred to relieving vessels as necessary.

(A.F.O. 2629/26.)

### 595.—Telephone Stores for use with .303 in. Guns for Royal Marines.

(N.S. 16847/25.—26.2.1926.)

Telephone stores are now available for supply, and arrangements have been made for distribution as follows:—

<i>Description.</i>	<i>Quantity.</i>	<i>Station, etc.</i>	
Electric cable, D.3 ... ..	½ mile	China ... ..	2
Reels, cable ... ..	1	East Indies ... ..	1
Bars, carrying ... ..	1	Africa ... ..	1
Telephone sets ... ..	2	North America and West Indies	1
Microphone, capsules ... ..	2	Atlantic Fleet ... ..	4
		Mediterranean ... ..	12
Cells, inert, "S" ... ..	8	Hong Kong (for reserve) ...	1
		R.M. Divisions (2 each) ...	6
		Portsmouth Division, R.M. (for reserve) ... ..	2

2. The stores required for ships on the Mediterranean Station have already been sent to Malta (Admiralty Letter, dated 15th January, 1926, N.S.20176/25/1077). The stores for the remaining vessels, etc., will be sent from Chatham as early as practicable.

(A.F.O. 2629/26.)

### 597.—Naval Stores Shipped for Conveyance.

(N.S. 17722/25.—26.2.1926.)

A case has occurred where a boat with rowlocks, oars, boat hooks, etc., was handed over from one ship to another for subsequent return to a Dock-yard without receipts being obtained by the vessels concerned.

2. Care is to be taken in future that when stores are shipped in one of H.M. Ships for conveyance, either from a Yard or another ship, a receipt is to be given for the Stores taken on board. If the Stores are transhipped to another of H.M. Ships or Yard Craft for carriage to the consignee, the Officer giving up charge of them is to obtain a receipt from the Officer to whose charge they are transferred on the bill of lading (Form D.79) or list of stores shipped, before he hands over that document to such Officer.

3. In order to obviate difficulties in identifying Naval Stores when shipped for conveyance to H. M. Dockyards in H. M. Ships, Store and Freight Ships, Colliers, etc., the following procedure is to be adopted:—

- (i) Receipts are to be obtained in triplicate on Form S.549, from the Officers of the ship conveying the stores for the packages forwarded, and the copies disposed of as follows:—

*Original.*—To be retained by the Accounting Officer of the ship sending the stores.

*Duplicate.*—To be handed to the Commanding Officer or Master of the vessel in which the shipment is made.

*Triplicate.*—To be sent by post to the Naval Store Officer at the Dockyard to which the stores are consigned.

- (ii) The following particulars are to be painted on each case, package or bundle, or written in ink on a label S.331D, viz. :—

(a) Name of the ship sending the stores and the Department of the Officer whose Naval Store Account or Fixture List is affected, viz. :—Accountant Officer, Engineer, Gunner, etc.

(b) Number of package.

(c) Rank and address of consignee.

- (iii) A separate Form S.331 (Report of Survey) or D.526-S.197 (Abatements from or additions to Fixture List) should be prepared for each package, bundle, etc. The triplicate copy showing in detail the contents should be placed inside each package, and the number of the package, bundle, etc., should be stated on the original and duplicate copies of the form.

- (iv) All small articles or those likely to sustain damage in transit should be packed in cases.

- (v) When fixtures are consigned to Professional Departments of the Yards, they should be addressed to the Naval Store Officer for Captain of Dockyard, Manager Constructive Department, etc., as the case may be.

- (vi) The requisitions for survey of all empty gas flasks should give the Admiralty registered numbers, including prefix letters, of those returned, and a certificate should be given thereon *that the flasks are empty*. Article 153, paragraph 5 of the Engineering Manual, 1923, is to be strictly complied with in all cases, and the word "empty" is to be painted on the flasks when such is the case.

### 605.—Ships Paid off into Dockyard Control for Large Refit— Naval Stores and Fixtures.

(N.S. 8271/25.—26.2.1926.)

It has been decided that in future, when H.M. Ships are paid off into Dockyard control for large refit expected to last not more than twelve months, they shall not, normally, be destored.

2. When the period of refit is expected to extend over more than a year the ship in question is to be destored prior to paying off unless instructions to the contrary are received.

3. When, owing to special circumstances, it is necessary to destore a ship undergoing a comparatively short refit, i.e., less than one year, special instructions to that effect will be given.

4. In ships not fitted for central storekeeping, the custody of stores and fittings, whether a ship is destored or not, will continue to be a responsibility of the Store Accounting Officers, as provided for in existing regulations.

5. Centrally stored ships which are not destored are to retain two of their supply branch ratings for custody of the naval stores while the vessel is in Dockyard hands. The actual ratings to be retained will, for the present, be considered specially on each occasion. Responsibility for the custody of the stores remaining on board the ship is to be assumed by the following Officers at the ports mentioned:—

Nore Division: Accountant Officer (S), R.N. Barracks, Chatham.

Portsmouth Division: Accountant Officer (S), R.N. Barracks, Portsmouth.

Devonport Division: Accountant Officer (S), R.N. Barracks, Devonport.

Special Admiralty instructions should be sought as regards the Officer who is to be responsible for the custody of stores in those centrally stored ships which are paid off at other ports but retain their stores on board.

6. When instructions are given that centrally stored ships are to be destored, all concerned are to be guided by the detailed instructions given in the following paragraphs:—

7. *Naval Stores*.—All naval stores are to be returned to store except those indicated in the Appendix hereto.

8. The stores remaining on board are to be in the custody of the Captain of the Dockyard, and arrangements should be made for their efficient maintenance. Any defects which may be contracted are to be made good before turning over to the new commission.

9. A complete inventory in triplicate is to be made of the naval stores remaining on board. This inventory is to be signed by the Store Accounting Officer of the ship and by the Captain of the Dockyard or his representative. One copy of the inventory is to be forwarded with the closed store accounts of the ship as evidence of the disposal of the stores; one copy is to be retained by the Captain of the Dockyard; and the third copy is to be forwarded to the Naval Store Officer for use when the ship is restored.

10. *Fixtures and Spare Gear*.—In general, fixtures and spare gear should remain on board under the charge of the Dockyard Professional Officers concerned, except so far as their removal for shop repairs or preservation may be considered necessary by the Yard Officers. In this connection due regard should be paid to the existing instructions which place upon the Superintending Electrical Engineer of the Yard concerned the responsibility for the care and maintenance of the electrical installation of H.M. Ships paid off for large repair.

11. The following are to be dealt with as shown:—

W/T Fixtures: Should remain on board except such items as the Captain, H.M. Signal School, Portsmouth, or his representative at other Yards, after consultation with Yard Officers, considers should be landed.

*Types 113A to 118.*

Preparatory to turning over to the Dockyard officers all mechanical parts should be well oiled and greased over.

H.T. generators should be landed and handed over to the Superintending Electrical Engineer. *Immediately* prior to replacement before recommissioning, the armatures of these machines are to be dried out in vacuo at a temperature of 240° F. until the insulation resistance of the armature winding to core reaches at least 20 megohms while hot.

All other fixtures should remain on board except such items as may be decided by the Port W/T officer, in conjunction with Yard officers.

All secondary batteries are to be landed and dealt with as stated below.

All tool boxes, receiving instruments, loud speaker units, and consumable stores are to be returned to central store.

The Captain of the Dockyard is to institute a routine to ensure that all panels are inspected weekly for foreign matter and moisture, and kept clean.

The A/S office is to be kept locked.

The Captain of the Dockyard is to apply to the Commodore, R.N. Barracks concerned, for a Submarine Detector, 1st Class rating, to be sent to the ship during any period when work is being carried on in the A/S office or cabinet, and on all occasions one fortnight before the "final equipment trials," mentioned in Home Dockyard Regulations, Appendix XXII, Section VIII. The application to the Commodore should state the date on which the Submarine Detector rating will be required, and should be forwarded at least a week beforehand.

*Hydrophones and Echo Sounding Gear.*

All hydrophones switchboards, except those in W/T cabinets, are to be removed, labelled, and placed on deposit with Superintending Naval Store Officer.

All other fixtures should remain on board, except such items as may be decided by the Port W/T officer, in conjunction with Yard officers.

All secondary batteries to be landed and dealt with as stated below.

All headphones to be returned to central store.

Echo sounding gear receiver box to have all exposed steel parts in mechanism coated with vaseline, and the box suitably sealed.

All other mechanical parts to be well oiled and greased, including hammer rollers and guides of echo sounding gear transmitter.

Rangefinders: Should be landed and kept in the Rangefinder Store.

Henderson Firing Gear, Gunsighting Telescopes and Periscopes: Should be landed and kept in the Gun Mounting Store.

Fixtures and Spare Gear on charge of the Engineer Officer: As this Officer is invariably appointed to a ship undergoing a large refit, these fixtures and spare gear should be retained on board or placed in a lay apart store in his charge and at his discretion. Any stores required by the Engineer Officer, such as vices, airing stoves, etc., should be drawn from store by the Engineer Officer and placed on his charge in a similar way to that adopted when a ship is under construction.

Secondary Batteries for Low Power Supply: If serviceable, or after economical repair, these should be returned to store for issue as required, and, if so issued, others supplied to the ship in lieu, before commissioning.

Spares and Spare Parts for Fire, Torpedo, Searchlight and Miscellaneous Control Instruments and Gear: After survey, etc., these should be landed on deposit under care of Yard Professional Officers or Naval Store Officer, as desired by the former, until turned over to Ship's Officers of the new commission.

APPENDIX.

NAVAL STORES TO BE LEFT ON BOARD.

*Items.*

1. All first fitting stores which are fixed in place except such articles as would be in the way of the refit.

2. All chain cables and gear.

3. Hawasers and hawser reels.

4. Supply tanks fitted in place.

5. Dismounting gear.

*Remarks.*

Fitted electrical items such as sounding machines, and navigating, speed, not under control, position and anchor lights, which required fitting up by the Dockyard to suit each individual ship, and which would be liable to damage or deterioration if left on board, should, as far as possible, be returned and examined for fitness whether or not such stores are included for survey on turning over to Dockyard control.

Until required to be landed for test.

When not in exposed position.

As considered necessary.

6. Dining tables, heavy cabin furniture and other bulky or fixed articles not easily removable or liable to be tampered with. As may be decided by Yard Officers in each case.
7. Dreyer's tables. Except when structural alterations in or near the transmitting station necessitates their removal. Definite proposals with regard to this question should be put forward by Ship's Officers.
8. Locks and padlocks for fastening magazines.
9. Fitted items of W/T transmitting sets. Such items only as may be determined by the Captain, H.M. Signal School, Portsmouth, or by his representative at other ports, in conjunction with Dockyard Professional Officers at the time ship is taken in hand for destoring.

(A.F.O. 1225/26.)

### **611.—Drawings Prepared in the Director of Electrical Engineering Department, Admiralty—Issue.**

(D. 2149/26.—26.2.1926.)

Where reference is made in A.F.O.s, C.A.F.O.s or books of reference, regulations, etc., to drawings prepared in the Director of Electrical Engineering Department, Admiralty, applications for copies are to be made to the Admiralty, giving details of the purpose for which they are required.

2. Copies are not to be made locally, either by tracing, photo-printing or other processes, as these drawings (prefixed D.E.E. or in a few cases, S.E.E.), are constantly under revision. Stocks of these drawings are not to be maintained locally, as retention of unauthorised stocks may result in the distribution of revised or cancelled drawings.

### **\*623.—Sick Leave of Staff coming under the Federated Universities Superannuation Scheme.**

(C.E. 637/26.—26.2.1926.)

Approval has been given for sick leave privileges within the maximum limits prescribed for permanent Civil Servants under Clause 19 of the Order in Council of the 10th January, 1910, being granted to members of the Admiralty Staff, at Headquarters and Outport Establishments, to whom the provisions of the Federated Universities Superannuation Scheme apply, provided their remuneration is in excess of National Health Insurance limits.

2. This order is to have effect as from the 23rd June, 1925, and will be subject to review in the event of a general revision of the leave privileges applicable to staffs of Government Departments to whom the provisions of the Federated Universities Superannuation Scheme apply.

### **626.—B.9A, Pattern 408A, Acetylene Cylinders.**

*Foreign Yards only.*

(N.S. 15739/25.—26.2.1926.)

It was formerly Admiralty practice to test acetylene cylinders by fluid pressure periodically, but the Home Office Committee on cylinders for dissolved acetylene (1917) reached the conclusion that tests were not required so long as external examination of the cylinder revealed no wear and tear or other deterioration.

2. This view has been accepted generally and tests are not now carried out unless there is any reason to doubt the conditions of a particular cylinder.

3. Although, therefore, the *refilling* of these cylinders locally at Foreign Yards as authorised is to be continued, previous instructions in regard to *testing* at Foreign Yards should be considered cancelled, as all future testing will take place in England.

4. Cylinders should accordingly be sent home when on Yard Officers' periodical examination it is considered doubtful whether they will withstand reasonable mishaps during transit or handling on Service and demands should be forwarded to the Admiralty for replacement.

### 650.—Director Firing Circuits—Alteration in the Connections of Main and Auxiliary Circuits.

(G. 16098/25.—5.3.1926.)

In order to minimise the failure of one director firing circuit causing the whole salvo to missfire, the connections of the main and auxiliary director firing circuits are to be changed over at the change-over switches at alternate turrets or guns.

2. In battleships and battle cruisers, the change over is to be effected in "B" and "Y" turrets in four turret ships and "B" and "X" turrets in five turret ships and at even number guns or triple mountings for the secondary armament.

3. In cruisers, aircraft carriers, flotilla leaders and destroyers, the change over is to be effected at the even number guns.

4. When the change over is effected approximately half the turrets or guns will normally be firing on main director firing circuit and the other half on auxiliary director firing circuit, *i.e.*, with the change-over switches at director 1. The turrets, triple mountings and guns, in which the change over has not been made, will be firing on main director firing and gun circuits and the turrets, triple mountings and guns in which the change-over is made will be firing on auxiliary director firing circuit and main gun circuit. With the change-over switch at director 2, this will be reversed.

5. The change over is to be made at the guns, etc., stated by disconnecting the main and auxiliary director firing circuits from the change-over switch and connecting the main circuit to the auxiliary terminal and the auxiliary circuits to the main terminal of the change-over switch.

6. The change over of the circuits is to be effected by the ships' staffs in all ships and vessels fitted with double contact director firing pistols.

7. The change over is not to be made in any vessel which is not fitted with double contact director firing pistols.

8. The revised Gunnery Drill Book, which includes references to this alteration in circuits, will shortly be issued.

9. Instructions regarding the application of this order to the main, secondary and high angle guns for "Nelson" and "Rodney," the main and high angle guns of "Kent" class and the 4.7 in. guns of "Adventure" will be indicated on the respective wiring diagrams.

### 654.—Breech Mechanisms—Press, Obturator, Steep Coned, B.L., 6 in.—Modification.

(G. 18747/24.—5.3.1926.)

Presses, obturator, steep coned, B.L., 6 in., are to be modified by fitting Mark II bolts, with nut, spring discs and washers, in accordance with Instructional Print, N.O.D. 2123/46, copies of which have been distributed to Armament Depôts.

2. The necessary new parts, including wrenches, are under manufacture and will be distributed when available.

3. The work should be carried out by Naval Armament Depot Staff at the first opportunity.

(C18807)



**668.—Metal Filament Finger Lamps, Pattern Nos. 6621, 6622 and 7911.**

(G. 2818/26.—5.3.1926.)

Experience has shown that the metal filament finger lamps, Pattern Nos. 6621, 6622 and 7911, which are primarily for use in yard arm flashing lanterns, position lights, fixed stern and overtaking lights, masthead flashing lamps and submarine bunk light fittings, are unsuitable for service when burning in an inclined position, the filaments sagging between the supports.

Care is to be taken to ensure that they are always mounted with the axes of the lamps vertical.

**765.—Needham Shakers in Evershed Gun and Searchlight Control Systems—Work of Fitting to be Deferred for certain systems—REPORTS.**

(N.S. 16530/25.—12.3.1926.)

The question of fitting Needham shakers in the Evershed systems for main and secondary armaments and searchlight control systems in existing ships has (for reasons of economy) been under review and the following has now been decided.

2. The work of fitting the Needham shakers in the Evershed searchlight control systems in H.M. Ships of the "Royal Sovereign," "Queen Elizabeth," "Repulse" classes, "Hood" and the "D" and "E" and "Hawkins" classes of cruisers is to be proceeded with.

3. The work of fitting the Needham shakers in the main and secondary armament gun control systems in H.M. Ships of the "Royal Sovereign," "Queen Elizabeth" and "Repulse" classes and "Hood" is to be regarded as cancelled for ships where these shakers are not already fitted.

The Needham shakers and junction boxes provided for the ships not already fitted are to be retained in store at the Dockyards pending instructions which will be issued as to their disposal when the reports called for in paragraph 6 of this order have been received and considered.

4. Arrangements which were being made for the provision of gear for fitting the Needham shakers in—

- (a) The main and secondary armament systems in H.M. Ships of the "Iron Duke" class and "Tiger."
- (b) The gun control system of "C" and "D" classes of cruisers "Frobisher" and "Hawkins" and the Aircraft Carriers "Hermes" and "Eagle."
- (c) The searchlight control systems in H.M. ships of the "Iron Duke" class, "Tiger" and "C" class Cruisers, "Hermes" and "Eagle";

have been cancelled.

The question of fitting the Needham shakers in the searchlight control system in the ships mentioned at (c) will be reconsidered when the reports mentioned in paragraph 5 of this order are received.

5. Reports are to be forwarded in January, 1927, by all ships mentioned in paragraph 2 of this order as to whether the introduction of the Needham shaker in the searchlight Evershed system has materially improved the accuracy and efficiency of the system, also as to whether any reduction in the work of care and maintenance of the system has been effected by its introduction.

6. Reports are to be forwarded forthwith by the ships mentioned in paragraph 3 of this order stating whether the Needham shakers are fitted or not fitted in the main and secondary armament gun control systems.

7. The instructions issued in this order as regards the cancellation of the fitting of Needham shakers are not to be taken as applying to ships of new construction and ships taken in hand for reconstruction or large repairs where the Needham shakers are already provided and shown in the approved diagrams for the ships referred to.

### 773.—Cash Boxes for Mess Funds.

(N.S. 15380/25.—12.3.1926.)

The reports forwarded have been considered and various proposals have been made in regard to the custody of mess and other funds.

2. It is evident, however, that the existing regulations in respect to the safe custody of various funds (apart from public money) are not generally appreciated nor complied with, and attention is therefore drawn to Articles 1105, 621 (5), 1777 (3) and 1802 (4) of the King's Regulations and Admiralty Instructions. It should be noted also that there appear to be no good reasons for departing from the accepted principle of concentrating money, whether public or private (i.e., ship's funds, etc.), in the hands of the Accountant Officer.

3. It is recognised that requirements vary in different ships, and if the existing accommodation is insufficient to ensure the safe custody of the various funds, ships should report to the Admiralty through Administrative Officers what safes are required in addition to the existing allowances, any additions proposed being kept to the absolute minimum.

4. In respect to Destroyers and Leaders in *full commission*, it has been approved to supply a chest, Pattern 1468A (or equivalent pattern) for the safe custody of money only, and on no account is money to be kept in any chest containing secret and confidential documents and books. The usual demands, S.134D, should be sent by Destroyers and Leaders direct to their Storing Yards, unless the surplus chest to be returned, when a cupboard for books of reference has been provided, is still on board, in which case it may be retained for the purpose now in question.

### 802.—Maintenance Stores—Accounting.

(N.S./D.A. 534/25.—12.3.1926.)

With reference to the instructions issued to the Dockyards and Naval Store Depôts, dated 30th December, 1925, D.A.534/25, relative to accounting for the value of issues and returns of "Maintenance Stores," it has now been decided that expenditure upon "Permanent" and "Consumable" stores is to be separately recorded in the Expense Accounts under each individual ship or Shore Establishment.

2. It has further been decided that the classification of the stores (i.e., "Permanent" or "Consumable") is to be inserted, in the Naval Store Department, on all vouchers for supplies or returns of "Maintenance Stores." Arrangements have been made for the supply of rubber stamps for this purpose.

3. At Portsmouth the procedure indicated above is already in operation. At other Dockyards and Naval Depôts the revised arrangements are to take effect as follows:—

At Home Yards and Depôts (including Malta and Gibraltar),  
1st April, 1926.

At other Yards and Depôts Abroad, 28th June, 1926.

4. The quarterly reports of expenditure incurred on and from the dates quoted in the preceding paragraph, in connection with the ships and Establishments indicated in A.F.O. 429/26 are also to show separately the value of "Permanent" and "Consumable" stores.

(A.F.O. 429/26.)

**\*815.—Mate (E) (Acting)—Qualifying Examination Afloat—  
Syllabus.**

(C.W. 1707.—19.3.1926.)

With reference to the Qualifying Examination Afloat for promotion to the Acting Rank of Mate (E.) (Appendix XII, Part 5, K.R. and A.I.), the general nature of the questions in each subject will be as follows. The particulars given are for guidance only, and are not intended to be comprehensive of the whole syllabus over which questions may range.

*Engineering I:—*

Descriptions and sketches will be asked for of the construction and arrangement of the principal parts of the main and auxiliary machinery of a warship, and of the boilers and fittings in connection therewith. A knowledge of the principles of working of the above, and of the fittings provided for their adjustment and how these are used, will also be required.

*Engineering II:—*

Questions will test the candidate's knowledge of the actual working on service of a warship's propelling machinery, boilers, auxiliary machinery, and engine-room equipment, and of the examinations and adjustments necessary to keep such parts efficient. Questions will also be set on the regulations ordered to be observed and the precautions necessary in carrying out the various operations incident to the working of the engine-room department of a warship generally.

*Heat and Steam:—*

The papers set will comprise questions on the elementary principles of heat engines, with special reference to their application to steam and steam machinery, marine boilers and evaporators, air-compressing and refrigerating machinery, and to the combustion of coal and oil fuel. Also on the quantities of heat involved in the formation of steam, its expansion and condensation, the laws connecting the pressure temperature and volume of gases, and the methods of obtaining the efficiency of steam machinery, boilers or of a combined plant. The candidate's knowledge of indicators and indicator diagrams may also be tested in this paper.

*Mathematics:—*

The metric system: conversion of units. Elementary geometry and algebra with practical applications. Simple problems involving equations. Plotting curves and use of graphs. Elementary Trigonometry. Calculation of areas, volumes and surfaces in practical cases. Meaning of differential co-efficient: simple examples of differentiation with applications; maxima and minima. Meaning of an integral: simple examples.

*Applied Mechanics:—*

Elementary principles of statics and dynamics treated with reference to practical applications. Force, effect of a force in causing motion. Moment of a force about a point. Conditions of equilibrium. Finding the resultant of given forces. Centre of gravity. Friction. Simple machines. Mechanical advantage and efficiency. Velocity ratio. Instantaneous axis. Work, energy and power. Centrifugal force. Elementary notions of stress and strain. Hooke's law. Ordinary tests of materials. Properties of fluids. Hydraulic press. Equilibrium of floating bodies. Energy of fluid under pressure and in motion. Pressure exerted by a jet of fluid.

*General Science, including Electricity:—*

Construction and working of cells in common use in the Service; secondary batteries. Ohm's law and its applications. Electrical instruments in common use: electric bells, telephones, arc and incandescent lamps. Specific resistance, divided circuits, shunts. Continuous current dynamos and motors, including general knowledge of types, management and maintenance. Electrical power and energy. Properties of the common metals. Production and properties of cast iron, the blast furnace, wrought iron, steel. Steel manufacture, Bessemer's and Siemen's processes, hardening and tempering steel. Ship plates, boiler plates, armour plates, protection of steel from corrosion. Oxygen, hydrogen, nitrogen, production and properties. The common acids, their combination with different metals. Common materials, water, air, limestone, etc. Chemistry of combustion.

2. The above syllabus is being deleted from the King's Regulations, and future amendments thereto will be issued in Admiralty Fleet Orders.

**826.—Breech Mechanisms—Modification to B.L. 6 in., VII, Carriers, Screws, Breech, and Vents, Axial, to Prevent Excessive Wear on Pintle—REPORT.**

*"Iron Duke" Class only.*

(G. 8402/25.—19.3.1926.)

To prevent excessive wear on the carrier pintle in B.L. 6 in., VII, guns, the component and spare carriers, screws, breech, and vents, axial, are to be modified in accordance with Instructional Print, N.O.D.2148/6, copies of which will be distributed shortly.

2. A star will be added to the mark of the carriers, screws, breech, and vents, axial, after modification.

3. The work should be carried out by Naval Armament Depôt staff at the first opportunity.

4. The necessary stores are on order and Intermediate Demands should be forwarded by Armament Supply Officers for the quantities required.

5. A report should be forwarded to the Admiralty by ships of the "Iron Duke" class, after sufficient experience has been gained, stating whether the modification is recommended for general adoption.

**828.—Naval Armament Stores—Demands for Fitting Purposes.**

(G. 02060/25.—19.3.1926.)

In order to effect uniformity and correct nomenclature in demanding Naval Armament Stores for fitting purposes, the following instructions are issued for the information of all Ship Overseers and other Officers responsible for demanding such stores:—

(a) A list of packages and their dimensions will be included and circulated on all future Armament Statements and Officers demanding stores for fitting purposes are to do so in accordance with the nomenclature shown thereon.

(b) It must be understood that it is not always possible to provide a *complete* list at the time when an Armament Statement is first circulated, owing to new designs of guns, munitions and packages for the same being in the experimental stage. It is, however, intended that the information with regard to such omissions shall be promulgated to those concerned as soon as it becomes available.

(c) The supply of the above stores for all ships should include *one* package of each design shown on the Armament Statement.

### **838.—Wood Drifters—Survey of Planking and Timbers, Form S.180.**

(S. 1025/26.—19.3.1926.)

In wood drifters a portion of the ceilings or linings is to be periodically removed for the inspection and survey of the planking and timbers.

The date of survey and the opinion of the Fleet Officers as to the condition of the planking and timbers at the time of survey is to be reported on Form S.180.

### **874.—Flotilla Leaders and Destroyers—Procedure of being taken in hand for Retubing.**

(M. 543/26.—26.3.1926.)

All Flotilla Leaders and Destroyers taken in hand for retubing of boilers will pay off into Dockyard control, but the hull, machinery, and boilers will remain in charge of the Ship's Officers, and refit of this portion of the work will be carried out on Lists of Defects as rendered by the Ship's Officers. The electrical portion of the refit will be dealt with as laid down in previous instructions.

2. The authorised care and maintenance party of engine room ranks and ratings allowed will be that shown in Mobilisation Return No. 1, page 110, Section I (a), subject to the proviso that the two stokers included in the numbers laid down will only be allowed if drafting exigencies permit, and may be withdrawn at any time during the refit if required. For such period as these stokers are not available, the work of turning machinery and other casual services usually rendered by stoker ratings during large refits will be carried out by dockyard labour on requisition by the Ship's Officers.

3. Wherever possible, the boilers are to be run down, opened out and the internal gear removed by the Ship's Staff before the vessel is taken in hand by the Dockyard.

4. The arrangements for dealing with the question of Turbine repairs should be in accordance with Article 100, paragraph 2, of the Engineering Manual, 1923.

5. The question of whether the steam pipes should be water pressure tested during the opportunity afforded by the refit should be considered, and if necessary referred to Admiralty for decision, in accordance with Articles 235 and 380 of Engineering Manual, 1923.

6. The Dockyard Officers concerned should inform the Commanding Officer of each ship coming in hand whether it is intended to retube the boilers, fit new water pockets, etc., and request him in writing to include these items in the Ship's Defect Lists. Unless such instructions are given Engineer Officers may not include items for retubing even if aware of the proposal, as in view of the proposed large retubing programme for Destroyers, many vessels may have to be retubed before the life of their boiler tubes has expired.

7. Repair trials are to be carried out on completion, as laid down by Articles 401 (2) and 403 (3) of the Engineering Manual, 1923.

8. Final electrical trials are to be carried out in accordance with the instructions.

## 875.—Fleet Air Arm—Determination of Errors and Maintenance of Adjustment of Compasses in Aircraft.

(M. 119/26.—26.3.1926.)

Reports have been received from Aircraft Carriers in the Atlantic, Mediterranean and China Fleets regarding the different methods practised for obtaining deviations of the compass in aircraft afloat.

It would appear that machines suffer very little from induced magnetism when stowed on board, and that providing an accurate adjustment is made on shore with the engine warmed up, appreciable change in the deviation afloat need not be expected at any rate for a short time. A careful adjustment ashore, say three or four times a year, should therefore be aimed at.

If it is necessary or desirable to swing at sea, the following methods are satisfactory in practice and come under three headings; they are given in order of their suitability:—

In Sight of Land and H.M. Ships.	In Sight of H.M. Ships only.	Out of Sight of H.M. Ships and Land.
(1) Transits of points of land or prominent objects.	(1) Transits of masts and wake.	(1) Sun azimuth by day. Checks by Pole Star at night.
(2) Transits of ship's masts and wake.	(2) Sun azimuths.	
(3) Sun azimuths.	(3) Reciprocal bearings.	
(4) Reciprocal bearings.		

### REMARKS.

Transits of land marks are definite.

Transits of ships' masts in line with wake should give good results, providing a steady course is being steered, and this course is clearly shown by visual means. The machine then flies across ahead or astern on the different courses. Machines should be steady for at least one minute on each course to ensure card is settled.

*Note.*—In "Furious" the wireless masts are in line and parallel to fore and aft line, in "Argus" this method is not applicable, but in smooth water the attendant destroyer might be utilised.

Sun azimuths are only satisfactory when the sun is below an altitude of about 20 deg., and they have the disadvantage that approximate S.A.T. and tables are required.

All the above methods have the advantage that several machines can swing at the same time.

Reciprocal bearings are satisfactory from the point of view of obtaining errors, but as W/T is the only satisfactory method of signalling results, this method is very slow and has the disadvantage that only one machine can swing at a time. In the Mediterranean and latitudes below, rough checks might be obtained by bearings of the pole star at night.

With regard to the use of a bearing plate, the correct procedure is *not* to take a bearing and trust to the pilot being on his course, but to set the bearing plate to the course and arrange with the pilot for some simple signal to indicate when he is on the course and then take the bearing.

(A.F.O. 3364/26.)

## 891.—Torpedoes—Repairs, Alterations, etc.

(G. 17600/25.—26.3.1926.)

Demands are frequently received at torpedo depôts for items which obviously imply an intention to do work on torpedoes which should only be done at the torpedo factory or at torpedo depôts.

(C18807)

2. It is pointed out that in many cases repairs or modifications involve tests, dynamometer brake runs or even re-ranging, and in all cases the use of specified and accepted materials is necessary. It is therefore essential that all such work should be carried out only by and at the torpedo factory and torpedo depôts.

3. Attention is called to the last paragraph on page 59 and the last paragraph on page 65 of O.U. 5318 and O.U. 5319, Regulations for Care and Maintenance of Torpedoes and Tubes in Surface Vessels and Submarines, respectively.

**902.—Issued Confidentially.**

**917.—Storing Arrangements—H.M. Canadian Ships Attached to H.M. Squadrons.**

(N.S. 2262/26.—26.3.1926.)

The following arrangements have been made and are to be complied with in connection with the supply, etc., of naval stores from H.M. Dockyards and Naval Depôts, to H.M. Canadian Ships whilst attached to H.M. Squadrons, etc. :—

I.—*Demands for Naval Stores.*—Five copies of the demands will be supplied to the Naval Store Officer by the ship, which should be disposed of as follows :—

One copy	...	...	For daily bundle.	
One copy	...	...	Supply note to ship.	
One copy	...	...	To be forwarded direct by the Naval Store Officer to the Director of Naval Stores, Department of National Defence, Ottawa.	
One copy	...	...	For Return D.72	} For claim purposes.
One copy	...	...	For Duplicate Return D.72A	

Care should be taken to secure in every case the signature of the responsible Officer of the ship on supporting vouchers for supplies made.

II.—*Return of Naval Stores.*—Five copies of Reports of Survey will be provided, one to be forwarded to the Director of Naval Stores, Department of National Defence, Ottawa, and two for Return D.72 accompanied by the respective transcripts.

III. The copies of the issue and return notes for the Director of Naval Stores, Department of National Defence, Ottawa, should be forwarded direct as enclosures to Forms D.74 and D.74A respectively.

IV.—*Naval Stores issued in excess of Establishment.*—One copy of Form D.64 to be forwarded to the Director of Naval Stores, Department of National Defence, Ottawa.

V.—*Alterations to Fixture List.*—Two copies of Form D.526 to be forwarded to Director of Naval Stores, Department of National Defence, Ottawa.

## 921.—Hoses—Demands and Treatment, etc.

(N.S. 1520/26.—26.3.1926.)

The following types of hoses should be issued for the Services stated:—

<i>Type.</i>	<i>Service.</i>
Flexible steel metallic hoses ...	Running down boilers.
I.R. hose, Pattern 677 or 678 ...	Tube sweeping.
Sphincter grip, I.R., armoured hose ... ..	Ash water service.
Canvas delivery hoses ... ..	Testing, etc., turbines and condensers.

2. In cases of urgency, canvas hose may be used for running down boilers or for ash water services.

3. The internal diameter of flexible metallic and special type hoses is to be shown on all demands, for the guidance of contractors in manufacture, viz. :—

<i>Size of connection.</i>	<i>Int. diameter of Hose.</i>
No. 1 ... ..	1 $\frac{1}{8}$ in. } Standard
„ 2 ... ..	1 $\frac{3}{8}$ in. } dimensions.
„ 3 ... ..	2 $\frac{3}{8}$ in. }
„ 4 ... ..	3 $\frac{1}{8}$ in. }

4. In the case of hoses which will be subjected to heat or steam pressure, it is essential for the connections to be screwed and packed with asbestos to the hoses, and for other purposes to be screwed and sweated or soldered to the hoses.

5. All demands should state the actual purpose for which the hoses are required.

### RUBBER SUCTION HOSES.—TREATMENT FOR SALVAGE PURPOSES.

6. On returning rubber salvage hoses to store after use they should be thoroughly cleaned with fresh water, and all oil removed by means of paraffin or, if practicable, petrol or naphtha.

7. The hoses should then be thoroughly dried and tested by water pressure to 15 lb. per square inch.

8. If necessary, they should be washed out with a suitable disinfectant and afterwards dried.

9. The metal drop bolts should be overhauled, cleaned, coated with mineral grease and stopped back to the hoses.

10. All rubber or other jointing at the connections should be examined and renewed, where necessary.

11. Where separate canvas covers are supplied with the hoses they should be unlaced from the covers, scrubbed with soft soap and water and dried. They should be preserved by being treated with a mixture of boiled and raw linseed oil in equal parts.

### LEATHER HOSES.—TREATMENT TO PREVENT DETERIORATION.

12. When leather hoses are kept in store for a length of time, or are subjected to heat in hot climate or on board ship, the stuffing gradually dies out, and the leather becomes deteriorated. To prevent this, the hoses are to have at least one or two coats of stuffing every three months, the stuffing being composed of one part neatsfoot oil and one part cod oil.

### FLEXIBLE METALLIC OIL FUEL HOSE.—TESTING AND PRESERVATION.

13. In future, only new oil fuel hoses are to be sent to Foreign Yards or Depôts.

14. No defective or used hoses which may be received from Oilers or any other source are to be taken into store without first being repaired and/or tested to a pressure of 150 lb. to the square inch.



15. Oil fuel hoses are to be kept in a good state of preservation by the application of mineral grease or oil fuel, which should be rubbed into them at frequent intervals. When not in use, the hoses should be stored under cover as far as possible (particularly in the case of steel hoses), and should not be coiled, but extended at full length, care being taken that no weighty material is placed upon them.

16. The Officer responsible for the upkeep of hoses, etc., in oil lighters, etc., and at outlying oil fuel storage installations, or in stock at various bases, etc., should arrange that they are inspected at least once a month to ensure that all items are maintained in a proper condition of repair.

### 976.—Fire Control Tables—Packing for Transport.

(C.P. 30342/25.—1.4.1926.)

In order to avoid damage to the delicate apparatus comprising these tables when it is necessary to land them from H.M. Ships, arrangements have been made for them to be dismantled and packed in cases by Messrs. Elliott Bros. (London), Ltd., under contract, on board the ship concerned.

2. The contract applies to tables, Mark III\*, IV and IV\* only, and includes their dismantling and packing in cases to be supplied by firm, the packed cases being left on board H.M. Ship. Subsequent landing and forwarding will not be carried out by the firm, these charges being the liability of the Admiralty. The contract applies only to ships lying at H.M. Dockyards, Chatham, Portsmouth and Devonport.

3. Instructions will be given by the Admiralty whether the table is to be—

- (i) Removed for overhaul and repair by Messrs. Elliott at their works; or
- (ii) Removal for storage at H.M. Yard; or
- (iii) Such action as may be necessary in special circumstances.

4. Fourteen days' notice will be required by firm before starting work in any ship, and any occasion on which a table is required to be sent to firm should be reported to the Director of Stores. In cases of urgency the report should be forwarded by postagram. Instructions to firm on every occasion will be given by the Director of Navy Contracts only. The work is not likely to take more than 4 or 5 days.

5. In order to avoid subsequent difficulty the condition of the table is to be agreed before work is started by the representatives of the Commanding Officer of H.M. Ship and of the firm. Any defects in the table agreed with the firm should be noted and reported to the Admiralty in order that if it is necessary to send the table to firm's works for overhaul, etc., an accurate estimate of the condition of the table before despatch may be available for the information of the Admiralty Overseers.

6. In the event of a table being packed for storage the parts are to be placed in a state of preservation. A certificate that this has been done satisfactorily is to be signed by the Commanding Officer and the Naval Store Officer of the Yard concerned; a representative of the latter being present during the operation of packing.

7. The Commanding Officer of the respective vessel will also be responsible for certifying that the work of dismantling and packing has been satisfactorily carried out by the contractor, or otherwise.

8. Other marks of table will be dealt with separately as and when occasion arises.

9. On the exceedingly rare occasions when this work may be necessary at a Yard abroad, it should be carried out by the Electrical Engineering and Engineering Departments conjointly. In such cases the Commanding Officer of the ship concerned should point out any known defects and a report signed by him and the Yard Officers should be sent to the Admiralty. The instructions contained in paragraphs 3 and 6 are generally applicable to tables dealt with at Yards abroad.

(A.F.O. 891/28.)

**1033.—Issued Confidentially.****1067.—Shellac Varnish or Substitutes for Coating Corticene and Cork Carpet—Supply.**

(N.S. 19298/25.—9.4.1926.)

Applications have been received from time to time for the supply of shellac varnish or substitutes for coating corticene and cork carpet, and attention is drawn to the following instructions:—

The use of shellac varnish or substitutes for coating corticene and cork carpet should be discontinued as the value of any saving in wear would be exceeded by the cost of coating.

The material may, however, continue to be used in R.F.A. "Maine" for coating the floors of wards, also in H.M.S. "Repulse" and "Renown" for use on the "Teakoid" floor of the sick bay.

All establishments, etc., should be amended accordingly.

2. Issues of these materials will only be made in future for the services mentioned, and applications for supplies for Admirals' or Commanding Officers' apartments, ward rooms, or any other service, cannot be entertained.

**\*1070.—Navy, Army and Air Force Institutes—Sale of Groceries, etc., to Officers and Men for Family use.**

(V. 141/26.—9.4.1926.)

The following revised arrangements are approved whereby groceries and other articles usually stocked by the Navy, Army and Air Force Institutes may be purchased in the canteen for family use by Officers and men borne on the books of H.M. Ships and Fleet Establishments.

2. Every Officer and man wishing to avail himself of this privilege will be required to register at the canteen with the permission of his Commanding Officer.

3. Each registered customer will be supplied by the Navy, Army and Air Force Institutes with a grocery book showing his name, rank or rating and private address, and containing general instructions as to the scheme.

4. He will also be given a registered number which will be entered on his grocery book and will hold good until he leaves the Ship or Establishment. On transfer to another Ship or Establishment he will be required to re-register.

5. Orders for groceries, etc., are to be entered by the customer in his grocery book, which is to be handed in at the canteen daily at such hour as may be fixed by the Commanding Officer. Payment for the goods must be made when the order is handed in and a discount of 5 per cent., calculated to the nearest penny, will be allowed at the time of payment.

6. The customer's order will be copied from the grocery book by the canteen manager on an order form on which the cost of the goods will be calculated, the discount being deducted from the total. This form will be made out in duplicate by the carbon process, and the duplicate will serve the purpose of a receipt.

7. The grocery book will be returned to the customer tied on the outside of the parcel containing the goods ordered.

8. Should the customer desire to take away the goods himself, the canteen manager will hand him the duplicate receipt (which will be stamped "PAID") and will deposit the parcel in such place as may be detailed by the Commanding Officer convenient for collection by the customer before leaving the Ship or Establishment.

9. The duplicate receipt given by the canteen manager is to be used as a pass for taking the goods out of the Ship or Establishment.

10. If preferred by the customer, the canteen manager will arrange for delivery of the goods at the customer's private address. In this event the duplicate receipt (pass) will be retained by the canteen manager and will be forwarded by him to the customer's private address with and attached to the parcel containing the goods.

11. Rebate will not be paid by the Navy, Army and Air Force Institutes to the ship's or barracks' funds in respect of these purchases, and canteen managers will keep a daily abstract of all purchases by registered customers, the cash received for sales to such customers during the month being deducted from the total cash takings in the canteen when calculating the rebate due to the ship's or barracks' funds.

12. It must be clearly understood that this scheme is limited to the supply of goods in respect of which duty has been paid or which are not liable to duty.

13. In the case of seagoing ships which are allowed to ship dutiable canteen stores free of duty, such dutiable goods are on no account to be supplied to customers for the purpose of being taken out of the ship. Any such abuse of the scheme will render the person or persons concerned liable to the penalties for smuggling.

14. The following is a list of some of the principal goods dutiable in the United Kingdom:—

Assorted biscuits.	Jam (all kinds).
Cake.	Marmalade.
Chocolate (all kinds).	Lemonade powders.
Cigars.	Matches (all kinds).
Cocoa essence.	Condensed milk (sweetened).
Cigarettes (all kinds).	Mineral waters.
Cocoa and milk.	Candied peel (all kinds).
Café au lait.	Fruit salad.
Coffee.	Sugar.
Chicory.	Hard and soft confectionery (all kinds).
Currants.	Golden syrup.
Dates.	Tea.
Figs.	Tobacco (all kinds).
Tinned fruits and syrup.	Beer.
Bottled fruits.	Playing cards.
Sultanas.	Chutney.
Raisins.	Patent medicines.
Prunes.	
Fruit syrup.	

15. *Stocking in Canteens in Shore and Harbour Establishments of Articles included in Paymasters' Stores.*—Small stocks of groceries, such as tea, coffee, etc., which are of the kind included in the Service ration and therefore not normally stocked in canteens, may as a special case, be kept in canteens in *Shore Establishments and Harbour Ships not allowed duty free goods*, for the purpose of supply to Officers and men under the above scheme. This is on the distinct understanding that such supplies are stocked only for this particular purpose and not for issue or use in the Shore Establishments of Harbour Ships.

### 1088.—Vote 8 (IIj)—Classification of Charges.

(N.S. 16584/25.—9.4.1926.)

As from 1st April, 1926, credits arising under Vote 8 (II) Subhead J, should be allocated under the following divisions and sub-divisions:—

*Item.*

- J.1. (a) Coal issued to occupants of official residences.  
 (b) Cartage on coal issued to occupants of official residences.  
 (c) All other issues of Naval Stores from main or repairable ledger stock, dockyard produced electric current distilled water and ice, to private individuals, other Departments of Government, Dominion, Colonial and Dependent Governments, etc., including percentage charges, etc.

*Note.*—All J.1 items at Yards and Depôts are chargeable to Section F, of Account No. 88, and are reported in Returns D. 72A-D.

- J.3. Sale of ships, tugs, lighters.  
 J.4. (a) Sale of old and surplus stores on sale or main ledger charge.  
 (b) Firewood supplied to occupants of official residences including cartage where charged.

*Note.*—All J.4 items at Yards and Depôts are chargeable to Section B, Item 4, of Account No. 88.

- J.5. (a) Percentage charges on furniture and electric light fittings in official residences, quarters, etc.  
 (b) All other miscellaneous charges including: Percentage charges on dockyard labour, penalty rents for non-removal of vessels and stores purchased; water from Dockyard mains; gas and electric current from private sources, washing, plant charges, hire of tugs and steamboats; motor transport; return of empty drums and containers, etc., recoveries from workmen, etc., for stores lost; refund of freight charges (if in a subsequent year to which incurred).

2. Departments raising the credits are responsible for furnishing the Cashier with the correct allocation of the items in accordance with the above. Each division and sub-division is to be shown in a separate column (either in the Cash Account Schedule or on a statement attached to the schedule) in which the amounts given on the individual vouchers are to be posted, and the separate totals are to be shown on the front of the schedule.

3. To conform with the new sub-divisions of Vote 8 (IIj) percentage charges on labour (J.5 (b)) are to be shown separately from percentage charges on materials (J.1 (c)).

4. The detailed information referred to above for local recoveries is also to be shown on the back of returns D.72 A. C. and D. for recoveries at the Admiralty.

### 1090.—Pilotage Dues, etc., of Foreign Men-of-War and Government Vessels in British Ports.

(M./D.A. 1242/25.—16.4.1926.)

Pilotage of foreign warships visiting British Naval Ports is a service which should be given free of charge as a matter of international courtesy. Visiting men-of-war are therefore not to be charged dues for pilotage and services incidental thereto, viz., towing, mooring, and making fast, at naval ports, when such operations are performed by dockyard pilots. This arrangement applies to commissioned ships flying the pendant of a man-of-war and to hospital ships. Expenditure incurred in these services should be reported on separate Returns, D.72D, in order that such expenses may be written off to Balances Irrecoverable (International Courtesy).

Senior Naval Officers at the ports in question should accordingly arrange for the necessary facilities for foreign ships of war, etc., when visits take place.

2. This principle applies only to actual pilotage, etc., and does not in any way affect the recovery of the expenditure incurred in such services as:—

- (a) Moving ships for docking or repairs.
- (b) Movements of auxiliary vessels, such as colliers, for the purpose of fuelling other vessels.
- (c) Docking or carrying out repairs.

In all such cases the authorised charges are to be claimed.

3. "Hospital Ships" are those defined as such in the Hague Convention. They are painted white with a broad *green* band, and any hospital ship so painted should *primâ facie* be considered as within the scope of these arrangements.

4. The British Naval Ports concerned are:—

Plymouth.	Bermuda.
Portsmouth.	Gibraltar.
Sheerness—Chatham.	Malta.
Rosyth.	Bombay.
Pembroke.	Hong Kong.
Portland.	Simon's Bay.

5. It has been agreed with France that the following vessels of the French and British Navies shall come within the purview of this arrangement:—

*France.*—All vessels which are shown in La Liste de la Flotte, including hospital ships, and such of the auxiliary vessels included in that list as are manned with Officers and crew of the French Navy and hoist the man-of-war's pendant.

*Great Britain.*—All the vessels shown in the list of ships and vessels of the Royal Navy, including Dominion Navies, hospital ships, and auxiliary vessels manned with a naval crew, irrespective of whether such craft hoist, or do not hoist, the distinctive pendant of a man-of-war.

6. Commissioned auxiliary vessels of the United States of America Navy are to be dealt with in the same manner as the French auxiliary vessels referred to in paragraph 5.

7. The French Ports concerned are:—

Cherbourg.	Rochefort.
Lorient.	Bizerta.
Toulon.	Saigon.
Brest.	Dakar.

8. In ports not classified as naval ports foreign men-of-war and Government vessels are charged dues for pilotage and services incidental thereto, and Government vessels other than hospital ships and the naval auxiliary vessels referred to above are also charged such dues in naval ports.

### 1091.—Towage of Seven Battle Practice Targets in Firth of Forth by H.M.S. "Tiger."

(M. 01754/25.—16.4.1926.)

A line of seven battle practice targets was towed by H.M.S. "Tiger" off Rosyth on dates 16th and 18th June, 1925.

On these dates 6 in. main armament control and full calibre firings respectively were carried out by the Second Battle Squadron and H.M.S. "Hood."

The following account of the methods employed in towing is promulgated for information:—

- Part I.—Orders to H.M.S. "Tiger" and general idea.
- „ II.—Shackling up the tow.
- „ III.—Casting off the tow.

Appendix I.—Stores required by each tug.

- „ II.—Single flag or letter signal table for special towing.
- „ III.—Remarks on experience gained.

## PART I.—ORDEES TO H.M.S. "TIGER" AND GENERAL IDEA.

"Tiger" will tow a line of seven battle practice targets, using one 5½ in. and fourteen 4½ in. wire hawsers.

There will be one 5½ in. and two 4½ in. wires between "Tiger" and No. 1 target and two 4½ in. wires between each target.

The whole 15 hawsers will form a "messenger" to which the targets will be attached by means of 10 fm. (4½ in.) towing spans.

The targets will be numbered consecutively from 1 to 7, No. 1 being the leading target.

The hawsers will be similarly numbered.

No. 1 target will be attached to the messenger at the junction to Nos. 3 and 4 hawsers; No. 2 at junction of Nos. 5 and 6 hawsers; No. 3 at the junction of Nos. 7 and 8 and so on.

Swivel pieces of 1½ cable will be placed between Nos. 1 and 2; 3 and 4; 5 and 6; 7 and 8; 9 and 10; 11 and 12; 13 and 14 hawsers, and between No. 15 hawser and No. 7 target.

Seven specially prepared rafts will be attached to the junctions of Nos. 2 and 3; 4 and 5; 6 and 7; 8 and 9; 10 and 11; 12 and 13; 14 and 15 hawsers to support the tow. These rafts will be numbered in a manner similar to the targets. They are Pattern VI target rafts and are each fitted with two strops, one at each end, which are passed right round the raft in an athwartship line. These strops are fitted with slips on the deck of the raft to facilitate disconnecting when casting off tow. Wire pendants about 5 fathoms in length are fitted to the strops for connecting them to the line of tow. A spring hook and strop is on the forward pendant for connecting to the shackle joining the towing hawsers, and a spring hook is on the after end for hooking round the hawser.

"Tiger" will be assisted by "Snapdragon," "St. Cyrus," "St. Genny," "St. Martin," "St. Kitts," "St. Omar," and "Jaunty."

Each of the above will take charge of a battle practice target and a raft and will be supplied with the stores enumerated in Appendix I. They will take their sections of the tow to the rendezvous and shackle them up when ordered. When the practices are completed, they will disconnect their respective sections and take them back to harbour.

*Note I.*—See detailed instructions for casting off tow.

*Note II.*—Tripping lines (15 fms., 2½ in. wire) will be provided spliced into the eye on one end of certain hawsers. The other ends of these lines will be secured to the rafts. These are to enable the tugs to get hold of their hawsers when unshackling.

## PART II.—SHACKLING UP THE TOW.

All attendant craft will be ordered to rendezvous with "Tiger" at a position to be communicated later.

On arrival at the rendezvous "Tiger" will anchor.

Tugs are to anchor on a line bearing from "Tiger's" stern, 2 cables apart, the leading tug being 2 cables from "Tiger."

*Note.*—Tugs will assume the Fleet numbers corresponding to the numbers of their targets and will show their numbers whenever under way.

Targets to be in tow at short stay. Rafts alongside tugs. The targets are to be shackled to the towing hawsers as follows: Target—towing chain—10 fm. pendant—swivel—hawser. (*Note.*—This hawser is to be the one fitted with stripping line, and the end not so fitted is to be on the swivel.)

The "Preparative" will be hoisted and hauled down as the signal to shackle up the tow.

On the hauling down of the "Preparative":—

No. 7 tug ("Snapdragon") is to weigh and steam towards No. 6 tug. Veer No. 15 hawser.

Connect No. 7 raft to junction of Nos. 15 and 14 hawsers.

Veer No. 14 hawser until inboard end is in a convenient position.

Shackle a 10 fm. span to the inboard end of No. 14 hawser.

(By this time she should be close alongside No. 6 tug.)

Pass end of 10 fm. span to No. 6 tug who will shackle it to the swivel piece of No. 6 target.

As soon as No. 6 tug has secured this span, "Snapdragon" slips tow and proceeds clear.

As soon as No. 6 tug has secured the tow received from "Snapdragon" No. 6 tug will weigh and steam towards No. 5 tug.

Veer No. 13 hawser.

Connect No. 6 raft to junction of Nos. 13 and 12 hawsers.

Shackle a 10 fm. span to inboard end of No. 12 hawser.

Put inboard end of No. 12 hawser on to towing hook.

Keep other end of 10 fm. span ready to pass to No. 5 tug.

Veer No. 12 hawser.

Proceed alongside No. 5 tug.

Pass end of 10 fm. span to No. 5 tug who will secure it to swivel of No. 5 target.

As soon as No. 5 tug has secured end of 10 fm. span to swivel on No. 5 target, No. 6 tug slips hawser from her towing hook, and so on . . . .

As soon as No. 1 tug has received tow from No. 2 tug, she will weigh and steam towards stern of "Tiger" and, when alongside her, will pass end of No. 2 hawser to "Tiger" who will shackle it to No. 1 hawser.

"Tiger" will then weigh and proceed with tow.

Tugs are to remain in the vicinity of their targets till ordered to proceed to rendezvous "B" where they are to anchor and set W/T watch on 450 metres.

### PART III.—CASTING OFF THE TOW.

On conclusion of the practices tugs will be ordered to join "Tiger" at rendezvous "C."

On arrival at rendezvous "Tiger" will anchor.

Tugs will go alongside the rafts immediately ahead of their respective targets, get hold of the tripping lines and heave up the junctions of towing hawsers, detach the rafts and retain them alongside. Then unshackle the hawser leading to the next target ahead, buoy the end and let it go. Then heave in the hawser connected to their own targets till the swivel piece is inboard. On the end of the swivel piece will be found the 10 fm. pendant leading to their target and a 10 fm. pendant joining the swivel to the next hawser astern. These latter are to be unshackled and the hawser and pendant hauled inboard.

When the second hawser is inboard, proceed with target as ordered.

N.B.—No. 7 tug will find herself with only one hawser. She will close "Tiger" who will provide her with the wire which was originally No. 2 hawser.

On account of the unhandiness of "Snapdragon" the following will be the order of precedence as regards targets:—

No. 1, "St. Martin," Nos. 2 and 3 hawsers, No. 1 raft, No. 1 target, No. 31 145 ft. battle practice target.

No. 2, "St. Cyrus," Nos. 4 and 5 hawsers, No. 2 raft, No. 2 target, No. 37 145 ft. battle practice target.

No. 3, "St. Genny," Nos. 6 and 7 hawsers, No. 3 raft, No. 3 target, No. 21 145 ft. battle practice target.

No. 4, "St. Kitts," Nos. 8 and 9 hawsers, No. 4 raft, No. 4 target, No. 101 200 ft. battle practice target.

- No. 5, "St. Omar," Nos. 10 and 11 hawsers, No. 5 raft, No. 5 target,  
No. 24 145 ft. battle practice target.  
No. 6, "Jaunty," Nos. 12 and 13 hawsers, No. 6 raft, No. 6 target,  
No. 39 145 ft. battle practice target.  
No. 7, "Snapdragon," Nos. 14 and 15 hawsers, No. 7 raft, No. 7 target,  
No. 8 120 ft. battle practice target.

APPENDIX I.—STORES REQUIRED BY EACH TUG.

No.	Description.
2.	4½ in. flexible steel wire hawsers, 150 fms. each—300 fms. (Note.—One 4½ in. fitted with 15 fms. 2½ in. tripping line and one 4½ in. without this tripping line.)
2.	4½ in. flexible steel wire pendants, 10 fms. each—20 fms.
2.	1½ in. swivel pieces.
1.	4½ in. carpenter's stopper.
1.	2½ in. carpenter's stopper.
7.	1½ in. anchor shackles.
20 fms.	rounding.
1.	2½ in. wire tripping line.

APPENDIX II.—SINGLE FLAG OR LETTER SIGNAL TABLE FOR SPECIAL TOWING.

- A. Ready to proceed.
- B. Keep on beam of target-s.
- C. Keep clear of target-s.
- D. Keep target-s in present position.
- E. Semaphore.
- F. Follow the ship.
- G. Go alongside target-s.
- H. Proceed with target-s to rendezvous arranged.
- I. Prepare to slip target-s.
- J. Slip target-s.
- K. Proceed in execution of previous orders.
- L. What is cause of delay?
- M. Take target more to starboard.
- N. Take target more to port.
- O. Keep target steady in the line of tow.
- P. Come under port quarter.
- Q. Cast off tow.
- R. Return to harbour with targets.
- S. Come under starboard quarter.
- T. Stop engine.
- U. Report what has carried away.
- V. Report damage to target and wires.
- W. Go ahead.
- X. Go astern.
- Y. Pick up target carried away.
- Z. Target has broken adrift.
- Int. Are you ready to proceed?

Hoisted singly addresses all tugs; tugs' fleet number superior addresses tugs in question. Numeral flag inferior refers to numbered target.

ADDITIONAL FLAGS.

*Red Burgee* is to be hoisted by any tug if anything unforeseen occurs which will endanger the tow. "Tiger" will immediately stop engines.

*One Pendant* is to be hoisted by each tug when in position, with target veered and ready for slipping and tow next astern shackled up. To be kept flying until target is slipped.

*Preparative*.—Prepare to shackle up tow.  
Hauled down—commence operations.

All single flag hoists used during the towing operations will refer to the above table without exception.



## APPENDIX III.—REMARKS ON EXPERIENCE GAINED.

The methods of connecting up and casting off the tow proved very satisfactory, the latter even in a fresh wind and heavy sea, although it is essentially a fine weather operation. Generally speaking, the whole operation was successful, though it was unfortunate that on each day the targets were taken to sea the tow parted. On the first day this was due to the wire fouling an obstruction on the bottom; on the second day it was due to gunfire.

2. The towing hawsers supplied ( $4\frac{1}{2}$  in. wires) could be improved upon. They are too heavy and not strong enough. It was considered inadvisable to exceed 8 knots through the water with five targets in tow.

3. The rafts were admirable as buoys for the tripping lines. The strops were rather too short, bringing the main tow too near the surface, with the result that the wire was shot through.

4. The tripping lines were invaluable. When the tow parted the weather was such that a tug could not have gone alongside a battle practice target in safety, but the raft could be got alongside without fear of damage.

5. In future operations of this nature, it is advisable that the ship in charge should have a good supply of spare gear. On this occasion "Tiger" made use of all the gear which was earmarked for "Snapdragon," the latter using her own materials. It is considered desirable that there should be a complete unit of stores spare for every three battle practice targets. (*Note*.—The whole of the spare gear, including two spare rafts carried in "Tiger," was used.)

It is suggested that on future occasions a spare  $4\frac{1}{2}$  in. hawser floated by a raft be towed astern of the last target. To turn the line of targets in fine weather and confined sea room: Tugs go alongside the first and eighth rafts, disconnect at the first raft. Towing ship turns short and goes alongside tug at eighth raft and connects tow. The targets will all slew round on their towing spans and the whole tow moves off in the opposite direction. This saves 3 to 4 miles and in calm weather should be as quick. It is not recommended in rough weather.

6. *Navigation Information and Strains on Hawsers at Varying Speeds*.—For speeds up to 8 knots through the water, it was necessary for "Tiger" to steam revolutions for 2 knots more than the normal when in calm water.

It was considered inadvisable to attempt more than 8 knots through the water in calm sea or 6 knots in wind force 5 and sea 4.

(a) Coming to anchorage, "Tiger" reduced revolutions for 6 knots at 1.5 miles, 4 knots at 1 mile and stopped 3 to 4 cables from berth. Ship could then be stopped by her cable without going astern, veering 6 to 8 shackles. Brake was only used lightly. The hawsers, being on the bottom, brought the ship up.

On account of the tendency of targets to sail to windward, it was advisable to alter course away from the wind when possible. When turning towards the wind, the targets tow well inside wake of ship. This brings direction of towing wire forward and greatly increases the strain on it if it grows more than 30 deg. from right astern.

With length of tow  $2\frac{1}{2}$  miles and altering course towards a fresh beam wind, the track of the last target was some 6 to 7 cables inside that of the ship although course was only altered 15 deg. at a time and a run of at least a mile between each alteration was made.

Time taken to turn the tow through 16 points in a fresh breeze was about  $1\frac{1}{4}$  hours. Tactical diameter about 4 miles. Speed 6 knots.

The ship steered easily on a steady course.

(b) *Strains on Hawsers*.—A 20 ton weighing machine was borrowed from "Tower" and used on the tow on the occasion of the preliminary towing practice.

With 5 targets, 5 rafts, 11 hawsers, 11 spans veered, the total length was 3,420 yards.

On straight tow at speed varying between 3 and 6 knots, strain varied between 4 and 18 tons.

Speed 6 knots, turning 10 deg. to 15 deg. at a time, strain varied between 16 and 22 tons.

Maximum speed 8 knots, straight tow, strain 26 tons.

N.B.—These are speeds through the water.

The weighing machine was not reliable on account of the "stickiness" of the hand on the dial.

### **1132.—V/S—10 in. Signalling Projectors—Fitting in H.M. Ships, Destroyers and Submarines.**

(S.D./S. 6009/25.—16.4.1926.)

In ships fitted with Pattern 5300, 10 in. Signalling Projectors it has been found in practice that Pattern 5305 and 5306 pole and heel fittings are more suitable for mounting these projectors than Pattern 5304 pedestal, especially in destroyers where space on bridges is so limited.

2. In certain cases where sufficient support for the pole and heel fittings cannot be secured the Pattern 5304 pedestal will be necessary and should be fitted. This does not apply to submarines which are dealt with in paragraph 6.

3. Ships should therefore, as a general rule, when demanding 10 in. signalling projectors also demand sufficient pole and heel fittings to ensure that the projectors when mounted have an arc of bearing of from 0 deg. to 180 deg. either side. Where this is not obtainable from one position (i.e., the ends of bridges) an additional position should be fitted to obtain this.

4. In destroyers and flotilla leaders the 10 in. signalling projectors should be mounted on pole and heel fittings outside the rails of the Upper Bridge, suitable positions being selected by Ships' Officers in conjunction with Signal School.

5. Bridge rails fitted on the bearing arc of these signalling projectors in all ships should not be more than 3 ft. 6 in. high.

6. In submarines fitted with 10 in. signalling projectors a specially designed folding bracket to take the pivot of projector will be necessary. Trials of this bracket will shortly be made.

7. The approved method of wiring the 10 in. signalling projector is shown in Sketch "A" (E.F.O. 23/26) which gives pattern numbers of cables, resistances and fittings to be used.

### **1137.—Ventilation Trunks—Modified Grating.**

(S. 1216/26.—16.4.1926.)

The drawing (E.F.O. 24/26) showing a modification considered desirable in the gratings at the inlets and outlets of all new ventilation trunks is promulgated for information.

2. This new type of grating is to be fitted in all new ventilation trunking and in existing trunking where gratings have to be renewed.

### **1139.—Spare Gear Reports—REPORTS.**

(D. 21571/25.—16.4.1926.)

In connection with the reports forwarded in accordance with A.F.O. 273/24, it has been decided, with regard to pneumatic transmission gear and motor driven domestic machines, viz., mincing machines, slicing machines, potato peelers, dough mixers, etc., on Vote 8/III Charge, that, where not already shown, the following additional information should be shown on the receipt sheets:—

- (i) A description of each machine in sufficient detail to enable it to be identified, and to include Maker's name and number, capacity and type of machine, etc.
- (ii) In the case of pneumatic transmission gear, the fittings, carriers, etc., available with the motor-driven pumps.

2. In future, the receipt and despatch sheets on which such plant is shown should be forwarded in triplicate.

3. The Dockyard or Depot copy of the receipt sheets already forwarded, on which such machinery is shown, should be amplified as necessary, and a copy of all such receipt sheets including the additional information should be forwarded as soon as possible.

4. With regard to coolers (for magazine cooling and collective protection), issues and receipts should be reported and forwarded in duplicate. These reports should be made separately, and not on the forms forwarded in accordance with A.F.O. 273/24.

5. In the case of machines and coolers not having a number, a Yard initial and number should be allocated, stamped on the machine or cooler and reported.

6. A list of the above machines, etc., ex coolers in stock on 1st April, 1926, should be rendered, in duplicate.

7. Hand-worked domestic appliances, e.g., slicing machines, potato chipping machines, etc., are Vote 2 stores, and any such appliances which may be in stock at H.M. Dockyards should also be reported, with a view to their being transferred to a Victualling Yard.

(A.F.O. 273/24.)

### 1153.—Coloured Cotton Waste—Presence of Foreign Matter.

(N.S./G. 15496/25.—16.4.1926.)

Instances have been reported in which foreign substances such as small pieces of metal needles have been found in supplies of coloured cotton waste.

2. The Contractors exercise special care when sorting the material to detect and eliminate extraneous matter, but notwithstanding this, care should be taken when using coloured cotton waste for cleaning machinery, etc., to ensure as far as possible that the waste contains no foreign substance, and that no substances likely to cause injury to intricate machinery are left behind by the waste after use.

### 1154.—Chlorosulphonic Acid for Smoke Production—Properties and Precautions.

(N.S. 10264/24.—16.4.1926.)

#### GENERAL PROPERTIES.

Chlorosulphonic acid used for smoke production is a fuming, highly corrosive liquid, consisting of 40 per cent. chlorosulphonic acid and 60 per cent. sulphur tri-oxide and has a specific gravity of 1.9. The fumes are irritant although not toxic. This acid very quickly attacks the skin, clothing, rubber and all common metals except iron, in a similar manner to the strong sulphuric acid used for batteries.

2. In contact with water intense heat is developed accompanied by loud hissing and copious white fumes. Under certain conditions this action may take place with great violence, and is very dangerous, as the acid may thereby be scattered all round the container.

3. Soldered or leaded joints should be used very sparingly, and where used should be kept under careful observation. Copper or brass cocks or rubber connections should never be used. Iron vessels and iron cocks, or preferably valves, may be employed with safety.

#### STORAGE.

4. Chlorosulphonic acid is usually supplied in iron or steel drums or barrels, closed with iron bungs. Asbestos string smeared with vaseline is used for the purposes of a washer.

5. The acid may be stored under conditions similar to those used for the storage of strong sulphuric acid for Submarine batteries.

6. Occasionally pressure is developed in chlorosulphonic acid containers, and the operator should stand clear of any spray that might be produced by the release of pressure on opening a drum. The drums are best kept in a dry, cool shed, away from any material likely to be damaged by a possible escape of the corrosive acid. The acid, which can be stored indefinitely, should not be kept in sheds having wooden floors.

7. Drums should be stored with the bungs uppermost and in such a way that any drum is easily accessible. Great care should be taken to avoid rough usage of the drums. Leakage is shown by fuming near the faulty spot. If at the bung, this may be tightened or new washers fitted.

8. If a small leak develops in a drum through rough handling (generally in the side seams), the drum should be turned so as to bring the leak uppermost, and any liquid on the outside of the drum removed by dry service "mops" (care being taken to keep the acid off the hands). Any faulty drums or barrels should be emptied immediately (*see precautions below*).

#### FILLING SMOKE CONTAINERS, APPARATUS, ETC., WITH CHLOROSULPHONIC ACID.

9. Chlorosulphonic acid should never be put into containers other than the steel drums, or barrels specially made for use with it. The empty smoke container or drum should be carefully examined so as to make certain that the inside is quite dry. To pour chlorosulphonic acid into a closed vessel containing even traces of moisture is *highly dangerous and might lead to serious accident*.

10. The storage drum is fitted with the special acid pourer as supplied.

11. The storage drum can be supported in a cradle sling, or by any convenient means, to ensure that it is tipped steadily and gives a steady stream of acid. The object to be kept in view is to avoid spilling any of the liquid.

12. If a funnel is used in the operation it should be of enamelled iron or porcelain.

13. When the container is full, the transit cap after being well greased should be screwed in tightly, with lead washer in position.

14. Any contamination of acid on the outside of the container should be cautiously removed by washing with water.

15. After functioning, the apparatus should be left for 24 hours, and then treated with water by a person standing well away.

16. The drums or containers should be drained and thoroughly dried internally by inverting in a warm place, but the more positive method of drying by blowing hot air into the container should be employed where facilities are available. All traces of water must be eliminated before refilling containers.

17. When otherwise practicable, filling should not be carried out on a stone, wood, or metal floor, owing to the corrosive nature of the acid. It is best carried out in the open, or in bad weather, under a roof without side walls.

#### REMOVAL OF ANY ACID SPILLED.

18. The method adopted must always depend on circumstances, i.e., amount spilled, facilities for removal, etc.

19. Acid spilt on soil should be left for half an hour, and then treated with water thrown from a distance. Acid spilt on flooring should be treated immediately with sodium carbonate (washing soda crystals). When the action seems to have ceased, water can be added.

20. These operations should be done carefully, the operator taking great care to keep clear of any splashes.

21. Where possible the bulk of the acid should be soaked up with mops or cloths (avoid touching the mops or cloths with the hands) and the mops then thrown into the water.

22. It should be remembered that a small quantity of water on a large pool of acid gives unpleasant results.

#### PRECAUTIONS WHEN HANDLING.

23. Owing to its corrosive action, chlorosulphonic acid should not be left lying about on floors, etc. Protective clothing, as leather aprons, respirators, or if these are not available, goggles, rubber "gum boots," and gauntlets, should be worn when necessary, the rubber boots and gauntlets being well swilled with water after use. It should be remembered that these materials are gradually attacked by the acid so that the protection given is only temporary.

#### WASHING DOWN OF HULL STRUCTURE AFTER USE.

24. Owing to the serious deterioration of some structural steels, particularly H.H.T. quality, exposed to the action of chlorosulphonic acid, the hull structure in way of acid tanks and sprayers should be washed down on every occasion after use with a 3 per cent. solution of soda ash in salt water (or other suitable basic solution, e.g., washing soda) applied with a steel brush, particular care being taken in the vicinity of butts and laps of deck plating. Depth charge securing slings in vessels so fitted should be tested frequently to ensure their fitness for use. When making smoke screens the fire main should be rigged for use in dealing with escape of liquid, or otherwise during the operation.

#### EXAMINATION BY DOCKYARD OFFICERS.

25. Dockyard Officers should examine vessels fitted with chlorosulphonic acid smoke apparatus on each occasion of refit, and should report any effects observed of acid upon structure, fittings, or wire rigging in the vicinity.

#### WEAR AND TEAR OF APPARATUS.

26. Experience gained in the use of chlorosulphonic acid for producing smoke screens shows that it must be expected that considerable wear and tear of the apparatus will occur, owing to the corrosive action of the acid. Frequent examinations of the apparatus should be made and defective parts renewed or repaired as necessary.

#### TREATMENT FOR BURNS BY CHLOROSULPHONIC ACID.

27. It should be remembered that such "burns" are not caused by heat, as in the ordinary case of burning, but by chemical action of the acid resulting in the destruction of the skin. The first essential is the complete removal of the acid from the affected part without injury to the tissue. So long as any acid is left on the skin, the healing of the wound will be delayed.

28. Remove clothing quickly from affected parts, and as it is essential that the acid should be removed very rapidly from the skin, the affected part should be treated immediately with a large quantity of water. Bathe the part with a teaspoonful of bicarbonate of soda added to a tumbler of water to remove the remainder of the acid. Partially dry by daubing with absorbent wool. Do not rub.

29. The injured parts should be dressed in accordance with the instructions laid down in the Medical and Surgical Handbook supplied to ships not bearing a Medical Officer.

#### CHLOROSULPHONIC ACID IN THE EYES.

30. The eye should be treated immediately with copious quantities of water, followed by bathing the eye in a 3 per cent. solution of sodium bicarbonate, and finally by dropping in a few drops of castor oil and by covering the eye with a pad. The affected eye should not be tightly bandaged. A cotton wool pad kept in position by an eye shade is the best method. Medical attention should be sought immediately.

31. Vessels employed on these duties which do not carry a Medical Officer should demand half a pound of bicarbonate of soda from their parent ships.

32. As the action of chlorosulphonic acid on the tissues is very rapid, a supply of water and of 3 per cent. sodium bicarbonate solution should be kept ready for immediate use when operations with chlorosulphonic acid are being carried out.

(A.F.Os. 1592/27 and 3022/29.)

**1171.—Searchlight Installations—Use of Chadburn Rod Gearing.***Home Dockyards, Malta and Hong Kong.*

(G. 2169/26.—16.4.1926.)

It is important that only the approved type of Chadburn gear boxes, couplings, expansion joints, etc., should be used for the searchlight installation in ships. Stocks of this apparatus are retained at the Dockyards ex old vessels, for use in carrying out alterations and repairs to the systems in ships.



2. Where any particular piece of apparatus required for the work in hand is not available, it should be obtained from other Dockyards. In the case of Malta and Hong Kong any stores required should be demanded on the Admiralty in the usual manner.

3. Instructions and plates for guidance in the erection and overhaul of the gear are contained in O.U. 6067 and O.U. 6067A.

**1210.—Breech Mechanism—Issue of Repaired Parts Unproved.**

(G. 18462/25.—23.4.1926.)

In future, parts of gun mechanisms such as boxes, slide; locks; screws, breech; blocks, breech; vents, axial, etc., will not necessarily be proved after minor repair.

2. Such stores which are not reproved will be stamped with a broad arrow within a circle——immediately after the original proof mark—P.↑. If repaired a second or third time without proof, the mark () will be repeated for each such repair.

3. Ships will be notified by Armament Depôts when gun parts are issued without proof and a full charge should be used at the first occasion of firing with such stores, the usual precautions being observed.

4. Attention is drawn to O.U.5205, page 132, in regard to repaired vents, axial, unproved.

**1217.—Batteries of H.M. Submarines—Facilities for charging when lying alongside H.M. Dockyards.***H.M. Dockyards and H.M. Submarines.*

(D. 4873/26.—23.4.1926.)

Reports have been called for as to the adequacy of the existing facilities for supplying current to submarines in commission when lying alongside at Home Yards, and, pending receipt and consideration of these reports, the attention of Dockyard Officers and Commanding Officers of H.M. Submarines is called to the necessity for utilising to the fullest extent the facilities already existing at the Dockyards for charging submarine batteries when the vessels are alongside and unable to charge their own batteries in consequence of engine or other defects.

2. When current is required in the foregoing circumstances, the Commanding Officer should make the necessary requisition to the Captain of the Dockyard and Superintending Electrical Engineer.

**1218.—Electric Cables in H.M. Ships.**

(D. 4596/26.—23.4.1926.)

An instance has recently occurred in which damage to important electric cables has been caused when drilling holes through a portion of a ship's structure, the drill having penetrated, to an appreciable depth, electric cables attached to the reverse side of the structure.

2. The necessity for making a careful examination of the reverse side in order to ensure that there is no possibility of damage being caused by the drill to electric cables and fittings attached thereto should be impressed upon all persons responsible for the marking and drilling of holes through any portion of the structure of the ship.

### 1225.—W/T, R/T and A/S Apparatus—Safe Custody.

(N.S. 20350/25.—23.4.1926.)

*Ships in Commission.*—All W/T, R/T, A/S, etc., offices are to be kept locked when not actually in use. All trap hatches opening on to offices are to be properly secured before offices are locked up. Notice Form S.279, in frame Pattern No. 11, is to be fixed to the doors of all offices.

#### 2. *Ships in Reserve.*—

(a) Main W/T sets are not to be removed from ships in Reserve or ships joining the Reserve Fleet. Any apparatus already removed is not to be replaced until the ship is brought forward for sea service. All W/T offices are to be kept locked when not in use.

(b) The Senior Officer, Reserve Fleet, at the Port may apply through the usual channels to remove certain apparatus which is of no value to the Reserve Fleet, and, owing to the shortage of ratings for the purpose of care and maintenance, is liable to deteriorate, e.g., R/T and fire control sets. Any instruments specially required for more important services, e.g., receiving models of a recent pattern, may also be removed. Any instructions which may be given in regard to changes in W/T equipment, referred to in this Order, will state whether the apparatus is to be returned to store in the Dockyard for safe custody or for general stock, or whether set is to be dismantled and the instruments stowed on board.

#### 3. *Ships paid off into Dockyard Control (see A.F.O. 605/26) or placed on the Suspense List.*—

(a) When a ship is destored, all stores are returned to the Naval Store Officer, and the ship's store accounts are closed. Detailed instructions are given in A.F.O. 605/26 as regards ships paid off into Dockyard Control for large refit.

(b) When a ship is not destored the following procedure will be adopted:—

All receiving instruments will be removed and returned to Dockyard. If considered desirable other instruments may be similarly dealt with. All offices are to be kept locked.

When Dockyard work is to be undertaken in any of the offices, any stores, in addition to all receiving instruments, which might be liable to theft or damage are to be returned to Dockyard. The question as to which instruments are to be returned is to be settled by ship's Officers in conjunction with the local port Wireless Officer and Dockyard Officers.

4. In the case of W/T stores returned from ships under the conditions of paragraphs 2 and 3 (b) above, one of the two following courses will be adopted:—

(a) Apparatus will be placed in laypart store in custody of ship's Officers, and will remain on charge in ship's store accounts.

(b) Apparatus will be returned to the Naval Store Officer and taken into stock. Dormant demands should at the same time be lodged by the ship with the Naval Store Officer by whom special reserves to cover the demands should be held.

Procedure (a) should normally be adopted, procedure (b) being adopted only when desirable for special reasons.

5. In deciding which articles should be returned to Dockyard, it should be borne in mind that some articles, particularly those composed of paxolin, are liable to rapid deterioration when out of use and exposed to a damp atmosphere.

6. *Destoring Ships fitted with Arc Sets.*—When a ship fitted with an arc set is destored it is to be remembered that the water cooling tank, pipes, cocks, etc., are ship's fixtures, and are not to be removed when the store articles are returned. If, however, the ship is being placed on the sale list and the labour entailed is considered justified, their removal should be considered in connection with preparing the ship for sale.

7. Attention is called to losses of apparatus, particularly of valuable articles such as amplifiers. The articles have probably been stolen for use with broadcasting receiving sets, and, whilst it may be difficult to prevent such apparatus being irregularly removed, every precaution possible is to be taken to ensure the safe custody of all W/T articles, particularly of those which are capable of utilisation in connection with valve receiving sets.

8. *Ships on Disposal List.*—All stores and instruments, except deck insulators actually fitted, are to be removed from ships now on the Disposal List, or which may be placed on the list in the future. Deck insulators actually fitted should only be removed if, in each particular case, the value of the insulator is considered to justify the labour. The W/T staff employed in ships in Reserve, with other Naval assistance if necessary, is to carry out the work of removal. Dockyard labour is not to be involved in removing instruments from ships. The apparatus is to be returned to the Naval Store Officer, who will deal with it in accordance with the current Admiralty instructions relative to the retention or disposal of returns of the items concerned.

9. When W/T sets are removed from ships for safe custody and to prevent deterioration, the following procedure is to be observed:—

- (a) To ensure that the wiring is left in a condition suitable for further use, all spills must be carefully unsweated from the leads to which they are attached. The leads should be taped over and clipped up again. They should be labelled to assist in any future work.
- (b) This work is to be carried out by Naval Ratings when possible, and as it is of the nature of skilled work, Electrical Artificers should be employed.
- (c) When Electrical Artificers are not available in the ship concerned and cannot be requisitioned from other ships or Establishments, the work should be carried out by Dockyard labour.

10. *Issue of stores to ships building.*—When W/T sets are being installed in ships building or not in commission, the undermentioned items are to be retained in the custody of the Naval Store Officer at the fitting Dockyard, or of the Admiralty Overseer, till such time as the Ship's Officers can take charge of them:—

Pattern 4406.	Telephones and headgear, complete, Brown's 120 ohms.
„ 1304.	} Telephone leads.
„ 1305.	
„ 1301.	Telephones, high resistance.
„ 300.	Watch, W/T, with second hand, in case.
„ 6.	Watch, stop, special, 6 seconds.
	W/T valves of all patterns.

In the case of sets despatched from Portsmouth, arrangements should be made, unless issue from bulk stocks at the fitting Yard is preferred, for these items to be packed separately, and the consignees specially advised of their contents, in order that arrangements for their custody may be made.



### 1231.—Fresh Water Tanks—Removal from Destroyers— REPORT.

(N.S. 3873/26.—23.4.1926.)

Iron Water Tanks fitted in Destroyers for storing drinking water for messes may be removed and landed at the nearest Dockyard, if not required for this purpose.

2. A report is to be made to the Admiralty whenever a drinking water tank is removed from a destroyer in accordance with this order.

### 1246.—Photographic Materials for Dockyard Photographic Work—Demands.

*Dockyards at Home and Abroad.*

(N.S. 3288/26.—23.4.1926.)

It has been decided that in future all Dockyards in which official photographic work is carried out are to render six-monthly demands for requirements for Vote 8 Yard services of photographic materials. Requirements of photographic paper should be demanded at the same time from the Keeper of Stationery and Printing, Admiralty, on Form D.2c.

2. These demands are to be forwarded to reach the Admiralty on the 1st January and 1st July in each year, and should show stocks existing at the time of preparation of the demand, actual expenditure during the two preceding periods of six months, and estimated requirements for the ensuing six months.

### 1254.—Light Shale Oil Cans, Pattern 29A—Further use when no longer fit for Light Shale Oil.

(N.S. Fuel 681/26.—23.4.1926.)

It has now been decided that Light Shale Oil cans, Pattern 29A, which are condemned as unsuitable for light shale oil, but which are suitable for containing other liquids, may be so used. All such cans are to be painted *black forthwith* and cease to be known as Light Shale Oil cans, Pattern 29A. They are to be transferred without financial charge to the Yard Floating Plant Account as 2-gallon cans.

2. In the case of Yards abroad, other than Malta and Gibraltar, Light Shale Oil cans, Pattern 29A, which are returned empty by ships and services should not be returned to England for refilling with Light Shale Oil, but should *all* be dealt with as described above, provided they are fit for use.

1273.—*Issued Confidentially.*

### \*1274.—Cash Advances to H.M. Australian Ships—Early Advice to Commonwealth Naval Board.

(C. (III) 6626.—30.4.1926.)

The Commonwealth Naval Board having requested that early advice may be furnished of all cash advances made to H.M. Australian Ships from Admiralty sources, steps are to be taken to ensure that, in future, all such advances are notified without delay *direct* to the Director of Navy Accounts, Navy Office, Melbourne. A statement that this has been done is to appear on the relative Form S.5.

### 1280.—Breech Safety Contacts, Change-over and Non-change-over—Allowance of Spare.

(G. 2180/26.—30.4.1926.)

Breech safety contacts and breech safety change-over contacts will be issued spare in the following proportions for the guns with which used, viz. :—

15 in. and 13.5 in. guns: 1 set to every 4 or less No. of guns.  
Other guns: 1 set per ship.

2. The necessary amendments will be made to the Naval Proportion Book in due course.

3. Breech safety change-over contacts will be fitted to the 15 in. guns in H.M. Ships "Erebus," "Marshall Soult" and "Terror" by the Naval Armament Depot Staff at the first opportunity.

(A.F.O. 277/27.)

### 1284.—W/T Earthing Fittings on Masts and Yards.

(S.D./G. 19004/25.—30.4.1926.)

Ships' Staffs should inspect the earthing fittings on masts and yards annually to see that they conform with the general requirements of Specification No. 9521. This specification is only supplied to Dockyards, but the general arrangement of typical connections is shown in E.F.O. 41/26.

2. After firings and painting down aloft ships are to make sure that all earthing fittings are clean and making good contact, any doubtful contact bolts being unscrewed, contact surfaces cleaned and bolts screwed up tight again.

3. Should occasion arise in which a ship has to fit additional or modify existing spars, e.g., to fit a pole mast to carry a flag, Ship's Staff must make the necessary earthing arrangements for all metal bands and fittings and for extending the lightning conductor where necessary. To ensure that the resulting contact will be efficient and suitable to carry the induced high-frequency currents without risk of heating or brushing that would otherwise be liable to char the adjacent woodwork of the spar. E.F.O. 41/26 should be used as a guide for making the various bolts, washers and fittings required.

### 1286.—Cable Insulated with Fire Resisting Material.

(G. 19969/25.—30.4.1926.)

In order to avoid the risk of fire, approval has been given for the use of bead-insulated wires where possible on or behind switchboard or in similar places where many small wires are bunched together.

2. Where it is essential to mount switchboards upon hinges, in order to provide access to the back of the board, the conductors forming the connections to the board are preferably to be bare flexible conductors insulated with Admiralty pattern beads.

3. Large flexible conductors are to be similarly insulated with beads of appropriate size and approved material.

4. As an alternative to the above, rubber-insulated conductors protected with an approved fire-resisting material will be considered.

5. The cables connecting the non-watertight control cable junction boxes in the switchboard room to the switchboard control units are to be insulated with rubber and protected with an approved fire-resisting material.

6. As regards low power circuits, in cases where fire proofing is considered essential, and space does not permit of bead-insulated conductors being fitted, the cores for the whole of their length beyond the cable sheathing should be treated with an approved form of fire-resisting paint.

7. In all future vessels the above procedure is to be adopted.

8. In ships building, where the work is not too far advanced, the new type of cables will be installed, but if extra cost is involved thereby, details of such extra should be forwarded to the Admiralty for approval before the work is put in hand.

9. In the case of vessels undergoing refit, and where it is found necessary to re-wire the cables in the positions mentioned above, cables protected with fire-resisting material are to be installed in lieu of the existing rubber-insulated cables.

10. Arrangements will be made to add suitable cables to the Authorised List of Stores.

### 1288.—Firth's Stainless Steel—Method of Machining.

*Dockyard and Repair Establishments.*

(G. 0767/26.—30.4.1926.)

The following extract from a report on the method of machining Firth's stainless steel is circulated for general information:—

\* \* \* \* \*

With reference to the finish machining and screw cutting of this material, we have done a considerable amount of this work in our own shops without difficulty, and have found the following conditions to give satisfactory results:—

#### *Finish Machining.*

Tool Angles: Top front clearance ... ..	15-17 degs.
Top side clearance ... ..	0- 5 "
Front clearance ... ..	5- 9 "
Side clearance ... ..	4- 8 "

Suitable speeds are, 80-110 ft. per minute with a feed not more than  $\frac{1}{8}$ th in. taking a cut of 0.002-0.004 in. deep.

Screw cutting "V" Threads.—Suitable speeds are 40-60 ft. per minute with a cut 0.004-0.005 in. deep, or the thread may be cut at a lower speed and finished at about 100 ft. per minute.

Suitable Tool Angles: Top clearance ... ..	8-15 degs.
Front clearance ... ..	10-15 "

Screw cutting Square Threads.—Suitable speeds are 40-60 ft. per minute with a cut of 0.004-0.005 in.

Suitable Tool Angles: Top clearance ... ..	8-15 degs.
Front clearance ... ..	10-12 "

Soluble oil should be used for all screw cutting, and in cutting square threads a better finish is obtained by gashing the thread with a narrow tool and finishing with one the correct width.

\* \* \* \* \*

### 1302.—Internal Iron Bound and Wood Blocks—Procedure in Marking, etc.

(N.S. 19134/25.—30.4.1926.)

Copies of the new book of drawings of I.I.B. and Wood Blocks are to be distributed from Portsmouth to all Foreign Yards as well as to Home Yards, etc.

2. On receipt of the books of drawings, steps should be taken to put into force the new procedure as to marking, etc., i.e., all I.I.B. and wood blocks on service and in store should be proof-tested and marked in accordance with the relevant particulars shown in the book of drawings by the various Yards as opportunity occurs, viz., (a) proof load, (b) safe lifting load, (c) size of rope, (d) pattern numbers of I.I.B. blocks or description of wood blocks, and (e) broad arrow.

3. As far as blocks on service are concerned, this could conveniently be done as ships come in for refit and land their blocks for overhaul and proof test.

4. Label plates on which the necessary particulars should be stamped are being added to the authorised list of Naval Stores under Subhead B12, and should be demanded by ships as necessary.

5. With regard to the substitution of Phosphor Bronze Sheaves for Lignum Vitae Sheaves, there is no objection to the retention of Lignum Vitae Sheaves in blocks at present so fitted provided they withstand satisfactorily the proof tests to which they will be subjected before the safe lifting loads are marked on them, but newly manufactured blocks should in all cases be fitted with phosphor bronze sheaves.

6. Existing stocks of Lignum Vitae *Sheaves* (as distinct from completed blocks) should be reported on a special return D.68, Admiralty approval being obtained before action is taken to bring them to produce.

**1319.**—*Issued Confidentially.*

**\*1333.—Chief Petty Officer (Seaman Class) and Chief Yeoman of Signals—Advancement to, by Captain.**

(N. 837/26.—7.5.1926.)

As a temporary measure it has been decided to suspend the rule contained in the first sentence of clause 2 of Art. 411, K.R. & A.I. Accordingly, when invaliding or other Station vacancies (other than those specified in clause 1 of the same Article) for C.P.O. (Seaman Class) and Chief Yeoman of Signals occur on Foreign Stations, men should be appointed to carry out the duties of C.P.O. rating, and be granted difference of pay only under Art. 1591, until a relief is received.

(*K.R. & A.I. Art. 411.*)

**\*1352.—Laundry Work in the Home Commands.**

(C. (I) 3271/25.—21.5.1926.)

Officers and messes to whom Admiralty linen has been issued are liable to make good any loss to the Crown which may result from the property being lost or damaged while in the temporary custody of others, *e.g.*, cleaners, laundry firms, etc., and instances have been brought to notice recently of a liability of this nature having arisen as a consequence of a laundry company to which the linen had been sent disclaiming responsibility for loss resulting from a fire.

2. Attention is therefore drawn to the fact that it is open to Officers and messes to send Admiralty linen for which they are responsible to those laundry companies at Chatham, Sheerness, Portsmouth, Devonport, Portland, Rosyth and Pembroke, with which the Admiralty have contracts in force. Under the terms of these contracts, the companies are liable for any loss or damage sustained to Admiralty property while in their possession.

3. The renewal of contracts for washing is notified in Admiralty Fleet Orders from time to time.

4. Particulars of current contracts may usually be obtained from the Accountant Officer of the ship, and, if not so available, from the Naval Store Officer at the Yard in urgent cases, or on application to the Director of Navy Contracts (Branch 6), Admiralty, Princes House, Kingsway, W.C.2.

**1354.—Guns—Number of Rounds to be Fired between Examinations.**

(G. 5738/26.—21.5.1926.)

It has been noted on the Returns of Examination (Forms S.1404) recently received in the Admiralty, that in several cases the instructions as laid down in O.U. 5205, regarding the allowance of rounds to be fired between examinations of the gun, are not being observed.

2. The attention of the Commanding Officers of ships is drawn to the desirability of not exceeding the number of rounds laid down; but if for any reason it may be necessary to do so, the instructions as to passing the "plug gauge bore" and making a notation in the Memorandum of Examination, should be adhered to.

1389.—*Issued Confidentially.***1412.—Explosive Stores—Annual Exchange.***Royal Fleet Auxiliaries.*

(G. 2038/26.—28.5.1926.)

In order to ensure that all explosive stores (fireworks, etc.) supplied to Royal Fleet Auxiliaries, Yard Craft, etc., are in a serviceable condition, Masters of these vessels are to arrange for all Explosive stores on board to be returned to a Royal Naval Armament Depot in October of each year, and for a new outfit to be drawn in lieu.

**1420.—Fleet Air Arm—Transmitters—Type T. 21A.**

(N.A.S. 5576/26.—28.5.1926.)

A fire was recently caused in a Transmitter, Type T.21A, owing to a faulty resistance in the filament lead at the rear of the send-receive switch.

2. The contacts on the send-receive switch that short this resistance should be examined periodically to ensure that proper contact is being made.
3. This type of resistance is being modified in future models.

**1421.—Fleet Air Arm—Fire on Aircraft—Precautions against.**

(N.A.S. 5576/26.—28.5.1926.)

There is danger of fire on aircraft owing to sparking between the aerial wire remaining on the drum and the winch frame, the high frequency energy being by-passed to earth by way of the doped fabric between the bolts holding the winch frame and the nearest earthed point.

2. All units will therefore take immediate steps to electrically bond the metal frame of the aerial reel to the main earth system. As a further precaution the practice of leaving a number of turns of wire on the aerial reel when transmitting is to be discontinued forthwith.

**1426.—Gear Landed on Deposit and Utilised for Compensation.***Cruisers.*

(D. 9016/25.—28.5.1926.)

The reports forwarded by the Commanders-in-Chief of Foreign Stations as to the gear which has been landed on deposit at the various depôts on their stations, and as to the possibility of saving weight and space, have been considered, and the following decisions reached, viz. :—

Screen doors for torpedo crews' shelters are to be landed permanently.

Saluting guns *if fitted* are to be mounted on upper deck, when possible, in existing Cruisers when the necessity for providing compensation arises and the cost is not great.

The number of caps for main oil fuel sprayers and lighting up oil fuel sprayers is to be reduced to 10 per cent. of the number fitted in accordance with the latest practice.

The spare boiler and condenser tubes carried should be reduced to the following quantities :—

*Boiler Tubes.*—One-tenth of total number fitted for fire rows, one-fourtieth for other rows.

*Condenser Tubes.*—One-two-hundredth of whole number fitted.

Spare propellers, stern tubes, shaft withdrawing gear, propeller chain blocks and shackles for lifting propellers, screw propeller shaft, lignum vitæ for bushes, worm-wheel and shaft for steering gear and spare turbine blading should be regarded as Depot spares and should be kept at the refitting base and not carried on board.

Sand's lime tanks, pipes and fittings which are not used are to be returned to the Dockyards and brought to produce.

Special apparatus, other than the ordinary "U" tube, for lighting up boilers (oil fuel ships only) is to be returned to the Dockyards and brought to produce.

The Establishment of spare breakers is to be amended. One spare breaker of each size up to and including 250 amperes to be allowed. All ships are to return to store any in excess of this number.

One spare section box and one spare distribution box are to be deleted from the Establishment of Stores. All ships should return these to store.

2. The following list of items which have been landed as compensation from various ships is promulgated for general guidance in considering future proposals for compensation for Cruisers. These items are not applicable to all Cruisers but have been considered as the occasion and urgency arose and having regard to all the circumstances involved :—

- Battery boxes.
- 2—3-pdr. saluting guns.
- Stern boom.
- Electric cables (spare).
- 16 ft. cut-off topmast.
- Wood boom targets.
- Artisan benches.
- 2—36-in. searchlights and gear.
- Concentration dials.
- Crutches for life cutter.
- Pattern "C" targets.
- Metal travelling rails for searchlights.
- Reversible backs for stools to enclosed messes.
- Protection breakwater.
- Torpedo parting rail.
- 2 Pattern VII targets.
- Part of searchlight platform on tripod mast.
- Steel signal lockers.
- Potato locker.
- Hat racks.
- Redundant voice pipes and telephones.
- Derricks.
- Metal skylights.
- Lifebuoy platforms.
- Wood deck at the midship 6-in. gun.
- Old type W/T cabinets.
- Semaphore stand.
- Dwarf bulkheads to messes.
- 2nd W/T office.
- Propeller guards.
- Skiff crutches.
- Coir matting being substituted at gun positions for teak planking.
- Lobby bulkhead in Captain's cabin.
- Timber stowage (plate work).
- Depression rails.
- Rack and helm indicator.
- Smoke boxes.

Ward room and W.O.s' galley lifts.  
 Miscellaneous electrical gear.  
 Sponsons for 4-in. guns consequent on re-arming.  
 Gun supports under old 4-in. gun positions.  
 Staghorn bollards.  
 Miscellaneous oil fuel fittings.  
 Wash deck lockers.  
 Iron racks for stowage of collision mats.  
 Hawser reels.  
 Mess shelves.  
 Cupboards, bins and furniture from various officers' cabins, etc.  
 Sand tank.  
 Large sanitary tank in earlier classes of Cruiser.  
 Heavy ladders and platform for syren on funnel removed and light portable ladder fitted in lieu.  
 Footplates requiring renewal replaced by lighter pattern or strips.  
 After capstan and bars.

3. In those Cruisers where torpedo trolleys are satisfactory for transport of paravanes, paravane trolleys may be landed as compensation unless they are required as permanent paravane stowage.

### 1427.—Alterations and Additions.

*“ L,” “ L.50 ” and “ M ” Class Submarines.*

(D. 5646/26.—28.5.1926.)

Proposals for alterations and additions to Submarines of the classes mentioned above should be forwarded to reach the Admiralty nine months *before* the next refit instead of three months *after* the last refit

### \*1461.—Recorders of Weights—Conditions of Service.

(C.E. 839/26.—28.5.1926.)

The following revised scheme in connection with the conditions of service of Recorders of Weights has been approved.

2. Recorders of Weights on appointment should, if industrials, be paid as Temporary Draughtsmen, receiving in addition to the pay of that grade an allowance of sixpence (6*d.*) a day. They should continue to keep the ordinary working hours of industrial grades, but should be treated in all other respects as Temporary Draughtsmen. They should be regarded as eligible for sick leave privileges as at present allowed for Temporary Draughtsmen, and should be allowed eighteen days' ordinary leave per annum.

3. Recorders of Weights should continue to be selected from the examination lists for Second Class Draughtsmen, and, if appointed to that rank while holding the position of Recorder, should be retained until the completion of the ship, an Acting Second Class Draughtsman being borne temporarily in the Drawing Office in lieu. Whilst continuing to serve as Recorders in these circumstances they should receive the pay of a Second Class Draughtsman (new style) and should be eligible for extra payment under the ordinary conditions for the hours worked additional to the normal hours of a Draughtsman, *i.e.*, for the difference between 41 hours a week and 47 hours.

4. Confirmed Second Class Draughtsmen should not in future be selected for duty as Recorders of Weights, and any Draughtsman holding acting rank as Second Class Draughtsman who may be selected for duty as a Recorder of Weights should be regarded as coming under the foregoing revised conditions of service as from the date of taking up duties as a Recorder.

5. This revised scheme should take effect as from the 3rd February, 1926.

## 1463.—Subsistence Allowance to Members of the Civil Staff at the Outports—Summary of Regulations.

(C. (II) 3223.—28.5.1926.)

Subsistence allowance is payable only to persons sent on special duty which involves an absence of 10 hours or more beyond the limits of the port to which they are attached and extra expense for meals.

2. The rates of subsistence allowance payable for absences on shore when service accommodation is not provided are as shown in the following scale :—

Classification of Officers and others.	Rate 1 per night.	Rate 2 per night.	Rate 3 per night.	Rate 4 per day.
P. Officers whose scale of salary covers £600 a year ... ..	s. d. 25 0	s. d. 20 0	s. d. 13 4	s. d. 8 4
Q. Officers and others whose scale of salary covers £300 a year ... ..	18 9	15 0	10 0	6 3
R. All other Salaried Officers, also Tem- porary Draughtsmen, Accountant Clerks and Foremen of the Works Department.... ..	12 6	10 0	6 8	4 2
S. Draughtsmen on day pay, and Clerks not included above, also all men whose day pay exceeds £100 a year	10 0	7 6	5 0	3 4
T. All other persons on day pay ... ..	7 6	5 0	3 4	2 6

### NOTES.

(i) *In the case of Temporary Officials* the rate at "P" applies only to those with salaries of £600 (inclusive) and that at "Q" to those with salaries of £300 (inclusive) and upwards.

(ii) Bonus does not count as part of salary or wages for the purpose of determining the rate of subsistence allowance.

(iii) The allowance to established workmen is to be calculated at their corresponding hired rates.

3. These rates are payable as follows :—

- For periods not expected to exceed 14 nights in one place, rate 1 for 5 nights, rate 2 for remainder. Should the 14 nights be unexpectedly exceeded, rate 3 from the 15th night to the end of one month from the date on which the period of detached duty commenced.
- For periods likely to exceed 14 nights but not one month in one place, rate 1 for 5 nights, rate 3 for remainder.
- For periods likely to exceed one month in one place, rate 1 for 5 nights and thereafter one half of rate 2.\*
- In the case of persons maintaining two households the amount payable will, after the expiration of a total period of one month in any one place, be reduced automatically to a fixed rate of allowance equivalent to 2 nights' subsistence allowance a week at rate 1 for persons falling in categories "P" to "S" inclusive, and £1 a week to men in category "T." In exceptional cases where such rate is shown to be insufficient to meet vouched extra expenses over and above the ordinary cost while living at home a higher rate may be allowed not exceeding ordinary detention rate or three nights' subsistence

\*Note. The reduction to one-half rate mentioned in paragraph (c) will be subject to a minimum of 5s. a night for salaried officials, 4s. a night for persons falling in category "S," and 3s. 4d. a night for persons in category "T." The word "month" in this Order should be interpreted as being a calendar month.



allowance a week, whichever is less. For detention in excess of three months in one place the amounts payable after three months will be determined in the light of vouched extra expenses within the limits laid down in the foregoing clause.

*Where two households are not maintained, subsistence allowance will not normally be continued beyond one month in one place. Any exceptional case of this kind where the cessation of subsistence allowance would cause hardship will be dealt with on its merits on the basis of vouched extra expenses within the above-mentioned limits.*

4. Any claims on the basis of actual extra expenses are to be forwarded to the Accountant-General of the Navy for consideration and adjustment.

5. Each night's subsistence allowance covers 24 hours. The "day" allowance (at rate 4) will be paid in addition to night allowance when the absence extends 10 hours beyond the period covered by night allowance. Payments under rate 4 are allowable only in cases where the period of absence from home not covered by subsistence allowance at the nightly rate after deduction of the time ordinarily occupied in travelling between home and the usual place of duty is 10 hours or over. (See paragraph 9 as to Overseers and also A.F.O. 2042/25.)

Rate 4 is not to be paid continuously for periods in excess of 3 months without prior Admiralty approval.

6. When a person on detached duty for a long period in one place and in receipt of reduced subsistence allowance goes elsewhere on subsidiary business for a period not exceeding 10 days, he is, on return to the original place of employment on detached duty, to recommence subsistence allowance at the reduced rate only. In the case of an Officer or man who, after the first month, is in receipt of an allowance based on out-of-pocket expenses under paragraph 3 (d) above, the limit of 10 days' absence on subsidiary business will not apply and each case will be considered on its merits.

7. Civilian members of the staff, when travelling on duty with higher officials, will be granted the same rate of subsistence allowance as the higher officials subject to a certificate being given on the claim by the Head of the Department that it was necessary for the despatch of their work that they should stay at the same hotel.

8. When it is essential that a sitting room should be obtained for official business the actual expenses, not exceeding 10s. 6d. a day will be allowed, if vouched, and the necessity be approved.

9. *Overseers and Assistant Overseers.*—Subsistence allowance is not payable for absence on duty within a radius of  $7\frac{1}{2}$  miles from their residence or headquarters or when the period of their absence does not exceed 12 hours and they are not absent the night.

In the case of Overseers and Assistant Overseers whose consolidated allowance contains subsistence allowance and who are not entitled to removal expenses, the subsistence allowance of their permanent rank at the Dockyard is payable for any period, not exceeding seven days, for which they may be detached from their ordinary station to a subsidiary place of duty, subject to the conditions mentioned in the first clause of this paragraph.

10. Subsistence allowance is payable at the rates and subject to the conditions mentioned below to persons embarked in H.M. Ships for trial trips, etc., or provided with accommodation in H.M. Ships or Establishments when on detached duty beyond the limits of the Port:—

(a) When Naval messes are provided, full subsistence allowance is payable if they have necessarily to find accommodation on shore for the night, but if accommodation on shore has not to be obtained, the following allowances are to be paid in lieu of the full subsistence allowance. These allowances are payable for periods of absence of 10 hours or over as well as for absences overnight.

	s.	d.	
Civil Officers messed in the ward room ... ..	6	0	a day
Civil Officers who may join the Warrant Officers' Mess, or make their own messing arrangements ... ..	4	6	„
Overseers or Assistant Overseers (not on salary) who may join the Warrant Officers' Mess ...	4	6	„
Overseers or Assistant Overseers (not on salary) who make their own messing arrangements	2	6	„

- (b) In no circumstances will an Officer or man receive for any period of absence more than the amount of his scale allowance for subsistence on shore. Attention is accordingly drawn to the reduction of allowances for prolonged periods under paragraph 3.
- (c) The allowance mentioned above is not payable for more than seven consecutive days to those Overseers or Assistant Overseers who are referred to in the second part of paragraph 10.
- (d) Where there is no Naval mess, actual reasonable extra expenses are allowed within the ordinary "shore" rate of subsistence allowance.
- (e) When wages men not mentioned above are embarked in H.M. Ships for duty beyond the limits of the Port they will, if the absence extends overnight, be victualled and no subsistence allowance will be payable. If the absence does not extend overnight but is not less than 10 hours, an allowance of 1s. 6d. is payable for subsistence.

*Payment of Subsistence Allowance when absent on leave.*

11. Officers taking leave while on detached duty are not to be paid subsistence allowance for the period between the cessation and resumption of duty.

12. When wages men employed away from the Yard to which they belong, and in receipt of subsistence allowance, are granted leave of absence, they are not to be paid any subsistence allowance between the dates of ceasing and returning to duty, including Sundays, public holidays, and days directed to be closed days, unless they furnish the Cashier with a written statement that they have necessarily paid continuously for their lodgings during their absence on leave, in which case they are to be paid for each 24 hours of leave, one-third of the allowance they are entitled to receive while on detached duty. Subsistence allowance is, however, to be paid in full for Sundays and days fixed as public holidays, or closed days, provided they are not immediately preceded or followed by leave. In cases where a Sunday or a public holiday or closed day occurs immediately before the return of a man on leave to his work, full subsistence allowance is payable in respect of it if the man enters the Yard at the usual hour on the day following, or is absent on account of sickness or any other unforeseen circumstance, provided that he was present in the town on the previous day. Otherwise, subsistence allowance is not payable, or, if the conditions mentioned in the first part of this paragraph are satisfied, is payable at the reduced rate only.

13. *Persons whose Promotion is Ante-dated.* Claims for an increase in the rates of subsistence allowance paid to them in the past from persons whose promotion is subsequently ante-dated will be considered only if receipted accounts are produced showing that the extra expenses incurred for board and accommodation during the period concerned were in excess of the subsistence allowance received.

(A.F.Os. 2042/25 and 2068/29.)

## 1465.—Territorial Auxiliary and Reserve Forces.

(C.E. 2930/26.—28.5.1926.)

The following revised arrangements regarding the enlistment of Admiralty civilian employees in the Territorial, Auxiliary and Reserve Forces have been approved :—

2. My Lords desire that, subject to the vital requirements of the Public Service, every encouragement should be given to Civil Servants who desire to join the Territorial Army, the Royal Naval Volunteer Reserve, and the Auxiliary Air Force. Before enlistment they should obtain the permission of the Head of their Establishment, who will not withhold his consent except in the case of those individuals who would be vitally essential to their Department in the event of a great national emergency calling for the embodiment of the Force concerned. Should the Head of any Establishment consider that it would not be possible to spare the Civil

Servant concerned on mobilisation, the fact should be reported to the Admiralty, and in the meantime consent should be deferred. Every member of these Forces will have to present himself when called up, and no member will be exempt from this obligation. It is not anticipated that it would be necessary on this account to prevent junior members of the staff from joining, but any individual who is permitted to join should be required to obtain permission to continue in the Force concerned, on receiving promotion.

3 (a). Civil Servants who are members of the Territorial Army, and who attend the annual training in camp for so long as a fortnight, are allowed one week's special leave with full civil pay. Similarly Civil Servants who are members of the Royal Naval Volunteer Reserve should be granted one week's special leave with full civil pay in any year in which 14 days' Naval training is undertaken, and two weeks' special leave with pay in any year in which 28 days' naval training is undertaken, provided that a maximum of three weeks' special leave with pay for naval training in any period of four years is not exceeded.

Civil Servants who join the Auxiliary Air Force as *airmen*, and who attend annual training with units for so long as a fortnight, should be allowed one week's special leave with full civil pay. *Officers* of the Auxiliary Air Force are required to carry out a minimum of 12 hours' periodical flying annually (which may involve attendance for at least 12 days on the average), in addition to annual training with units, and in their case one week's special leave with pay should be allowed, provided that the period of training in any one year—either that of annual training or periodical flying, or of both combined—is not less than a fortnight.

(b) The grant of special leave with pay as prescribed above is subject in each case to the condition that the period of training is not less than that specified, and that in all cases the periods required for training, in excess of the period for which special leave with pay is allowed, must be taken out of annual leave or be reckoned as leave without civil pay. Where for any reason the period of training is less than the minimum entitling an employee to a period of special leave with pay, it is not considered necessary that the ordinary provisions in respect of annual leave should be supplemented, and accordingly the whole period of absence in such cases must be reckoned as annual leave or as leave without civil pay.

(c) When annual leave is taken for which civil pay is issuable under the ordinary regulations, such pay will, of course, be allowed irrespective of whether the Civil Servant is undergoing training or not, and in no case (whether of annual leave or of special leave with or without pay) will he be called upon to pay for substitutes or to suffer deductions in respect of military pay and allowances.

4. The above provisions will apply to all regularly employed full-time Civil Servants, of both manual and clerical grades. They will also apply to regularly employed part-time Civil Servants, provided that the payment in respect of wages for the period of the annual training, for which civil pay is allowed, does not exceed in amount the emoluments received for a normal week of part-time employment, and to temporary staff provided that they have completed six months' service.

5. *Forces other than those specified above.*—As regards enlistment in Forces other than those specified above, e.g., Cadet units, the Supplementary Reserve for the Regular Army, Army Reserve (Section D), the Royal Naval Reserve, the Royal Fleet Reserve, the Reserve of Air Force Officers, the Royal Air Force Reserve, etc., Civil Servants must obtain the permission of the Head of their Establishment before enlisting, and in view of the clear obligation of all Reservists to join their units on mobilisation, Heads of Establishments should allow only those Civil Servants to enlist who could be spared from their civil employment. Applicants will not be allowed to take commissions in the Supplementary Reserve of Cavalry, Artillery, Tanks or Foot Guards and Infantry, in which Corps the preliminary training for officers normally lasts from two to six months, except where it is clear that they are exempt from preliminary training; nor will they be allowed to take commissions in the Reserve (including the Special Reserve) of Air Force Officers when the commission involves *ab initio* training as pilots.

6. Members of the Forces mentioned in para. 5 and of similar Forces (except skilled employees of the Post Office who join the Signal or Postal Sections of the Supplementary Reserve) cannot be granted the privileges of special leave with pay

allowable, under para. 3, to members of the Territorial Army, Royal Naval Volunteer Reserve, and Auxiliary Air Force. Any leave required for training by members of the Forces mentioned in para. 5 will normally be taken out of annual leave, but in exceptional cases at their discretion special leave within reasonable limits may be granted, such leave to be without pay, and, in accordance with the usual practice, not to reckon for pension, but to count for purpose of increment. Any case where it is proposed to grant such leave should be submitted to the Admiralty (C.E. Branch) for decision.

7. No fixed limits to the numbers of Admiralty employees who may be allowed to contract liability to military service, whether as members of the Territorial or Auxiliary Forces or as Reservists, are at present prescribed.

### **1472.—Loan Tool Stores.**

*Home Yards, Malta and Gibraltar.*

(N.S. 4234/26.—28.5.1926.)

In order to ensure that all tools, etc., on loan to workpeople are returned to Loan Tool Store when the men are subsequently transferred to shops in which conversion accounts are in operation, the Expense Accounts Officers are to keep the Naval Store Officers informed of all such transfers as and when they occur. The latter Officers are to take necessary steps to withdraw any tools, etc., which may have been lent to the workpeople so transferred.

2. The attention of Yard Officers is drawn to paragraph 3 of Admiralty Letter D.A. 3268/21 dated 29th November 1922, respecting the procedure to be followed when workpeople attached to shops keeping conversion accounts are in possession of tools, etc., borrowed from the Loan Tool Stores.

### **1492.—Issued Confidentially.**

### **1544.—Defect Lists—Use of Inside Sheets.**

(D. 6548/26.—4.6.1926.)

With reference to the preparation of inside sheets (Forms S.340 and S.340B) of lists of repairs required to H.M. Ships, it is desired that in future, in the interests of economy, the repairs required be entered on both sides of the sheets.

For convenience in hektographing the sheets may be halved.

### **1557.—Dirty Lubricating Oil—Purification and Re-Issue.**

(N.S. Fuel 1363/26.—4.6.1926.)

All H.M. Ships and Establishments should collect and return periodically to the nearest Dockyard (at Home if possible) dirty mineral oil of Admiralty descriptions removed from turbines, forced lubricating systems, Diesel engines, etc. Any water present in the oil should be removed as far as possible beforehand, by settling. The different descriptions or admixtures of oils should be kept in separate drums. It is particularly important that special mineral lubricating oil which has been used in internal combustion engines should be kept separate from similar oil used in turbines.

2. The Return of Advice Vouchers should show the nature and quality of the oil in each consignment, and each drum in which dirty oil is contained is to be clearly marked on its head to show the description of oil enclosed, the following abbreviations being used for this purpose.

<i>Description.</i>	<i>To be marked in 6 in. letters.</i>	<i>Colour of lettering.</i>
Dirty special mineral oil not previously used in internal combustion engines.	D.S.M.	White
Dirty special mineral oil which <i>has</i> been used in internal combustion engines.	D.S.M.	Red
Dirty ordinary mineral oil ... ..	D.O.M.	Red
Dirty mixed oils ... ..	D.M.O.	Red

3. The stocks of dirty Mineral Oils should in future be reported by the Dockyards in Return D.421, under the above headings. The existing headings will be amended when the Form is re-printed.

4. It is only intended for the present to purify for re-issue dirty special mineral lubricating oil which has not previously been used in internal combustion engines, i.e., the description marked D.S.M. in white letters on the casks. The accumulations of other descriptions of dirty oils should be disposed of periodically by sale pending any instructions that may be issued to the contrary in future.

5. All purified oil should be taken on charge under one heading in the ledger as "Purified Lubricating Oil," and no purified oil should be issued in lieu of Special Mineral Lubricating Oil. The issue of this oil is to be restricted to Yard Services (other than turbine or important machinery) and to Harbour Craft with reciprocating engines of less than 500 I.H.P.

6. Representative samples of purified oil should still be taken at Portsmouth, tested by the Admiralty Chemist, and the result reported to the Admiralty as directed by Admiralty Letter, of 8th January, 1925, N.S. Fuel 3164/24/336.

### 1558.—Coal Fired Firehearth and Cooking Apparatus— Directions for use, etc.

(N.S. 1346/26.—4.6.1926.)

#### SHIPS' FIREHEARTHS.

No fire should be lit until a proper quantity of water has been put into the boilers, and this quantity should be maintained all the time the fire is alight. When cleaning out the boilers—unless the procedure detailed in paragraph 8, can be followed—the fire should be extinguished.

2. The dampers must be opened in all cases where they are fitted immediately the fire is alight.

3. Water should be kept in the ash-pans, but on *no account* should it be thrown upon the hearth, or other cooking apparatus.

4. When extinguishing a fire, burning or heated matter should be removed into the ash-pans.

5. If possible, fires should be laid at night ready for the morning. If the hearth or apparatus is not sufficiently cold, the wood can be put in the oven until the morning.

6. Ashes should be thoroughly cleaned out when a fire is extinguished. Flues should be cleaned with rake and brush every day when a hearth or apparatus is in constant use.

7. A good strong fire should be lit at the *back* of furnace or range when only the boilers are to be used. It can be raked forward if hot plate or oven is required.

8. In the larger hearths, etc., if only one boiler and oven are required, the dampers on that side should be opened, and those on the opposite side closed. This procedure should be reversed when cleaning out the boilers.

9. When at sea, and the castings, etc., require replacement by spare gear, they should be removed in the following order:—

- (a) Hotplates or central panels and front plate of furnace where necessary.
- (b) Firebars of range and furnace.
- (c) Backs of range and furnace.
- (d) Front of range frames.
- (e) Range-cheeks or furnace sides.
- (f) Bridges.

This order should be reversed for replacement.

10. Sketches (E.F.O. 30/26) of parts of firehearths concerned are furnished for guidance.

11. Separate instructions will be issued regarding Oil Fired Hearths, etc.

### **1600.—W/T Receiving Models—Re-test of Stocks at Yards— REPORTS.**

(S.D./G. 5776/26.—4.6.1926.)

Arrangements are to be made locally at all Yards for the periodical re-test of all receiving models on serviceable charge which have been in stock for a period exceeding 18 months.

2. The re-test is to be carried out on an aerial, to ensure the correct functioning of the model, and provided this test is correct, no further electrical test will be necessary.

3. The W/T Officer borne for surveying duties at Yards will carry out these tests, the necessary stores being loaned by the Superintending Naval Store Officer.

4. Each model re-tested is to be suitably labelled showing date and result of test.

5. A report is to be rendered to Admiralty on each occasion of re-test being carried out, showing models tested, result of test, and the nature of defects discovered, if any.

### **\*1617.—Assisted Passages for Wives and Families of Officers Loaned to Royal Australian Navy.**

(C.W. 1863/26.—11.6.1926.)

*Officers loaned to R.A.N. in exchange for R.A.N. Officers.*—The grant of assisted passages for wives and families of Officers loaned to R.A.N. under the exchange arrangements is governed by R.N. rules, *vide* Article 840, K.R. and A.I. These passages are arranged by the Admiralty.

2. *Officers loaned to R.A.N. (not in exchange).*—The rules for the grant of assisted passages in these cases are similar to those applicable to the Royal Navy, but the Commonwealth of Australia allow the following further concessions which do not apply to the Royal Navy :—

- (a) No recovery of messing contribution in respect of his wife and family is made from the Officer.
- (b) An Officer is allowed to make his own arrangements, if desired, for his own passage and that of his wife and family by a cheaper route than that by which the passages would normally be arranged by the Commonwealth Naval Authorities, and to make use of any money saved thereby, over and above the actual cost of his own passage and the assisted passages of his wife and family towards the balance of fares of his wife and family. Receipts for the actual expenditure of money advanced to the Officer are to be produced on arrival in Australia.

3. *Officers loaned to the R.A.N. (not in exchange) and not entitled to assisted passage.*—A married Officer is allowed to make his own arrangements, if desired, by a cheaper route than that by which his passage would normally be arranged by the Commonwealth Naval Authorities, and to make use of any money saved thereby, over and above the actual cost of his own passage, towards the fares of his wife and family. Receipts for actual expenditure of money advanced to the Officer are to be produced on arrival in Australia.

## 1622.—Charges for Maintenance and Treatment in Naval Hospitals.

(C.(I) 2670/25.—11.6.1926.)

The following scale of charges for the maintenance and treatment of persons admitted to naval hospitals at home or abroad is promulgated for information :—

I.—*Naval and Marine Officers in receipt of Unemployed Pay, (either at the Full Pay or Intermediate Rates), Half Pay, or Retired Pay, and Officers on the Emergency List.*

Royal Navy. Active List Rank.	Royal Marines. Active List Rank.	Daily Charge.	Recoverable from.
1. Flag Officers ... ..	General Officers ... ..	s. d. 9 0	} Patient (see para. 2).
2. Captains ... ..	Colonels and Lieut.-Colonels (except Quartermasters).	8 0	
3. Commanders (except Officers promoted from Warrant rank).	Lieut.-Colonels (Quarter- masters) and Majors (except Officers promoted from War- rant rank).	7 0	
4. Other Ward Room Officers.	Majors promoted from War- rant rank, Captains and Lieutenants (except Lieu- tenants included in 5).	5 0	
5. Mates and Officers below Ward Room rank.	Lieutenants with less than four years' commissioned service (other than those promoted from Warrant rank) and 2nd-Lieutenants, Commissioned Officers from Warrant rank and Warrant Officers.	4 0	

*Note.*—The rates of charge in the case of Retired Officers will be determined with reference to the last rank held on the Active List and without regard to any step in rank which may be granted on or after retirement.

## II.—Other Persons.

(a) 6. Civil Officers of Dockyards and civilian workpeople admitted for an injury arising out of and in the course of their employment.	}	No charge.	
7. Agreement workmen at Yards abroad admitted for a disability not due to their own default.			
8. Civil salaried staff of naval hospitals.			
9. Distressed British subjects or accidents arising in the vicinity of the hospital.			
10. R.F.A. personnel when eligible for free maintenance and treatment.			
	<i>Daily Charge.</i>	<i>Recoverable from.</i>	
(b) 11. Patients admitted at expense of Greenwich Hospital Funds.	2s. 6d.	*Greenwich Hospital.	
(c) 12. Agreement workmen at Yards abroad admitted for a disability or injury due to own default.	}	5s. Patient.	
13. Non-insurable Yard craft employees.			
14. R.F.A. Officers entitled to free treatment but not to free maintenance.			
(d) 15. Army personnel ... ..	}	*War Office.	
16. Royal Air Force personnel ... ..		*Air Ministry	
17. Royal Indian Marine Personnel ... ..		*India Office.	
18. Personnel of Dominion Navies ... ..		*Dominion Government.	
19. Personnel of Foreign Navies ... ..		Consul of Nation concerned.	
20. Ministry of Pensions Patients (other than at Yarmouth Hospital)... ..		If received as Officers 12s.	*Ministry of Pensions.
21. Civil Officers of Dockyards, except as shown at 6 ... ..		Otherwise 10s.	Patient.
22. Insurable Yard craft employees... ..			Patient.
23. R.F.A. personnel not otherwise provided for ... ..			Patient.
24. Personnel of Mercantile Marine... ..			Owner of vessel.
25. Contractors' men ... ..			Contractor.
26. Employees of N.A.A.F.I. ... ..			*N.A.A.F.I.
27. All other persons not provided for ( <i>see</i> paragraph 6) ... ..			Patient.

2. In cases marked \* and in the case of patients admitted to Yarmouth Hospital, recovery will be effected by the Accountant-General (to whom returns on Form M.96 should be forwarded) with the exception of South African Naval Personnel admitted to the Royal Naval Hospital, Cape of Good Hope, the charges for whose maintenance and treatment should be recovered direct by the Medical Officer-in-Charge from the South African authorities. In all other cases, recovery should be effected from the person indicated, any case in which payment cannot be obtained being reported to the Admiralty.

3. No action is necessary in the case of Metropolitan Police admitted to a naval hospital. In the case of Royal Marine Police (other ranks), charges for subsistence at the rates promulgated from time to time in Admiralty Fleet Orders should be reported by the Medical Officer-in-Charge to the Paymaster of the R.M. Division on whose books the patient is borne for pay.

4. Retired Officers who are admitted to a naval hospital for the treatment of wounds received in action or injuries sustained on duty may, at the discretion of the Admiralty, be exempted from the charges detailed in paragraph 1 at any time before the degree of their disablement has been finally assessed for the purpose of the grant of additional retired pay or disability retired pay.



5. Officers and men of the Royal Navy, Royal Marines and the Reserve Forces, when in receipt of the full pay of their rank or rating, or who, while on the Active List and borne on ship's books, are in receipt of consolidated naval rates of pay, not being civil salaries, are in all cases entitled to maintenance and treatment in a naval hospital at the expense of Navy Votes. Officers and men of the Royal Naval Volunteer Reserve when injured or suffering from a disability due to the performance of authorised drill or divisional duty may similarly be treated in naval hospitals at the expense of Navy Votes. (For Officers in receipt of unemployed pay at the full pay rate, *see* paragraph 1).

6. Any case of doubt should be referred to the Admiralty for decision, the patient being regarded as liable to pay the full rates laid down in paragraph 1, item 27, pending the issue of instructions to the contrary.

7. The rates now promulgated, in so far as they differ from rates already in force, should be applied with effect from 1st April, 1926.

### 1637.—*Issued Confidentially.*

#### 1644.—W/T Valve Panels, Aerial Coils, etc.—Drying after Storage.

(S.D./G. 7240/26.—11.6.1926.)

Ships drawing new valve panels, aerial coils and similar W/T stores, which appear damp or have been some time in store are to dry them out first by means of fans and radiators (to dry the air), and then by the application of low power for two periods of 15 minutes, with a half hour period between them. No attempt to raise the power is to be made before this drying out has been done.

2. Care is to be taken that a radiator is not put too close to any ebonite, as this material will commence to warp at about 120° F.

#### 1650.—Ablution Compartments in H.M. Ships—Position.

(D. 5241/26.—11.6.1926.)

In view of proposals having been received from a number of H.M. Ships for fitting ablution compartments in urinals, etc., it is pointed out that in 1920, it was laid down that these compartments were to be near the sick bays, and not in the urinals.

2. The most suitable arrangement is a cabinet adjacent to the sick bay, with one door leading into the sick bay and another door through which men can enter without passing through the sick bay.

3. Where it is impossible, however, to construct a cabinet in this position, alternative sites may be allowed, if possible near the sick bay, but failing these, in or near the heads.

#### 1660.—Filtering Materials—Expenditure—REPORT.

*Cruisers of "Caledon," "Ceres," "Carlisle," and "D" Classes.*

(N.S./D. 21542/25.—11.6.1926.)

Ships fitted with feedwater filters of the Terry Towelling Type are to report, twelve months after the installation of the filters, particulars of the pattern numbers and quantities of towelling expended for this purpose during the period. The quantities used for the first fitting of the filters should be shown separately.

2. The report should also include particulars relative to the expenditure of sponges used for feedwater filters during the latest twelve months of normal service prior to the installation of the new type of filter.

**1663.—Coloured Cottons for Making up Curtains and Overcases.**

(N.S. 6896/26.—11.6.1926.)

It has been decided that in future, cotton or thread of Rate Book descriptions shall be used for making up curtains and overcases except in special cases where the Yard Officers consider that the use of coloured threads are essential.

**1722.—Magnetos.**

(C.P./D. 15884/25.—18.6.1926.)

Following the consideration of standardising the type of magneto to be used throughout the Naval Service ashore and afloat, it has been decided that until further orders purchases of magnetos shall be confined to the following firms:—

Messrs. Watford Speedometer &amp; Magneto Depôt.

Messrs. Simms Motor Units (1920) Ltd.

Messrs. British Thomson-Houston Co. Ltd.

2. Existing stocks as exhausted are to be replaced by magnetos manufactured by these Firms, purchases being made to a specification which is being prepared at the Admiralty embodying the special Service requirements to be met and any general clauses necessary to ensure uniformity.

3. Existing magnetos of other makes at present in service shall be placed on the Sale List as and when they require large repair.

**1732.—Director Installation—Henderson Firing Gear—Erection and Repair.***All Dockyards.*

(G. 5452/26.—18.6.1926.)

A long-standing contract with Messrs. Elliott Brothers, of Lewisham, for the erection and adjustment of Henderson firing gear in all H.M. Ships and Establishments has now been terminated, as it was found from experience that it was only required on infrequent occasions.

2. As a general rule in the case of new construction, however, it is still the intention to request the firm to do such work. In these cases Admiralty contracts, in each of which the work is clearly defined, will be placed by the Director of Navy Contracts as the necessity arises.

3. It is considered that Dockyards have now gained sufficient experience to carry out all repair work and adjustments of Henderson firing gear in existing ships.

4. Cases may arise, however, which, in the opinion of Yard Officers, require the assistance of Messrs. Elliott Brothers. In these cases prior Admiralty approval for such assistance should be sought whenever practicable, and invariably if the probable cost will exceed £250. In urgent cases where the probable cost will not exceed £250, and it is considered that Admiralty approval may be anticipated, a report should be submitted to the Admiralty showing the necessity for the work and the expense incurred.

5. Whenever an order is placed it is to be definitely stated whether or not the work will be performed under the terms of Messrs. Elliott's net cost plus percentage agreement, or on a fixed price basis. The latter course is to be adopted when practicable.

**1736.—25 Gallon Oil Casks.—REPORTS.**

(N.S. Fuel 3329/26.—18.6.1926.)

Every care is to be taken to ensure the cleanliness of all containers for lubricating oils, and it is particularly important that the interiors of the 25 gallon oil casks intended for special mineral lubricating oil are kept scrupulously clean.

2. These casks are painted green and their use is to be restricted to the transport of special mineral lubricating oil only.

3. If at any time it is necessary to make use of these casks for other purposes, they are to be re-painted in the appropriate colour and are not to be again used for special mineral lubricating oil.

4. When special mineral oil casks are empty the bungs are to be screwed down tightly to prevent the admission of dirt and to preserve the interior of the casks from atmospheric action, which sets up rusting and pitting.

5. Only the welded casks, Pattern 9C and 9D, will be repaired in future.

6. The cleaning of riveted casks is, however, to continue provided no repair is involved.

7. Accumulations of serviceable and repairable riveted casks should be reported half-yearly on 1st August and 1st February, when the question of their disposal will be considered.

8. The stocks of serviceable riveted casks, Pattern 9B, should also be included in the reports.

9. The return to England from Foreign Yards of surplus 25 gallon oil casks when freight payment is entailed is to be restricted to the welded varieties, Patterns 9C and 9D.

### **1881.—Breech Mechanisms, Q.F. 4 in. V and V\*—Strengthened Design of Bolt, Actuating.**

(G. 2693/25.—2.7.1926.)

An improved design of bolt actuating breech mechanism for Q.F. 4-in. V and V\* guns has been approved, and copies of Instructional Print, N.O.D. 2146/23, for guidance in preparation of breech ring and crank for fitting the strengthened bolt, actuating, will be distributed to Naval Armament Depôts shortly.

2. The new design of bolt is to be fitted only as existing bolts become unserviceable, and as present stocks of old pattern bolts are exhausted.

3. The work will be carried out by Naval Armament Depôt staff, and guns so modified will be designated Q.F. 4 in., "A," Marks V and V\*.

### **1889.—Multicore Cables for Low Power Circuits—Connections.**

*New Construction and Reconstructed Ships.*

(G. 5951/26.—2.7.1926.)

In connection with the low power electrical installations of ships building or under reconstruction it has been decided to dispense with the scheme (circulated with Admiralty Letter, D.6773/16, dated 28.5.16) for allocating the cores of multicore cables for specific purposes.

2. The approved scheme of terminal marking circulated with Admiralty Letter G.9537/25, provides information for testing circuits, and therefore the scheme of core marking previously employed is not necessary for this purpose.

3. Numbers should, however, be allocated to the cores by the shipbuilder during installation; but it is not necessary to prepare a scheme for this purpose.

4. Diagrams of connections (including the core allocation) as shown in the typical drawing (E.F.O. 60/26), are to be affixed to the lid of each junction box. These diagrams should also be included in the "as fitted" drawings of the ship.

## 1903.—Smoke Floats, Type " F " and Igniters—Description and General Instructions.

(N.S. 6175/26.—2.7.1926.)

The float which can be used as a floating screen, or on board, consists of a sheet steel container 2 ft. in diameter, and weighs, when charged ready for use, about 165 lb. The cylinder forming the central portion of the float contains the charge and is hermetically sealed by the fillers, after charging. The sketch (E.F.O. 57/26) shows the top of this cylinder and the firing arrangements.

2. To prepare the floats for use, remove the plug from the cover and screw in the igniter as shown. To make smoke, remove the brass top of the igniter (retained by a bayonet joint in Mark III igniters, and by a tape band in Mark V igniters). Inside the lid will be found a phosphorous tab attached to a tape. Scratch the phosphorous tab on the priming below the paper disc. Should the priming fail the igniter can be fired by a match or port fire. The smoke issues from the igniter boss, out of which the igniter is blown, and from the holes in the cover, the sealing of which is melted as soon as the charge becomes ignited.

3. When the float is burned on board an intense heat is developed. It must therefore be secured in a position clear of corticene and wood decks, and a running hose pipe should be available.

4. If the float is to be dropped overboard, this should not be done until smoke is being developed with full force when using the Mark III igniters, as the charge may otherwise be drowned by the ingress of water through the vent holes. When using the Mark V igniters, however, the float can be dropped as soon as the igniter has been lit, as the magazine does not fire until a length of bickford fuze is burnt through, and this enables the float to ride on the water before the vent discs are blown off.

5. Attention is called to the necessity for careful handling of Type " F " smoke floats. They are of light construction, to ensure adequate buoyancy, and rough handling during transport and storage should be avoided, as otherwise leaks may be started at the joints, which will impair the effectiveness of the mixture.

6. Igniters are of an incendiary nature, but are not explosive. The present stocks of igniters, viz. :—Mark III, are supplied in boxes containing 12, which are not airtight. Provided that these igniters are kept in a dry place, there is no reason to expect failure to function. Dampness, however, is liable to cause inter-action of the fillings, and to interfere with the lighting arrangement. Stowage provided, therefore, for these igniters is to be such as to ensure that they are kept as dry as possible. Future purchases of igniters will be made to the new Mark V design, and they will be supplied each in a separate sealed tin cylinder. Igniters are not waterproofed, and therefore should only be inserted just before the float is required for use. Should the float not be fired the igniter should immediately be removed and the plug replaced. The sealing of the tin cylinders of Mark V igniters so dealt with, should after replacement of the igniters, be made good with such local appliances (tape and solution) as are available.

7. Stocks of Mark III igniters held by ships for more than one year are to be examined annually for condition, and stocks of all igniters, both Mark III and Mark V, held at Dockyards are to be similarly dealt with. All Mark III igniters and a proportion of Mark V igniters returned by ships to Dockyards should be examined for condition before being taken into stock.

8. Both smoke floats and igniters should continue, as heretofore, to be dealt with as Naval Stores.

**1905.—Issued Confidentially.****1907.—Patent Fire Extinguishers.***All Dockyards, Shore Establishments and Ships concerned.*

(N.S. 4543/25.—2.7.1926.)

*Services.*

The supply of patent fire extinguishers is to be limited to the following services:—

- Motor Boats.
- Motor Vehicles.
- Submarines.
- Ships in Reserve Fleet.
- Minelayers.
- Aircraft Carriers ("Foamite" or other approved type).
- H.M.S. "Vulcan II" (late "Lily") whilst attached to Periscope School.
- Vessels employed on Photographic Service.
- R.F.A. "Bacchus" and R.F.A. "Maine."
- R.N. Shore Signal and Wireless Stations in which cells with celluloid containers are fitted, and to all stations where water is not laid on.
- Anti-Gas Schools.
- For use in connection with electrical machinery at the Dockyards, etc., where petrol or other highly inflammable liquid is stored.
- W/T offices which have celluloid containers.
- Ships carrying a Cinematograph.
- H.M.S. "Vernon" Shore Establishment.

**USE OF WATER AND SAND.**

The Committee appointed to investigate the question of fire protection in H.M. Dockyards, recommended that fire buckets and casks be provided in all buildings, and that the existing extinguishers should not be replaced or refilled. It should always be borne in mind that for ordinary fires, water is equally, if not more effective than patent fire extinguishers, and that buckets of water and sand form the most effective means of extinguishing such fires.

**CARE IN MOTOR BOATS AND CONFINED SPACES.**

Care is to be taken that in all motor boats, two "Pyrene" or other approved type fire extinguishers are stowed in full view in suitable fittings such as spring clips.

Care is to be taken in the use of "Pyrene" or similar fire extinguishers in confined spaces, and special attention is to be paid to the ventilation of such spaces after the use of these appliances. In handling and storing the liquid, it should be borne in mind that the vapour is poisonous when present in any quantity, having an effect similar to that of chloroform. The disagreeable smell and irritating effect on the eyes are sufficient to indicate presence of the vapour. The liquid boils at about 170 deg. Fahr., it has no corrosive action on brass or gunmetal, except when mixed with water, hence these appliances should on no account be washed out with water before refilling with the fluid.

**PERIODICAL TESTS OF EXTINGUISHERS.**

Cases have been brought to notice of "Pyrene" fire extinguishers which have been found choked and unworkable when required for use.

All fire extinguishers of this type should be tested once a quarter to ascertain that the passages for discharge of fluid are clear and that valves are in good order by applying one or two strokes of the pump.

This test should be carried out with the extinguishers discharging both upwards and downwards; the discharged fluid may be collected in a suitable vessel and returned to the extinguisher. The test should be carried out in the open air, and sketch (E.F.O. 77/26) shows how a disused petrol tin or similar vessel may be adapted for correctly carrying out the test. Any vessel used should be perfectly clean and dry, the presence of a very small quantity of water in the fluid leads to rapid corrosion.

It has been observed that tinned-steel cans in which carbon tetrachloride has been stored for a considerable time have become badly corroded. When stocks of carbon tetrachloride or "Pyrene" liquid are contained in tin cans, the latter should be examined at intervals of not more than six months.

The present practice of purchasing "Pyrene" fire extinguishers in a charged condition will be continued.

#### STORAGE, ETC., OF EXTINGUISHERS AND REFILLS.

"Pyrene" or similar type extinguishers and refills should be stored in a well ventilated and dry storehouse, where practicable, so as to reduce one of the main causes of deterioration, viz:—dampness, which rusts both the extinguisher and refill and renders the articles defective. In any case, effective means should be adopted to protect the articles from dampness.

All extinguishers should be stored in their separate cartons as originally supplied, or in brown paper or cardboard cartons improvised for the purpose so as to protect them from dampness and the collection of dust, etc.

Charged extinguishers should be dealt with as follows on periodical examination:—

- (i) Thoroughly cleaned, particularly the parts round the handle, lock plate and the filler cap.
- (ii) Halfway withdraw the plunger and then restore it to its original locked position. It may be that due to the condition of the extinguisher, the plunger has become stuck and works very hard, if so, the stuffing box nut should be slightly released by suitable means. The stuffing box can be regulated, so that while the plunger will work easily, it will not allow the liquid to pass.

Similar precautions, as far as practicable, should be taken on board H.M. Ships, etc., on which these articles are carried.

#### CONTAINERS.

It has been found that the containers for carbon tetrachloride liquid for refilling "Pyrene" Fire Extinguishers become punctured when the liquid is in the container for any length of time, due probably to faulty tinning or brassing permitting the liquid to attack the bare iron of the tin.

Empty tins returned to Sheerness Yard for refilling should be examined for the defect referred to before filling for re-issue.

It is proposed to continue the use of the present type of container for the present, as it is considered that the use of a stouter type of container, or the coating of the present type with Japan black, will not remove the difficulties due to corrosion. It is desirable, however, that losses due to corrosion should be reduced to a minimum, and with this object in view the following instructions are promulgated for information and guidance, as it is hoped by these means to obtain further experience as to the average length of time the liquid is in the tin before corrosion occurs, so that stocks may be regulated accordingly:—

- (i) The dates of filling containers with carbon tetrachloride should invariably be inserted on the tin at the time of filling at Sheerness Yard.
- (ii) Oldest charged containers in store, providing no signs of leakage are apparent, should be issued first or concurrently with charged containers in store which have been returned from ships or services not bearing the date of filling thereon.
- (iii) In regard to charged containers found leaky on periodical examination, particulars should be furnished on the Return D.68 as regards the dates of filling (where known), and whether tins are brassed or tinned internally.

Wherever "J.M." fire extinguishers are fitted the apparatus should be periodically tested to ensure that the pump is not jammed. This can be done without opening the cut-off or expenditure of liquid.

#### EMPTY CONTAINERS.

Empty cans which have contained liquid for refilling "Pyrene," "J.M.," or other fire extinguishers using carbon tetrachloride are not to be used for the reception of any other liquid or material, and are to be returned, if serviceable, to the Dockyards with caps complete, as opportunities offer.

#### USE OF FLUID.—CARE TO BE TAKEN.

Refills now supplied for extinguishers generally consist almost entirely of carbon tetrachloride, and the following remarks in regard to the use of this fluid for this purpose should be noted:—

- (a) Where the fluid is raised to a high temperature the fumes consist largely of hydrochloric acid, and the fluid is consequently very objectionable in a confined space.
- (b) The extinguishing effect of one quart of carbon tetrachloride on an ordinary fire should not be considered as much greater than the same quantity of plain or salt water, and on an ordinary fire in a confined space water should be given the preference.
- (c) The special features of carbon tetrachloride as a fire extinguishing agent are limited to the extinction of small electrical fires, small petrol fires and small fires in respect to certain chemicals, and it is on petrol and electrical fires that this fluid should be primarily applied with promptitude but with discretion, so as to avoid creating objectionable fumes to an unnecessary extent.
- (d) Great care must be taken when refilling an extinguisher of this type not to allow any water to be put into the appliance, but only authorised sealed refills provided from the Naval Stores.

In view of paragraph (a) above, extinguishers using carbon tetrachloride should not be used in confined spaces except for incipient fires which can be promptly extinguished.

The conclusions arrived at by the Bureau of Mines, U.S.A., as printed in "The Chemical Trade Journal and Chemical Engineer," are as follows:—

- (i) As a result of the experiments, it is recommended that carbon tetrachloride fire extinguishers be not used on fires in closely confined spaces where conditions are such that the user cannot escape without breathing the fumes. The Army type of gas mask offers good protection from the fumes.
- (ii) It is not the intention of this paper to discourage the use of carbon tetrachloride extinguishers, which are excellent for stopping incipient fires, but rather to point out a danger which can occur with their application.

- (iii) The average user of a carbon tetrachloride extinguisher does not know that the decomposition products are poisonous. It would, therefore, seem that manufacturers of such apparatus should put a plainly lettered caution plate on each extinguisher, stating that the fumes from using the extinguisher must not be inhaled, as they are poisonous.

#### CAUTION LABELS.

Caution labels of the nature described in the preceding paragraph, as per specimen below, have been provided for fitting to "Pyrene" fire extinguishers in store and in use, and any quantities required for this purpose should be demanded from the Superintendent, R.N. Store Depôt, West India Docks.

#### SPECIMEN.

#### CAUTION.

FUMES ARISING FROM THIS EXTINGUISHER ARE  
POISONOUS AND SHOULD NOT BE INHALED.

The labels, after attachment to the extinguisher, should be varnished over to prevent deterioration.

Future purchases of "Pyrene" or similar type fire extinguishers will be made with the caution label affixed to the extinguisher.

### 2026.—Petty Theft—Irregular Borrowing and Appropriation of Articles—Charges.

(N.L. 1328/26.—16.7.1926.)

Charges of theft of articles found lying about often fail to be proved through insufficient evidence of felonious intent. Charges of theft should, therefore, not be preferred, except where there is clear evidence of criminal intent. Theft by finding is an offence against ordinary law, but as it is not easy to establish clearly, the charge should not be used too freely.

2. Loose borrowing or appropriation of articles belonging to other ratings or ownerless articles may, however, occasion difficulty in H.M. Ships. While, therefore, a rating found in possession of an article belonging to another should not be charged with theft unless it is clear that when it was taken there was an intention to deprive the known or ascertainable owner permanently of the article, irregular borrowing and appropriation may, according to the facts, be dealt with as offences against discipline.

3. Ships' orders should contain specific directions for the disposal of all articles found lying about which are not the property of the finder. It will then be possible when evidence for preferring a charge of theft is insufficient to formulate a charge under Section 43 of "Neglect to the prejudice, etc., in not handing over to the proper authority the articles in question which to the knowledge of the accused had come into his possession without the consent of the owner." A Court Martial or a Commanding Officer may infer from the evidence that the accused must have known that the article had come into his possession and that it had done so without the consent of the owner. It is also possible to prefer a charge of an act to the prejudice in borrowing or appropriating articles without the consent of the owner.



**\*2066.—Officers R.C.N. returning to Canada—Transportation.**

(C.W. 5291/26.—23.7.1926.)

Rail transportation to port of embarkation in England and ocean transportation to Canada of Officers and men of the Royal Canadian Navy returning to Canada after service with the Royal Navy, will be arranged as a charge to Canadian Naval funds by the Admiralty or by the High Commissioner for Canada in London, as the circumstances may render most convenient.

2. Officers and men who are due to return to Canada from service with the Royal Navy, should apply to the Admiralty, through the usual service channels, for information as to passage arrangements and should communicate the particulars of dependents for whom passage is desired, if the passage for such dependents is authorised under A.F.O. 2193/25.

3. As regards rail transportation in Canada of Officers of the R.C.N. returning from service with the Royal Navy, the Officer should give to Naval Service Headquarters, Ottawa, as much notice as possible of the probable date of his arrival, of the ship in which he is travelling, of the dependents (if any) specifying relationship, and ages in the case of children, who are accompanying him, and of his intended movements on arrival in Canada, when it has been approved for him to proceed on Foreign Service Leave prior to taking up his future appointment.

Naval Service Headquarters will then arrange, if possible, to send to the Officer, c/o the agent at the port of arrival of the ship in which the Officer is travelling, to meet him on arrival, warrant for such transportation as is authorised by the regulations.

4. Rail transportation to their home ports in Canada (Halifax or Esquimalt as the case may be) of men of the R.C.N. returning from service with the Royal Navy, is arranged by the Admiralty or by the High Commissioner for Canada in London, as the circumstances may render most convenient.

(A.F.O. 2193/25.)

**2070.—Aircraft W/T Equipment—Precautions.**

(N.L. 3141/26 and M. 4045/25.—23.7.1926.)

The following precautionary instructions with respect to the W/T equipment of Fleet Air Arm aircraft are promulgated for information and guidance :—

- (i) The accumulators for instrument lighting on aircraft are not to be used for W/T purposes.
- (ii) Metal headbands for 'phones are not to be worn in the air.
- (iii) If any uncertainty exists as to the pitch of the windmill for W/T generator, it is not to be used until the correct pitch has been ascertained.
- (iv) When generators, reference Nos. 1618A and 1618R are used, the line terminal " L " is not to be connected to any external lead.

2. In addition to the detailed technical instructions promulgated in Air Ministry Technical Order No. 59 (issue No. 4 of 1925) the following general precautions to safeguard against atmospheric discharges should be taken by all aircraft employing trailing aerials : —

- (a) The existence of dangerous conditions is to be reported by the wireless operator to the Officer-in-Charge of the aircraft.
- (b) The aerial is either to be earthed or cut away on permission being obtained.
- (c) The telephones are to be disconnected from the set.
- (d) The set is to be switched off.
- (e) The aerial, if earthed, is to be reeled up.

## 2080.—Smoke—Formation in relation to Boiler Efficiency.

(S. 2408/26.—23.7.1926.)

While carrying out trials on shore on a boiler of H.M.S. "Kent" opportunity was taken to observe and record the amount of smoke made in relation to the efficiency of the boiler evaporation.

A steaming condition very nearly equal to that necessary to develop full power in H.M.S. "Kent" was chosen and was repeated with consecutive variations of the air pressure in the boiler room between 2·3 in. and 3·7 in.

2. These trials showed :—

- (a) That the condition of maximum efficiency of evaporation was obtained with an air pressure of about 2·7 in. with smoke as shown by Photo C (E.F.O. 20/26.)
- (b) That over a range of air pressures between 2·5 in. and 2·9 in. which may be termed a "maximum efficiency range" the boiler efficiency was within 2 per cent. of the maximum obtainable with smoke as shown by Photos B. and D. (E.F.O. 20/26.)
- (c) That with reduction of air pressure below 2·5 in., the efficiency fell off very rapidly due to incomplete combustion involving at the 2·3 in. condition a virtual loss of 7 per cent. with smoke as shown by Photo A. (E.F.O. 20/26.)
- (d) That with increase of air pressure above 2·9 in. the efficiency fell off rapidly and steadily due to the cooling effect of excess air, involving with an air pressure of 3·2 in. a virtual loss of 6 per cent. with smoke as shown by Photo E. (E.F.O. 20/26.)
- (e) That still further increase of air pressure to 3·7 in., at which point the smoke condition was very nearly that of a "clear funnel," involved a virtual loss of 14 per cent. efficiency.

3. The following graphs (E.F.O. 61/26) are shown on an air pressure base :—

- (a) A boiler efficiency curve in which the maximum efficiency is scaled to 100 per cent. for ready comparison with other conditions.
- (b) A graph of furnace temperature which shows a steadily falling temperature condition as the air supply is increased.
- (c) A graph of flue gas temperatures recorded in the boiler uptakes in line with the steam drum.

4. In order to make the best use of the foregoing information, the following points should be borne in mind :—

- (a) That the smoke formation shown by the photographs under the various conditions arises from one boiler only.
- (b) That the trial conditions were such that extreme care could be exercised in seeing that smoke was not being caused by inefficient burning of any one sprayer.

Somewhat heavier smoke conditions therefore may be expected to correspond to similar conditions of maximum efficiency under average ship conditions.

## 2105.—Retention of Members of Civil Staff over the Age of 60— Procedure.

(C.E.—23.7.1926.)

Officials serving under the Admiralty are retired on reaching the age of 60 years, provided they have completed 40 years' service for pension. The Board retain discretion to make exceptions to this rule as regards officials whose services it may be desirable to prolong solely with reference to the interests of the Public Service. Extension of service in such cases, except as regards Officers holding important positions, will not normally exceed a period of six months.

2. Officials who, on reaching the age of 60, have not completed 40 years for pension will normally be retired at the age of 60 years. Such Officers may, however, be retained for a period not exceeding six months, subject to Admiralty approval, if this retention will enable them to complete another year's service towards pension or to qualify for another increment or to complete 3 full years' service in their grade, provided that they are recommended for such retention and are certified as thoroughly efficient for their duties.

3. Except as provided in paragraph 2, the retention after the age of 60 of officials who have not completed 40 years for pension will be dealt with by the Board solely with reference to the interests and requirements of the Public Service and not with reference to the convenience of the individual. Each case will be considered on its merits.

4. The following procedure should be followed in regard to officials holding posts other than "controlling posts" as defined in the First Report of the National Council Committee on Promotion, paragraph 5 :—

- (a) The Head of a Department, if he has it in mind to recommend that an official should be retained except as provided for in paragraph 2, should notify the Office Committee of his Department and should consult such Officer as may be agreed between him and the Office Committee. This Officer should be senior in grade to the official whose retention is in question. This consultation is intended to ensure that all points of view receive due consideration and does not in any way relieve the Head of the Department of his responsibility for the actual recommendation put forward.
- (b) Where the rank of an official renders consultation on this basis impracticable, the consultation should be between the Head of the Department and the Chairman and Vice-Chairman of the Admiralty Administrative Whitley Council or, in the case of Outports Establishments, the Chairman and Vice-Chairman of the District Committee.

5. The same procedure is to be followed in regard to officials over the age of 60 whose retention over a definite period has already been approved and for whom a further extension of service is proposed.

## **2107.—Anemometers or Air Meters for Trials of Ventilation Systems in H.M. Ships—Reserve.**

(N.S. 6664/26.—23.7.1926.)

It has been approved to maintain a reserve of 6 anemometers or air meters at Portsmouth for issue on loan to professional officers at all home yards and Admiralty Overseers, for use in connection with trials and tests of submarine battery cooling plants, ventilation and magazine cooling arrangements, etc., in H.M. Ships.

2. Requests for the loan of these anemometers should be forwarded to the Superintending Naval Store Officer, Portsmouth, stating the date by which they are required and the probable date of return. The instruments should be returned to the Superintending Naval Store Officer, Portsmouth, immediately on completion of the trials or tests for which demanded.

3. *Portsmouth only.*—Arrangements have been made for the purchase of 4 anemometers or air meters to complete with the 2 in stock the reserve of 6 to be maintained.

4. The necessary addition should be made on page 53 of the Home Yard Reserve Memorandum.

(A.F.O. 950/25.)

**\*2118.—Senior Mate and Second Mate, Permanent Cruiser Service—Qualifications.**

(C.W. 6359.—30.7.1926.)

(a) SENIOR MATE.

1. The qualifications for Senior Mate are as follows :—  
Five years' service as Second Mate.  
Must have passed a strict examination in the subjects enumerated below.
2. Candidates must have one year's service as Second Mate at the time of the examination, the syllabus of which will be as follows :—

*List of Subjects.*

To write a legible hand.

To have a competent knowledge of the first four rules of arithmetic.

(N.B.—An examination in the above subjects may be dispensed with if the candidate is in possession of an Educational Certificate for Petty Officer.)

To be able to keep Store Accounts.

To know the marks on the lead line.

To prove he is a practical seaman and understands boat work in all its branches.

To have a good knowledge of the different methods of signalling.

To understand the rule of the road at sea and the Admiralty Regulations respecting lights.

To have a knowledge of the abbreviations and symbols used in Admiralty charts.

To be thoroughly acquainted with the duties of a Sea Fishery Officer, as laid down in the Sea Fisheries Manual.

*In Navigation and Pilotage.*

To be capable of navigating a ship along any coast of the British Isles and to show upon the chart the magnetic courses and distance to be run from headland to headland, and show by bearings of headlands and lights when the courses should be altered to clear any danger.

To understand the use of the Deviation Table.

To fix the position of the vessel by cross-bearings.

To mark off on a chart the correct magnetic course and distance between any two given points.

Precautions to be observed for ascertaining that proposed courses have been made good or otherwise when near land, or in soundings.

Passing lighthouse by night to ascertain its distance by bearings of the light marked off on a chart.

To ascertain the time of high water and depth of water, according to time and height of tide.

To understand the adjustment and use of the sextant, and to ascertain the latitude by meridian altitude of Sun and Polar Star.

To have a good general knowledge of the coasts of the British Isles.

To understand how to cut and fit rigging.

To be able to drill a party of men in rifle and pistol.

To understand thoroughly the working of the Life Saving Apparatus.

(b) SECOND MATE.

1. The qualifications for Second Mate are as follows :—  
Five years' service as Chief Quartermaster (confirmed).  
Must have passed a satisfactory examination in the subjects laid down above for Senior Mate and must possess a fair knowledge of the Pilotage of the coast on which he has been employed.
2. Chief Quartermasters, and Quartermasters with one year's service as such, are eligible for this examination.

## (c) EXAMINATIONS.

Examinations for Senior and Second Mate may be held on board any ship and should be conducted by a Board of Officers composed as follows :—

1 Commander, R.N.

1 Lieutenant-Commander (N.) or Lieutenant (N.).

1 Commanding Officer of a Fishery Protection Vessel.

### \*2125.—Leave Regulations for Officers and Men of Royal Australian Navy.

(M./N. 2462/26.—30.7.1926.)

The leave of officers and men of the Royal Australian Navy serving in H.M. Ships and Establishments is to be governed by the routine of the squadron, ship or establishment to which they are attached.

Foreign service leave, calculated at the rate of seven days for each completed six months and one day for each completed month, will be granted on return to Australia, provided the amount of leave thus accumulated does not exceed 42 days.

### 2153.—Rangefinders for Vickers' Machine Gun Equipments.

(N.S./C.P. 15153/26.—30.7.1926.)

37 Patt. 5846 rangefinders have been modified for use with Vickers' Machine Guns by Messrs Barr & Stroud, under contract dated 30th January, 1926, C.P. 1002 F. 310, for delivery and distribution as follows :—

				<i>Allocation.</i>			
Chatham	...	...	22	China Station...	...	...	2
				East Indies Station	...	...	1
				African Station	...	...	1
				North America and West Indies Station	...	...	1
				Mediterranean	...	...	12
				Hong Kong (Reserve)	...	...	1
				Chatham Division, R.M.	...	...	4
Portsmouth	...	...	11	Atlantic Fleet	...	...	4
				Portsmouth Division, R.M....	...	...	7
Devonport	...	...	4	Plymouth Division, R.M.	...	...	4

2. The necessary stands for the rangefinders have been obtained from the War Office and are at Portsmouth.

3. The stands to complete the rangefinders at Chatham and Devonport are to be sent to those yards from Portsmouth.

4. Carriers suitable for fitting the rangefinders to the stands are being purchased from Messrs. Barr & Stroud, under contract 1st July, 1926, C.P. 15808 F.II, for delivery at Portsmouth, and will probably be available for distribution early in September.

5. The rangefinders and stands will, however, be distributed without waiting for the carriers.

6. After modification the rangefinder will be designated as follows :—

Pattern 9390, navigational rangefinder, type F.T. 32, 80 c.m. base, upper image inverted.

## 2206.—Dreyer Fire Control Tables—Spares—REPORTS.

(N.S./G. 8450/26.—6.8.1926.)

In connection with the provision of spares for supply to H.M. Ships having Dreyer tables, a statement is attached showing in detail the items which are proposed to be carried on board for the various types of tables.

2. Ships concerned are requested to forward reports through the Commanders-in-Chief and Senior Naval Officers of the several Fleets and stations (home and abroad), stating whether complete boxes of spares are required, and if not what new parts are required in order to bring the spares already supplied up to the quantities enumerated in the statement.

3. The reports should be compiled in the same sequence and under the same nomenclature as the items appear in the statement.

### CONTENTS OF SPARE PART BOXES FOR FIRE CONTROL TABLES.

*Note.*—Where two or more boxes are indicated for the same article it is common to the several types of tables.

	Type of Table.				
	Mark V.	Mark IV*.	Mark III*.	Mark I*.	Turret.
Bands, I.R., for paper rollers ... .. No.	12	12	12	12	6
Balls, steel, $\frac{1}{4}$ in. diameter ... .. "	36	36	12	12	—
"  " $\frac{3}{16}$ in. diameter ... .. "	36	36	—	—	—
"  " $\frac{1}{8}$ in. diameter ... .. "	36	36	12	—	—
Brushes, carbon, for air compressor motor... "	4	—	—	—	—
"  "  "  main drive motor ... .. "	4	4	4	—	—
"  "  "  control, deflection and rate motors. "	6	6	4	4	—
"  "  "  type "R" and standard motors. "	12	12	12	12	—
"  "  "  speed governor and typewriter transmitters. "	12	2	2	—	—
"  "  "  standard commutators "	12	12	6	—	—
Cable, electric, braided, special 10 core ... Ft.	4	—	—	—	—
"  "  "  "  7 " ... .. "	4	—	—	—	—
Discs, coupling, air compressor ... .. Prs.	1	—	—	—	—
Leads, electric, armoured, flexible, electrical, No. Dumaresq.	2	2	—	—	—
Motor, type "R," for gyro receiver, complete "	1	1	1	1	—
Magnets, electro, operating air valves of typewriter, with springs. "	2	—	—	—	—
Pins, taper, assorted ... .. "	24	24	24	18	12
Relays, coils for ... .. "	2	2	—	—	—
"  carbon contacts for ... .. "	6	6	—	—	—
"  screw contacts for ... .. "	6	6	—	—	—
Rollers, carbon, with arm, for marking pen, G.D.T. gear. "	4	4	4	—	—
Rollers, inking, for typewriter, 1 in. long ... "	2	2	2	2	—
"  "  "  " $\frac{3}{4}$ in. " ... .. "	2	—	—	—	—
Screws, B.A., thread, assorted ... .. "	48	48	48	36	12
Shafting, flexible, steel, $\frac{3}{8}$ in., fitted with casing, 16 ft. lengths. "	1	—	—	—	—
Shafting, flexible, steel, $\frac{1}{4}$ in., with casing, 30 ft. lengths. "	1	1	1	1	1

	Type of Table.				
	Mark V.	Mark IV*.	Mark III*.	Mark I*.	Turret.
Springs for—					
Brushes of type "R" and standard No. motors.	6	6	6	6	-
Brushes of standard commutators ... "	6	6	6	6	-
Speed governor ... " brush arm ... "	2	2	2	-	-
" " " " " " " " " " " "	2	2	2	-	-
Typewriter keys ... " " " " " " " " " "	15	-	-	-	-
" " " " " " " " " " " "	-	9	9	9	-
Type rod ... " " " " " " " " " "	15	-	-	-	-
Typewriter ink roller ... " " " " " " " " " "	2	1	1	1	-
" transmitters ... " " " " " " " " " "	15	-	-	-	-
Carbon roller arm for marking pen of " G.D.T. gear.	2	2	2	-	-
Spiral, for clock range pencil holder ... "	2	-	-	-	-
" " gun " " " " " " " " " "	2	-	-	-	-
Tensioning friction roller on range disc ... "	2	2	2	2	2
Clock range pencil holder ... " " " " " " " " " "	-	-	-	-	2
Gun range pencil holder ... " " " " " " " " " "	-	-	-	-	1
Tubing, I.R., for air supply to typewriter Ft. Valves, air operating typewriter ... No.	5	-	-	-	-
2	2	-	-	-	-
Springs for—					
Wire, steel, piano, .012 diameter ... Yds.	3	-	-	-	-
Wheels, pinion "J," of spotting corrector No. box.	1	1	1	1	-
Wheels, pinion "M," of tuning gear corrector box.	1	1	1	1	-
Wheels, worm, with insulated coupling " compass control gear.	1	1	1	1	-
Ink, typewriter—					
Violet ... " " " " " " " " " " Bottles	1	-	-	-	-
Green ... " " " " " " " " " " "	1	-	-	-	-
Black ... " " " " " " " " " " "	-	1	1	1	-
Ink, stylo pens—					
Red ... " " " " " " " " " " "	1	-	-	-	-
Green ... " " " " " " " " " " "	1	-	-	-	-
Black ... " " " " " " " " " " "	1	-	-	-	-
Lamps, 220 volt, 200 C.P., $\frac{1}{2}$ watt, for rate No. grid projector	2	-	-	-	-
Lamps, 220 volt, 16 C.P., for bearing plot " (finger lamps)†.	2	2	2	2	-
Chains, roller—					
Fasteners for, $\frac{1}{2}$ in. pitch ... " " " " " " " " " "	3	3	3	3	2
" " " " 8 mm. pitch ... " " " " " " " " " "	3	3	3	3	4
Links for, $\frac{1}{2}$ in. pitch ... " " " " " " " " " "	3	3	3	3	2
" " " " 8 mm. pitch ... " " " " " " " " " "	3	3	3	3	4

† For tables fitted in cruisers these fittings must be for 100 volts.

### \*2250.—R.M. Gunners and Officers Promoted therefrom.

(C.W. 7272/26.—13.8.1926.)

No more promotions to R.M. Gunner will be made in future, and the ranks of R.M. Gunner, and of Officers promoted therefrom, will be allowed to die out as Officers are retired or removed from the Active List.

2. R.M. Gunners will continue, however, to be eligible for promotion to Commissioned R.M. Gunner under existing Regulations. The present complement of two Lieutenants, R.M., and above, promoted from Commissioned R.M. Gunner, will be retained until the total establishment has fallen below 19. Thereafter one Lieutenant will be allowed for such period, as may, in the opinion of the Admiralty, be deemed desirable.

3. R.M. Gunners and above will not appear in revised complements, but an additional Sergeant Gunnery Instructor will be allowed instead. Until the rank lapses, appointments of these Officers will continue to be made, but if a Commissioned R.M. Gunner, or R.M. Gunner is borne in a ship, one Sergeant Gunnery Instructor is to be reduced.

**\*2253.—Ratings Discharged to Depôt from Sea-going Vessels  
in Home Waters—Leave.**

(M. 1294/26.—13.8.1926.)

With reference to King's Regulations and Admiralty Instructions, Article 650, Clause 8, Their Lordships have had under consideration the practice of ratings being discharged to depôt from sea-going ships at home, with a communication sheet attached to their papers stating that the ratings in question are entitled to leave on account of their service before discharge. The following procedure is in future to govern the leave of such ratings:—

(a) *Ratings who are discharged to depôt during the Seasonal Leave periods of the Atlantic Fleet or other sea-going ships in home waters.*

The normal arrangement in this case will be for the ratings who are to be discharged to go on leave with the first watch and to be discharged to depôt on return.

(b) *Men discharged to depôt between the Seasonal Leave periods of the Atlantic Fleet or other sea-going ships in home waters.*

In normal cases it is to be understood that such men are not entitled to any leave in respect of their service afloat since the last Seasonal Leave period of their former vessel. Hence, such men, on discharge to depôt, will be eligible only for Depôt Seasonal Leave or Drafting Leave, as the case may be.

2. No deviation from this procedure is permissible unless it be stated on the draft note (Form B255) that leave will be given in depôt. In all other cases where a departure from this procedure appears to be desirable, prior Admiralty approval under King's Regulations and Admiralty Instructions, Article 650, Clause 8, must be obtained.

(K.R. and A.I., Art. 650 (8).)

**2321.—Extension of Period Between Refits on Mediterranean Station.**

(M. 01282/26.—20.8.1926.)

Their Lordships have decided that as from the beginning of the financial year 1927, the normal period between refits for ships of the status of cruisers and above on the Mediterranean Station will be increased from 1 year to 2½ years. The refits will be arranged to commence about 2 months before each vessel is due to recommission, and will normally, with the exceptions mentioned below, be carried out at one of the Home Yards. In the case of destroyers, the normal period between refits will be extended from a year to 15 months, every alternate refit coinciding with the ship's recommissioning.

2. This procedure will necessitate a large amount of the work now performed by the dockyards being done by the ship's companies of the vessels on the station. In order to facilitate this, arrangements will be made for each vessel to be out of routine for a period of 7 to 10 days half-yearly.

3. Occasional battleship refits will be carried out at Malta Dockyard. When this occurs the vessel will proceed to her Home Port for recommissioning on the conclusion of the refit.



4. The intermediate dockings of the ships of the status of cruisers and above will be carried out half-yearly as at present, and of destroyers at an interval of approximately 7½ months after each refit.

5. The work undertaken by dockyards whilst vessels are in hand for intermediate docking is to be limited to that essential for such vessels' seagoing and fighting efficiency which is beyond the capacity of the ship's staff.

6. Lists of outstanding alterations and additions should be rendered by all ships affected by this order 9 months before refit is due.

### **2345.—Explosive Stores at R.N. Wireless and Signal Stations, etc.—Biennial Exchange.**

(G. 11508/26.—20.8.1926.)

In order to ensure that all explosive stores supplied to R.N. Shore Wireless and Signal Stations and similar establishments are in a serviceable condition, the Officers-in-Charge of these Establishments are to arrange for all explosive stores to be returned to the nearest Naval Armament Depot every two years and for a new outfit to be drawn in lieu.

2. In order to facilitate exchanges, advantage may be taken of any opportunity that may occur for returning explosives either just prior to, or not long after the expiration of the two years' period.

### **2353.—Turbo Dynamos of British Westinghouse Manufacture fitted with Radial Commutators—Undercutting of Steel Shrink Rings.**

*H.M. Ships.*

(G. 6836/26.—20.8.1926.)

The following extract from a Quarterly Electrical report received from one of H.M. Ships in connection with Turbo Dynamos of British Westinghouse manufacture, fitted with radial commutators is promulgated for general information:—

“ In the course of time the copper face of these commutators is skimmed down so that the stand off of the copper is below the safe limit.”

2. The sketch D.E.E. 3983 (E.F.O. 90/26) which has been prepared by the manufacturers shows the maximum wearing depth of the commutator which it is possible to obtain. To use the commutator up to this depth, it will be necessary to machine the steel shrink rings and to fit extension pieces to the brush holders. Particulars of the work to be carried out are shown on D.E.E. 3983 (E.F.O. 90/26).

3. The modifications should not be carried out until the creeping distance between the copper and iron has reached the limit of 0·1 of an inch and it is found necessary to carry out further skimming operations.

4. This modification may be carried out if considered necessary by the ship's staff in other ships similarly affected.

### **2354.—Weights Landed for Compensation.**

*H.M. Ships.*

(D. 7919/26.—20.8.1926.)

It is observed that in some cases items which affect the fighting efficiency of the ship, either with regard to material or arrangements for protecting personnel, are offered as compensation for weight. Where this is put forward as a proposal, definite approval is to be obtained from the Admiralty before the gear in question is actually landed.

## 2356.—Artillery Directors for Bombardment Training Purposes.

(N.S. 5466/26.—20.8.1926.)

Arrangements have been made for the purchase and delivery to Chatham, of 19 Artillery Directors from the War Office.

2. These instruments are to be supplied to the undermentioned squadrons, etc., for training purposes :—

<i>Station.</i>	<i>To be supplied in Peace. Squadron.</i>	<i>No.</i>	<i>Held in reserve on the station.</i>
Mediterranean ... ..	1st Battle Squadron ... ..	1	
	1st Cruiser Squadron ... ..	1	2
	3rd Cruiser Squadron ... ..		
	H.M.S. "Coventry" for des- troyers.	1	
Atlantic ... ..	2nd Battle Squadron ... ..	1	2*
	3rd Battle Squadron ... ..		
	Battle Cruiser Squadron ... ..	1	
	2nd Cruiser Squadron ... ..		
	H.M.S. "Centaur" for destroyers	1	
China ... ..	5th Cruiser Squadron ... ..	1	1
North America and West Indies.	8th Cruiser Squadron ... ..	1	—
East Indies ... ..	4th Cruiser Squadron ... ..	1	—
Africa ... ..	6th Cruiser Squadron ... ..	1	—
New Zealand ... ..	—	1	—
Gunnery Schools ... ..	—	3	—
		14	5
		19	
	<b>Total ... ..</b>		

\* Includes 1 to be issued on loan to the battleship or battle cruiser attached to H.M.S. "Excellent."

## 2407.—Guns, B.L.—Ignition of Charge due to Heat of Gun after Rapid Firing.

(G. 15733/25.—27.8.1926.)

A case recently occurred in a 6 in., B.L., gun of a B.L. reduced Gunnery School charge igniting after being 7½ minutes in a missfired gun, which had been heated after prolonged rapid firing. The gun had fired 206 rounds (reduced charge) in continuous firing at a high rate of fire.

2. To prevent a recurrence the following precautions are to be taken under similar circumstances and although they only apply to Gunnery School tenders firing 6 in. G.S. reduced charges, they are promulgated for the information of all concerned, particularly as regards (iv)—cooling of gun when heated by firing—and to emphasise the necessity of cooling guns after rapid fire :—

- (i) Programmes of firings are to be limited to 200 rounds per diem from any one gun.
- (ii) The rate of fire is not to exceed an average of 3 rounds per minute from any one gun for series of 30 rounds or over.
- (iii) No gun is to fire more than 100 rounds without being allowed to cool for half-an-hour with gun empty, the chamber and mushroom head being thoroughly and frequently soused with water during this period.
- (iv) Cooling off by means of a hose or the application of a stream of water should never be resorted to, as such a method will most certainly affect the construction of the gun. Sparging or wiping should do no harm, but it is the rapid contraction of one forging as compared with another that should be avoided.

**2447.—Smoke Floats, Type F—Examination.**

(N.S. 14650/25.—27.8.1926.)

All smoke floats, type F, landed from H.M. Ships or received at Foreign Yards from England should be air-tested and reconditioned, if necessary, before being taken into stock.

(A.F.O. 2754/26.)

**2463.—Issued Confidentially.****2474.—Guns—Re-stamping Register Numbers.**

(G. 12255/26.—3.9.1926.)

When fitting new pattern breech safety change-over contacts to certain guns it may be found that the bracket which screws on the face of the gun partly covers the register number.

2. Where necessary the register numbers will be re-stamped when fitting the breech safety contacts to the guns.

**2545.—Issued Confidentially.****2561.—6 in. Breech Mechanisms—Spare for Drill Purposes.***Third Battle Squadron.*

(G. 11183/26.—10.9.1926.)

It has been approved for two sets of spare 6 in. breech mechanisms for 6 in. B.L. Mark VII guns (*inclusive* of the one set spare now on board) to be carried on board each ship of the 3rd Battle Squadron.

2. Demands for the mechanisms required to complete should be forwarded to the nearest Naval Armament Depôt.

**2562.—Machine Gun Armament—Alteration—REPORT.***River Gunboats.*

(G. 5276/26.—10.9.1926.)

The four maxim guns at present included in the armament of river gunboats are to be replaced by four guns, Lewis or Savage-Lewis.

2. Arrangements have been made for a supply of Savage-Lewis guns to be sent to Hong Kong and Malta.

3. The Savage-Lewis gun differs from the Lewis gun only in so far as that the interchangeability of parts cannot be guaranteed and in order that each ship may have only one pattern on board, arrangements should be made for guns to be allocated as follows when the re-armament is carried out:—

	<i>Lewis.</i>	<i>Savage- Lewis.</i>
" Bee " ... ..	8	—
" Scarab " ... ..	8	—
" Gnat " ... ..	8	—
" Cockchafer " ... ..	—	8
" Woodcock " ... ..	—	8
" Woodlark " ... ..	—	8
" Widgeon " ... ..	8	—
" Teal " ... ..	8	—
" Cricket " ... ..	—	8
" Mantis " ... ..	—	8
" Tarantula " ... ..	8	—
" Cicala " ... ..	8	—
" Moorhen " ... ..	—	8
" Robin " ... ..	—	8
" Moth " ... ..	8	—
" Aphis " ... ..	—	8
" Ladybird " ... ..	—	8
" Glowworm " ... ..	—	8

4. Eight single Lewis mountings are to be supplied to each ship and arrangements have been made for the first instalment of 50 mountings to be sent to Hong Kong from Chatham. The Commodore, Hong Kong, is to report by telegram the number required to complete the above allocation, exclusive of reserves.

5. The fitting of these mountings on board is to be carried out by ship's artificers.

6. The additional mountings for "Aphis," "Ladybird" and "Glowworm" are to be held in store at Malta in readiness for fitting on board if required. Nine mountings are being sent from Chatham for this service, including reserve.

7. The maxim field stands should be returned to store at Hong Kong and Malta and retained for the present.

### **2583.—Inventions and Novel Apparatus—Demonstrations— REPORTS.**

(C.P. Patents 2718.—10.9.1926.)

Instances have occurred from time to time, following demonstrations by inventors before Government officials, that inventions of a similar nature are made by those officials, and the original demonstrator is apt to allege that the Service inventor has made use of his ideas.

2. To some extent such allegations are inevitable, since the demonstration of an invention is quite likely to start a train of thought in the mind of an inventive inspecting officer which may lead him to invent a similar mechanism, even though he has not seen any details of it at the demonstration. In order, however, to protect Admiralty officers and the Admiralty as far as possible against such allegations, it is desirable that officers who are called upon to inspect novel apparatus or who are present at demonstrations of inventions should, in future, when reporting on such matters, place upon record exactly what they saw and the extent to which the apparatus was explained to and appreciated by them. This record would help to refute or limit the assumption that any later service inventions were the result of what the inspecting officer witnessed.

3. As a further precaution, inventors who propose to give a demonstration of their inventions should be asked in the first instance (by the Establishment or Admiralty Department arranging the demonstration) whether they propose to disclose the whole of their invention, or whether they propose to withhold parts of it. If the inventor replies that part of the invention is not to be explained or exhibited, he should be informed that it will then be assumed that any officer who witnesses the demonstration cannot be held to have been indebted to the inventor for any subsequent invention made by such officer.

### **2601.—Propellers for H.M. Ships, etc.—Transferring to Yards Abroad.**

*All Home and Foreign Yards.*

(N.S. 12615/26.—10.9.1926.)

With reference to paragraph 14, Art. 421 of Naval Store Duties Instructions, as revised no propellers or propeller blades, whether on Machinery Ledger charge or on deposit charge, are to be transferred to Yards abroad or returned to Home Ports without prior definite instructions being obtained from the Admiralty that those articles are to be forwarded.

### 2614.—Gun Mountings, 15 in., Mark I—Gun Loading Cage Cut-off Gear.

*“Queen Elizabeth,” “Royal Sovereign” and “Renown” Classes.*

(G. 12348/26.—17.9.1926.)

In order to improve the efficiency of operation of the gun loading cage cut-off gear and as a result of modifications carried out by Malta Yard to one set of gear in “Malaya” it has been approved for similar modifications to be carried out to all 15 in. Mark I Mountings. The modification consists in fitting a four roller member in place of the present two roller member operated by cam rail and a stronger shaft connecting the crank member to the slotted arm operating the shuttle. The modifications are to be made on the next occasion gear requires refitting by a Dockyard, the work being treated as a defect. The necessary drawings have been forwarded to Yards concerned.

### 2629.—Telephone Stores for Field Gun Batteries, etc.

(N.S. 11551/26.—17.9.1926.)

It has been ascertained that the “S” type inert cells referred to in A.F.O.s 593/26, 594/26 and 595/26 are similar to and interchangeable with the service Pattern 4976 inert cells. Arrangements should, therefore, be made for the “S” type cells provided for reserve for the above services to be issued for general purposes, and for the reserves of cells, Pattern 4976 to be correspondingly increased.

2. Pattern 4976 cells should be demanded by ships when replacements of “S” type become necessary.

(A.F.O.s 593/26, 594/26, 595/26.)

### 2666.—*Issued Confidentially.*

### 2685.—Breech Mechanisms, Q.F. 4.7 in. V\* and 12 pdr.— Modification to Percussion Strikers.

(G. 1390/26.—24.9.1926.)

Percussion strikers of Q.F. 4.7 in. V\* and 12 pdr., 18 cwt., 12 cwt., and 8 cwt. guns will be modified in accordance with Instructional Print N.O.D. 2172/6, copies of which will be distributed to Naval Armament Depôts shortly.

2. The modification consists of forming a flat on the existing spindle, providing a new front portion of head with a corresponding flat, and using the rear portion of the existing head as a nut. The new parts required are being ordered.

3. The work will be carried out by Naval Armament Depôts as follows, viz. :—

Mechanisms and spare strikers—

On board H.M. Ships.—At first opportunity.

In store.—Separate instructions will be issued.

(A.F.O. 1641/27.)

### 2694.—W/T—Battery Cupboards in W/T and A/S Offices— Ventilation.

(S.D./G. 8345/26.—24.9.1926.)

The ventilation fans supplying air to battery cupboards for cooling are always to be run continuously for one hour after battery charging has ceased. This is in order to ensure that all gases will be cleared from the battery cupboard and obviate the risk of explosions inside the W/T Office.

**2703.—Naval Stores—Gifts by H.M. Ships.**

(M./N.S. 10729/26.—24.9.1926.)

Prior Admiralty sanction should be obtained, under normal conditions, for the gift of Naval or other stores, even of trifling value, to private individuals.

Supplies of stores to inhabitants of remote islands should only be made on the basis of barter.

**2715.—Report of Survey (Form S.180)—Rendering.***Submarines.*

(S. 3845/26.—24.9.1926.)

Form S.180 is not to be forwarded quarterly for Submarines, but is to be rendered by the Dockyard Officers on all occasions of the refit of these vessels.

2. The Dockyard Officers should report when the tests of tanks have been satisfactorily carried out, the report being signed also by the Ship's Officers.

3. When the six-monthly docking of submarines is carried out under the supervision of Naval Personnel, the report is to be forwarded by the Officers of the Dépôt Ship concerned. The report is also to be signed by the Officers of the Submarine.

4. A copy of the report is to be forwarded to the Dockyard at which the Submarine is usually refitted, for the information of the Yard Officers.

**2729.—Monthly Summary of Liabilities and Expenditure on Alterations and Additions Chargeable to Subhead D.5 of Account 89.**

(D. 13719/26.—24.9.1926.)

In future the particulars respecting these alterations and additions should be furnished in totals only for each department, viz. :—

	<i>Dept.</i>	<i>Labour.</i>	<i>Material.</i>
	£	£	£
(a) Expenditure previously incurred during current year on all alterations and additions chargeable to Subhead D.5 of Account 89.			
(b) Total estimated expenditure for all such services during the month to which the return relates.			

**2752.—Escape Manholes in Hatches—REPORTS.**

(D. 7549/26.—1.10.1926.)

It has been decided that escape manholes in hatches are to be of the following dimensions to allow an average size man, equipped with a gas mask in the slung position, to pass through :—

- (1) *For New Designs and Future Ships.*—To be not less than 20 in. by 16 in. Slightly larger sizes are to be fitted where the size of the hatch permits.
- (2) *For Ships Building.*—(a) "Nelson," "Rodney," "Berwick," "Cumberland," "Kent," "Suffolk," "Cornwall," "Australia," "Canberra" and "Adventure." No change is to be made in the size of the escape manholes (23 in. by 15 in.) as the work of fitting is complete.
- (b) *Other Ships Building.*—As for 1 above.
- (3) *For Ships in Commission.*—As for 1 above.

Commanding Officers of H.M. Ships are to report if any modification of hatches is considered necessary to comply with the new standard; the situation of the hatches concerned and the present sizes of the manholes to be reported. Each case will be considered on its merits after the report has been received.

### **2754.—Smoke Floats—Painting.**

(N.S. 12945/26.—1.10.1926.)

It has been reported that although smoke floats when issued from store are painted RED, on return for re-examination they are sometimes found to be coloured GREY.

2. The painting of smoke floats on board ship may easily lead to errors regarding the weight of the float, as this information is stencilled on the float when issued from store. The weight of the float or the stencilling should not be interfered with on board ship or in naval establishments as these are used in determining the amount of evaporation which has taken place since date of issue and return and has to be compensated for during reconditioning.

3. The painting of smoke floats should only be carried out at H.M. Dockyards in future.

(A.F.O. 2447/26.)

### **2802.—Issued Confidentially.**

### **2821.—Bolts, Actuating Breech Mechanism, Q.F. 4-in., Mark IV-V\*—Repair.**

(G. 11755/26.—8.10.1926.)

Bolts, actuating breech mechanism, for 4 in. Q.F. guns, Marks IV, V and V\*, found to be bent and/or twisted should be heated to a temperature of 900° F. and straightened.

2. This repair should be carried out at Naval Armament Depôts where the necessary facilities exist. Bolts repaired by this method will be stamped with "S" after inspection.

### **2865.—Lubricating Oils for use in Generating Stations.**

*All Yards.*

(N.S. Fuel 7112/24.—8.10.1926.)

It has been decided that, for the future, the undermentioned lubricating oils are to be used :—

Reciprocating engines, whether steam or internal combustion: Special mineral lubricating oil for bearings.

Reciprocating engines, steam: Superheated steam cylinder oil for cylinder lubrication.

2. With regard to the turbine driven generators, it having been found that the lubricating oils recommended by the makers of the machinery have generally given superior results to Service oils, the use of such oils may be continued for these particular sets, at the discretion of Yard Officers.

### **2866.—Bottom and Boot-topping Compositions purchased for Australian Government—Analyses.**

(D. 1666/26.—8.10.1926.)

Arrangements are being made to supply the Australian Government with the results of analyses of bottom and boot-topping compositions purchased in accordance with their request and shipped to Australia.

2. In order that these results might be connected up with the actual supplies, the indent and order numbers as well as the invoice numbers of the purchases, should be quoted when samples of such compositions are forwarded to Portsmouth Dockyard for analysis.

**2879.—Entertainments Tax.**

(N.L. 2855.—15.10.1926.)

Payment of entertainments duty will not be required in respect of Service entertainments, provided that application is made to the Secretary, Custom House, London, E.C., as long as possible beforehand, and in any case not later than fourteen days before the entertainment, showing that the entertainment or series of entertainments complies with the following conditions :—

- (i) The entertainment must be provided by the Forces of the Crown with the express sanction of the Naval, Military or Air Force Authorities.
- (ii) The management must be entirely in Service hands and not contracted out, *i.e.*, all the arrangements must be made directly by the Naval, Military or Air Force Officers concerned.
- (iii) The net proceeds must be devoted entirely to Service objects.
- (iv) The performers must not be paid.
- (v) Admission must be confined to members of the Forces of the Crown in uniform and their female friends. Exception may, however, be made in favour of Canteen Attendants permanently borne in H.M. Ships. Canteen Attendants are only to be admitted on the production of the Entertainments Pass, supplies of which should be demanded by Senior Naval Officers from the Royal Naval Store Officer, West India Docks.

2. If the whole of the takings of an entertainment are devoted to charitable or philanthropic purposes, without any charge for the expenses on the takings of the entertainments or the funds to which the takings are devoted, payment of duty will not be required. If the expenses are met by donations from other sources given for the express purpose, this fact will not, however, disqualify the entertainment for exemption. Application for exemption in this case should be made as described in paragraph 1.

3. The Commissioners of Customs and Excise, upon receipt of applications, which must be accompanied by the requisite authority from the Commanding Officer of the Ship or Establishment concerned, will issue a certificate, which can be produced to any Officer of Customs and Excise, to the effect that the entertainment or entertainments in question are not liable to duty. A form of application (headed "Charities Application for Exemption") is provided, copies of which may be obtained from any Customs and Excise Office, or from the Secretary, Custom House, London, E.C.3.

4. If the whole of the net proceeds are devoted to philanthropic or charitable purposes, and the whole of the expenses do not exceed 50 per cent. of the receipts, the amount of the Tax paid in respect of the entertainment is repayable to the proprietor. Application for the Repayment of Tax must be made to the Commissioners on the prescribed form (headed "Charities Claim for Repayment"), copies of which may be obtained from any Customs and Excise Office, or from the Secretary, Custom House, London, E.C.3.

**5. Definition of Terms.**

- (i) The expression "takings of an entertainment" includes not only all money taken for admission, but also all takings from any source whatever in connection with the entertainment.
- (ii) The expression "receipts" includes not only money received for admission, but also all receipts from any source whatever in connection with the entertainment.
- (iii) The expression "expenses" includes expenses of all kinds in connection with the entertainment.

**2888.—Armament Stores — New Edition of Vocabulary and General Instructions for the guidance of Store Accounting Officers.**

(G. 13779/26.—15.10.1926.)

A revised edition of the Priced Vocabulary of Naval Armament Stores will shortly be available, and will supersede the 1921 edition O.U. 5265A, B and C. Supplies will be made to all concerned without demand.



2. There will be five separate volumes, covering the following stores :—

*Part I.* (O.U. 5365A).—Ordnance B.L. and parts—Small Arms and parts—Side Arms, Aiming Rifles, Anti-gas Apparatus, etc.

*Part II.* (O.U. 5365B).—Ammunition for all types of Naval Ordnance Bombs, etc.

*Part III.* (O.U. 5365C).—Torpedoes and Paravanes (non-explosive). Spare parts, tools, etc., for Torpedoes and Paravanes.

*Part IV.* (O.U. 5365D).—Depth Charges and Depth Charge Throwers with explosive and non-explosive stores. Torpedo and Paravane explosive stores and general Torpedo (demolition) stores.

*Part V.* (O.U. 5365E).—Mines with explosive and non-explosive stores.

3. Part III will come into force as from 1st November, 1926 (instead of 1st January, 1927), Parts I and II as from 1st January, 1927, and a further A.F.O. will be issued regarding the date on which Part IV. will come into force.

4. The following general instructions are promulgated for the guidance of Store Accounting Officers :—

- (a) All stores issued from armament, torpedo, or mining depôts will be vouchered to the ship or service concerned. Return notes must accordingly be furnished by ships for all special packages, such as shell and warhead boxes, etc., which are supplied with the stores, or empty for packing stores, and returned to the depôt. Such items must not be deleted from the depôt issue voucher, although returned at once.
- (b) Separate demands and return notes are to be forwarded for each section (not sub-section) of stores as shewn below (para. 5).
- (c) Register numbers of all B.L., Q.F. or machine guns, rifles, Webley pistols, torpedoes, gyroscopes, depth charge pistols and throwers, paravanes, etc., are to be quoted on return notes and relevant correspondence.
- (d) The date on which stores are required on board is to be shewn on the demand, and at least seven days' notice of requirement should be given whenever possible.
- (e) All demands for cordite cartridges are to be accompanied by lists of cordite lots (Form O.130—S.1424) remaining on board of the nature of cartridge required. Form O.130 for cordite cartridges landed (and S.1429A if tests are to be carried out) are also to accompany the return notes.
- (f) Stores landed on deposit are to be accompanied by deposit return notes.
- (g) On all demands and return notes the service nomenclature and stamp number, where assigned, of the stores is to be used; these can be obtained from the priced vocabulary of N.A. stores if not available in the ship's accounts.
- (h) When stores are returned to a depôt either by rail or water transport, or parcels post, the sender is to mark or label each package and all loose articles as follows :—
  - (i) Name of ship or service returning the stores.
  - (ii) Name of depôt or base to which the stores are consigned.
  - (iii) Date of despatch and authority (if any). The markings should be legible and chalk should not be used.
- (i) When two or more ships return stores in the same lighter, care is to be taken to stow them separately as far as practicable, and the stores and packages are to be marked as indicated under (h).
- (j) For stores returned to armament, torpedo or mining depôts, in transit through naval bases, etc., return notes are to be made in triplicate and forwarded to the base officer—the return notes are to shew in the space provided for the purpose, the mode of conveyance of the stores to the base, and the date of despatch. Before the stores are despatched from the base, care is to be taken to see that the packages, etc., are clearly marked and addressed and on the return notes the base officer will indicate the means of transport to the depôt to which the stores are consigned and forward two copies of the return notes to that depôt.

- (k) When stores are despatched by rail, consignment notes (Form D.80) are to be used, and the following particulars are to be shewn in addition to the other information called for :—

Truck number, name of ship or service returning the stores, and date of despatch.

Return notes and consignment notes should be posted the same day as the stores are despatched.

5. The sections of stores referred to in paragraph 4 (b) are as under :—

*Part I.—Gunwharf Stores.*

*Section I.*—Small arms, accoutrements and anti-gas apparatus.

- (A) Rifles and swords—bayonet.
- (B) Pistols and swords.
- (C) Small arm packages and fittings.
- (D) Tools and materials.
- (E) Accoutrements and musical instruments.
- (F) Anti-gas apparatus.

*Section II.*—Ordnance B.L. and Q.F. 12 pdr. and above.

- (A) Ordnance, B.L. and Q.F. common fittings.
- (B) Ordnance, B.L. and Q.F. guns, 15 in. down to 4-in.
- (C) Ordnance, Q.F. below 4-in. down to 12 pdr.
- (D) Aiming rifles and parts.

*Section III.*—Ordnance Q.F. 6 pdr., 3 pdr., 2 pdr., and machine guns.

- (A) Ordnance, Q.F. 6 pdr. and 3 pdr. guns.
- (B) Ordnance, Q.F. 2 pdr. guns.
- (C) Ordnance, Q.F. 6 pdr., 3 pdr. and 2 pdr. sub-calibre guns.
- (D) Machine guns.

*Section IV.*—Side arms and miscellaneous ordnance stores.

- (A) Tools, ordnance.
- (B) Side arms and miscellaneous ordnance stores.

*Part II.—Magazine Stores.*

*Section I.*—Cartridges filled B.L. cordite and bulk cordite.

- (A) Cordite in bulk and cylinders cordite.
- (B) Cartridges, filled, B.L., 12-in. and above.
- (C) Cartridges, filled, B.L., below 12-in.

*Section II.*—Cartridges, filled, Q.F. cordite.

- (A) Cartridges, cordite, Q.F., without means of ignition.
- (B) Cartridges, cordite, Q.F., with own means of ignition.

*Section III.*—Components of cartridges B.L. and Q.F. (including cases empty and belts).

*Section IV.*—Shells filled empty and practice with plugs, etc.

- (A) B.L., 12-in. and above.
- (B) B.L., 7·5-in. to 12-in.
- (C) B.L. or Q.F., 6-in. to 3 pdr.

*Section V.*—Fuzes, tubes, primers, etc.

*Section VI.*—Shell, Q.F., 2 pdr. and below, M.G. and S.A. ammunition.

- (A) Shell, Q.F., 2 pdr. and below.
- (B) Ammunition M.G. and S.A. aiming rifle, etc.

*Section VII.*—Miscellaneous magazine and instructional stores.

- (A) Miscellaneous magazine stores (including drill stores, gauges, implements, tools, apparatus, etc.).
- (B) Fireworks, lights, signals, etc.
- (C) Instructional stores.

*Section VIII.*—Bombs (including non-explosive components).

- (A) Bombs for bomb throwers and guns and components. Bombs, aircraft, and components.
- (B) Bomb packages.

*Section IX.*—Cartridges, primers, detonators, etc. (filled powder G.C., C.E., etc.). Explosives in bulk (other than cordite).

- (A) Gunpowder (not wetted), picric acid, D.N.P., C.E. in bulk—Bags exploder, etc. Cartridges blank (without own means of ignition), relays and exploders for bombs.
- (B) Guncotton, wet in bulk, amatol, trotyl and gunpowder wet in bulk.
- (C) Fuzes, bomb, cartridges, Q.F. blank (with own means of ignition).
- (D) Detonators, etc.

*Section X.*—Empty packages, except for bombs (including components).

*Part III.*—*Torpedo and Paravane Stores (Non-explosive).*

*Section I.*—Torpedoes and boxes for.

*II.*—Outfit stores for torpedoes.

*III.*—Tools for torpedoes, gyroscopes, and recorders.

*IV.*—Spare gear for torpedoes, gyroscopes and recorders.

*V.*—Miscellaneous torpedo, gyroscope and recorder stores.

*VI.*—Paravanes.

*VII.*—Outfit stores for paravanes.

*VIII.*—Tools for paravanes.

*IX.*—Spare parts for paravanes.

*X.*—Miscellaneous paravane stores.

*Part IV.*—*Depth Charges, Torpedo and Paravane Explosive Stores.*

*Section I.*—Non-explosives.

- (A) Depth charges—outfit stores.
- (B) " " tools.
- (C) " " spare gear.
- (D) " " miscellaneous.
- (E) Warheads and general torpedo stores.

*Section II.*—Explosives.

- (A) Depth charges, warheads and paravanes.
- (B) Impulse cartridges, powder filled, primers, C.E., T.N.T. and G.C. charges, etc.
- (C) Impulse, D.C. thrower cartridges, cordite filled, tubes, fuzes, igniters, etc.
- (D) Detonators, torpedo, etc.

*Part V.*—*Mines and Stores.*

*Section I.*—Non-explosives—

- (A) Mines and sinkers.
- (B) " " " outfit stores.
- (C) " " " tools.
- (D) " " " spare gear.
- (E) " " " miscellaneous.

*Section II.*—Explosives—

- (A) Mines, filled.
- (B) Primers, mine, T.N.T. and C.E.
- (C) Detonators and fuzes, electric.

6. The allocation and designation of sections under which Dockyard stores, produce, fired primers and tubes, fired cartridge cases, etc., are to be accounted for at Naval armament, torpedo and mining depôts, is left to the discretion of the respective officers in charge.

## 2889.—S.A. Ammunition—Issue for Non-classification, Firings, etc.

(G. 1829/26.—15.10.1926.)

H.M. Ships and Gunnery and other Training Establishments, when demanding from Naval Armament Depôts .303 in. ball or .455 in. revolver ball cartridges for use in aiming rifles or for use at non-classification firings on ranges, are to show such requirements separately, in order that, in the interests of economy, supplies of ammunition sentenced as only suitable for these services may be made in preference to ammunition which is suitable for general service use.

**2895.** *Issued Confidentially.***2906.—Swivel Ring Shackles for Boats' Falls.**

(N. S. 10261/26.—15.10.1926.)

It has been reported that an after boat's fall in one of H.M. Ships carried away owing to the screw pin in the new type of swivel ring shackle, having worked back until clear of the swivel block.

2. A wire lashing is therefore to be fitted to this type of shackle in order to prevent the pin of the block from easing back; and ships in which the new type of swivel ring shackle is in use should arrange for the fitting of the wire lashing accordingly.

**2909.—Issued Confidentially.****2916.—Torpedo Tubes—Examination of Parts of Firing Gear Served in by Contractors.***Dockyards.*

(G. 14107/26.—15.10.1926.)

All parts of the firing gear of torpedo tubes served in by Contractors are to be opened up as necessary before fitting, to ensure that no obstructions are present.

**2923.—Copper, Old, and Scrap Metal—Transfer between Votes.**

(N.S./G. 4139/26.—15.10.1926.)

The transfer of scrap metals from one Navy Vote to another should, in future, be made at the Rate Book values of the receiving department for the classes of metals concerned.

2. In the event of transfer of a class or grade of metal for which no Rate Book value exists, the current market price, which will be determined at the Admiralty, should be taken.

3. This does not apply, however, to copper bands from debanded shell or any other copper, old, of better quality than that classified as "Copper, Old, exclusive of condenser tubes, etc." Transfer of such copper should be made at the average between the Rate Book prices for "New Copper Ingots," and "Copper, Old, exclusive of condenser tubes, etc."

**2947.—Aiming Rifles, 1 in.—Damage to.**

(G. 13983/26.—22.10.1926.)

There is a possibility of serious damage to 1 in. aiming rifles due to puff shots or split cases when the bullet, metal cup, or portion of case, is liable to remain in the bore and become a serious obstruction, quite sufficient in fact, to ruin the rifle, if not removed before the next round is fired.

2. To safeguard against this accident a wood rod  $\frac{3}{8}$  in. diameter and about 4 ft. long is to be passed through the bore of the rifle after each round. For this purpose, the rods now supplied for the 1 in. aiming rifle cleaning brush are quite suitable. If they are not available similar rods should be made by ships' staffs.

### 2948.—Breech Mechanisms—Modification to Percussion Firing Gear of Q.F. 12 pdr. 12 cwt. Guns.

(G. 11081/26.—22.10.1926.)

The percussion firing gear of Q.F. 12 pdr. 12 cwt. guns on P.I, P.I\*, P.III, P.V, P.VI, and S.II mountings should be modified in accordance with Instructional Print N.O.D. 2172/4, copies of which will be distributed to Naval Armament Depôts shortly.

2. The modification consists of fitting trigger bar supporting bracket and removal of striker retaining nut stop bracket, and alteration of trigger bars to suit.

3. The work will be carried out as follows, viz. :—

On board H.M. Ships	...	By Armament Depôt Staff.
In store	... ..	By Armament Depôt Staff.

4. Intermediate demands should be rendered by Royal Naval Armament Depôts for the parts required to carry out the work, but the work of altering guns in store should be deferred pending receipt of further instructions.

### 2996.—Gun Mountings, 7·5 in. Guns on C.P.V. Mountings—Recoil Piston Rings—REPORTS.

(G. 02726/26.—29.10.1926.)

Experience has shown that with the 7·5 in. C.P.V. mountings any wear of the recoil piston rings will cause a lengthened recoil within a narrow margin of metal to metal.

2. The designed recoil is 16·5 in. and metal to metal recoil is 18 in.—with new rings a maximum recoil of 17·1 in. to 17·3 in. may be expected, and with worn rings 17·75 in. has been measured.

3. All ships fitted with these mountings should examine the clearances of the recoil piston rings at the next examination of recoil cylinders and in the event of wear exceeding ·005 in. in mountings in which the recoil is greater than 17·5 in., should include an item for renewing the rings at next dockyard refit.

4. The recoils should also be measured and result reported at the next opportunity of full or reduced charge firings, and if recoils of over 17·5 in. are recorded the liquid in the cylinder should be thickened by using 75 per cent. glycerine and water and 25 per cent. glycerine, pending renewal of the rings.

5. From available data an increase of ·2 in. to ·3 in. may be expected when firing full charges over that recorded with  $\frac{3}{4}$  charges.

### 3032.—Deputy Judge Advocate of the Fleet—Duties, etc.

(N.L. 3106/26.—5.11.1926.)

The Deputy Judge Advocate of the Fleet will have his headquarters at the Royal Naval College, Greenwich, where an office is provided for him.

2. He will officiate at all Courts Martial in the Portsmouth and Nore Commands, and also at all Courts Martial in the Plymouth Command other than those of a minor character, so far as he is able to do so. He may, at Their Lordships' discretion, be called upon to officiate at any important trials held away from the home ports or on a foreign station. Where his services are required for important cases or cases involving lengthy or complicated proceedings, he should not be retained for simple and straightforward cases elsewhere.

3. Should a case for trial by Court Martial arise in other Commands in home waters for which the convening authority or the Officer assembling a Court Martial considers it desirable to obtain the services of a more experienced Officer as Deputy Judge Advocate than is locally available, application may be made for the services of the Deputy Judge Advocate of the Fleet.

4. The services of the Deputy Judge Advocate of the Fleet are to be requisitioned for all Courts Martial held in home waters under Section 92 of the Naval Discipline Act.

5. Whenever the services of the Deputy Judge Advocate of the Fleet are required, a telegram should be sent to Naval College, Greenwich, "for Deputy Judge Advocate," stating the approximate date of Court Martial, and asking whether he will be available on that date. This telegram should be sent as early as possible, but at least four days before the date proposed for the trial.

6. In other cases or when the Deputy Judge Advocate is not available, the convening authority (if a Commander-in-Chief) or the President of the Court Martial will appoint an Officer to officiate in accordance with Section 61 of the Naval Discipline Act and Article 439, King's Regulations and Admiralty Instructions.

7. When the Deputy Judge Advocate of the Fleet officiates it is not necessary for the convening authority to issue to him a warrant of appointment, but the other documents mentioned in Article 439 should be sent to him by the convening authority.

### 3038. *Issued Confidentially.*

### 3069.—Course Recorders—Brewerton Type—Supply.

(N.S. 13325/25.—5.11.1926.)

As a result of trials of Course Recorders, which have been carried out in H.M. Ships, it has been approved to supply to each of the vessels named below a Course Recorder—Mark I, Brewerton type—and arrangements have been made for the purchase, under Subhead E.5, of six in number of these instruments (C.P. 27387/25, 15.10.25) for delivery at Portsmouth:—

H.M.S. "Frobisher," "Curacoa," "Coventry," "Furious," "Eagle," and "Cardiff."

2. As H.M.S. "Cardiff" is not fitted with a Forbes Log, arrangements have been made for the purchase of a dummy log for use with the Course Recorder to be installed in this vessel.

3. Detailed instructions relating to the Course Recorder—Mark I, Brewerton type—are shown in the Appendix to this Order, and diagrams are shown in E.F.O. 116/26.

4. It has also been approved for the Course Recorders supplied to H.M.S. "Resolution," "Wallace" and "Warwick" for trial purposes to be permanently retained in these vessels.

#### APPENDIX.

These Course Recorders are to be installed by ship's staff, and the following information and instructions are promulgated for information.

*General Description.*—The Brewerton Course Recorder, Mark I, has been designed to walk step by step and plot the course on a sheet of paper spread over the iron-faced table. The distance travelled is controlled by the electric log or a time operated dummy log, and the direction is governed by the gyro compass.

It is intended for use in small ships which do not keep a tactical plot.

A diagrammatic arrangement of the apparatus is shown in Figure I in which the log relay is energised by each impulse from the log. When the relay is energised current is supplied to one segment of the two part commutator, which switches on current to the log motor; this motor then runs until it is stopped by the energised segment of the two part commutator being moved from under the brush. When the relay is de-energised another pair of contacts is made and these, being connected to the second segment of the commutator, cause the motor to run until the commutator has turned through another half revolution.

This arrangement of alternately energising the segments constitutes a form of electrical escapement, and the revolutions of the main spindle are proportional to the distance run.

Attached to the main spindle is a contact which is adjustable radially in order (as will be seen later) to introduce a log correction. This contact travels over a contact disc having two portions connected respectively to the two sets of electro magnets in the plotter so that the magnets become energised according to the position of the rotating contact. The main spindle is connected to an eccentric shaft in the plotter by means of two crown wheels and the driving rod.

The change over from one pair of magnets to the other occurs at a definite instantaneous position of the eccentric according to the ship's course, and it will be seen that the plotter travels along in a series of circular arcs.

When a change of course occurs the gyro compass motor turns the contact disc according to the ship head. The change over of the electro magnets now occurs at a different position of the eccentric shaft, and plotter consequently travels on the new course.

A second shaft is used for keeping the plotter parallel with the board. This shaft engages with a fixed crown wheel on the main casting and with a further crown wheel which is secured to the pair of magnets on the plotter upon which the pen is supported.

*Log Correction.*—Under normal conditions one of the segments of the contact disc covers three-quarters of a circle and the other one-quarter, if the quarter segment be increased the scale of plotting is also increased, and vice versa. The rotating contact is adjustable radially by means of an external knurled head in the centre of the compass card and the disc is cut at an angle with the radial so as to provide an adjustment up to plus or minus 6 per cent. This log correction is arranged so that if the log reads, say, 5 per cent. low, the corrector is to be set to 5 per cent. fast.

*Change Scale Box.*—A gear box is provided which gives three scales of plotting, i.e.,

$\frac{1}{2}$  mile per inch.  
1           "           "  
2 $\frac{1}{2}$  miles per inch.

5. *Installation.*—The plotter is to be installed in the chart house and the following cables are to be run:—

- (1) 20-volt supply.
- (2) 100 or 220-volt ship's supply.
- (3) Four-core cable for gyro compass repeater motor which can be in parallel with any adjacent repeater.
- (4) Two-core cable from Forbes' log distance recorder. (In H.M.S. "Cardiff" this cable will be connected to the dummy log.)

As at present fitted the Forbes' log gives impulses of comparatively short duration. For operating the Brewerton Course Recorder, Mark I, it is essential that the duration of the log contact should be equal to the time of the break. The Forbes' log must therefore be altered by increasing the width of the existing contact pieces so that they subtend an arc of 90 degrees; this can be done by sweating on suitable extension pieces.

6. *Maintenance.*—The electrical gear requires no special attention. The motor commutator slip rings should, however, be cleaned from time to time and a trace of vaseline applied to the surfaces.

The driving and guide rods must be kept clean and well oiled.

*Paper.*—Several tests have been carried out which show that the accuracy of the plotter is not dependent upon any particular quality of paper being used. The paper should, however, be clean, free from creases and a double thickness should not be used.

*Care of Pen.*—Put three or four drops of ink in the pen and draw it forward to the point with the edge of the filler. Lightly draw the pen a few times across a piece of paper to cause the ink to flow. Should the ink fail to flow at once, put a very small quantity of ink on the paper and draw the point of the pen across the wet patch several times.

Keep the pen free from dust and stirrup clean.

Wash both in methylated spirit from time to time and on no account attempt to clean the point of the pen with a piece of wire or other metal instrument.

When not in use the pen should be kept in methylated spirit.

A tumbler switch is provided on the right panel of the transmitter which, when put to "On," short circuits the log relay contacts and the motor runs continuously. This enables the plotter to run when the log is not in use for setting purposes.

Figure 2 indicates the electrical connections.

### **3111.—Repairs to Privately Owned Vessels.**

(N.S. 4065/26.—5.11.1926.)

In order that the interests of the Crown may not be prejudiced by Dockyards undertaking repair work on chartered ships for the cost of which the Admiralty may not be liable, a written application should be obtained from the Master as a preliminary to the execution of any repairs of privately owned vessels engaged on Admiralty service.

2. This instruction applies equally to vessels engaged on time charter and single voyage charter.

### **3140.—2 pdr. Sub-calibre A.A. Practice with Time Fuzed Shell —Precautions during Practices.**

(G. 12470/26.—12.11.1926.)

The following information is promulgated as to the precautions necessary when carrying out 2 pdr., sub-calibre, A.A., practices with time fuzed shell, and the special reduced charges supplied for that practice.

2. The maximum height vertical fire is 8,500 ft., and the maximum horizontal range is 4,500 yards. The range must therefore be clear for at least 9,000 ft. in height and 5,000 yards horizontal range.

3. A shell with fuze set zero will explode inside the bore of the parent gun and cause damage.

Fuzes are never to be set to zero. The setting of each fuze is to be checked before it is loaded. Any round removed from its box and not fired is to be inspected before returning the ammunition to ensure that the fuze is set to "SAFE."

### **3145.—W/T, etc.—Internal Communications.**

(S.D./G. 9671/26.—12.11.1926.)

To avoid misunderstanding, the term "Internal Communications" should not be used in connection with the communication arrangements in H.M. Ships. It has been decided that communications shall be divided into the following categories:—

- I. Plotting Communications.
- II. Signal Communications.
- III. Engine and Boiler Room Communications.
- IV. Remote Control Communications.
- V. Gunnery and Torpedo Communications.
- VI. Navigational Communications (including Gyro Compass).
- VII. Gas Alarm Communications.
- VIII. Telephone Exchange, Telephones, Electro Megaphones, and Voicepipes for general purposes.
- IX. Miscellaneous. (e.g., Hummer, Bells, Flying off, Dynamo Order, Electrical Distance Thermometers and Mining communications.)

Category II should include systems specially installed for the passing of messages received by V/S or W/T, etc., to their destinations in the Gunnery, Torpedo or Plotting Departments and *vice versa*.



**3158.—Admiralty Motor Transport Regulations.**

(N.S.M.T. 316/26.—12.11.1926.)

*Definition.*

The expression "Motor Transport" as employed by the Admiralty embraces all mechanically propelled road transport vehicles employed for the conveyance of either personnel or material.

*Department responsible for Administration.*

2. The Department of the Director of Stores is responsible for the provision, custody, maintenance and inspection of all Admiralty Motor Transport.

*Inspecting Officer.*

3. A representative of the Director of Stores will periodically and as occasion arises visit Establishments where Admiralty Motor Transport is used, and also Establishments in course of formation at which transport will be required.

4. Notification of his visits will be given through the customary official channels, and the usual facilities are to be afforded him.

5. He will take steps to ascertain that the various regulations and orders issued by the Board to ensure economy in the use of transport and petrol are understood and observed by all concerned, and will be authorised to call for and examine the logs and other documents ordered by the Board to be kept with this object.

6. He will, when necessary, make recommendations, through the Director of Stores, to the Board in regard to allocation of transport and put forward suggestions tending towards economy in the purchase, maintenance, upkeep and use of motor transport and the consumption of petrol, and questions of this nature should be referred to the Director of Stores for remarks.

7. In the event of breaches of regulations or Board orders coming to his notice it will be his duty to submit a report to the Board through the Director of Stores.

8. Correspondence and papers connected with the above duties should be addressed to the Director of Stores.

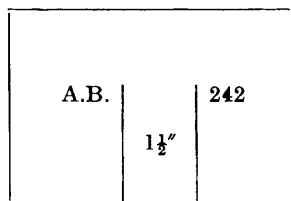
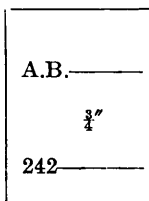
*Marking, Fitting Up and Registration of Vehicles.*

9. All vehicles belonging to the Admiralty are to be clearly marked with the letters "R.N." followed by further lettering denoting the particular Dockyard or Establishment to which the vehicle is attached. In the case of passenger cars this marking is to appear on the near side bottom corner of the windscreen; in the case of goods-carrying vehicles, on both sides of the body; and, in the case of cycles, on each side of the petrol tank, forward end, and on the near side of the sidecar. The external body and chassis work of all vehicles should be painted Admiralty Standard Grey.

10. No motor vehicle is to be employed until properly fitted up in accordance with the requirements of the law and duly registered with the Licensing Authorities. Failure to comply with the requirements of the law renders the use of the vehicle illegal and its driver liable to prosecution. The Officer in Charge, M/T Depôt, Albany Street, is responsible for the registration and marking of all vehicles before they are issued from stock.

11. Strict compliance with the following Regulations dealing with Registration number plates is imperative:—

Plates must be rectangular and of either of the following shapes:—



The ground colour must be black.

Letters and figures must be white and must be 3½ in. high by ½ in. broad.

Total width occupied by each letter and figure, except figure "1," must be  $2\frac{1}{2}$  in.

The space between letters and figures must be  $\frac{1}{2}$  in.

The margin between the top of the plate and the top of the letters and the bottom of the plate and the bottom of the letters must be at least  $\frac{1}{2}$  in.

The margin between the sides of the plate and the nearest letter or figure must be at least 1 in.

Each of the dimensions given above must be halved for plates for motor bicycles or tricycles of an unladen weight not exceeding 3 cwts. The plate need not be rectangular so long as the minimum margin between any letter or figure and the top, bottom and sides of the plate is preserved.

The number plates must be fixed so as to be easily distinguishable and high enough so as not to be splashed by mud, etc.

(*N.B.*—Care must be taken to keep all number plates legible, free from mud and dirt and they must not be fixed in positions where the movement of tail-boards, etc., is liable to render them invisible. When vehicles are being towed, the number of the towing vehicle must be clearly shown on the rear of the last vehicle being towed.)

#### *Drivers.*

12. Service cars are only to be driven by authorised drivers.

13. Drivers are to make themselves acquainted with and are to conform to the law and to the regulations made by the civil authorities as regards speed, light, licences, etc. They will be held personally responsible for the payment of fines inflicted by civil courts for any breach thereof.

14. It is pointed out that the practice of leaving the engine of a motor vehicle running whilst the vehicle is stationary for any length of time results in unnecessary waste of petrol.

15. It is, moreover, an offence against Art. V of the Motor Cars (Use and Construction) Order, 1904, which states that a driver "shall on every occasion make prompt and effective use of all such means as . . . are provided for the prevention of noise." Should the vehicle be left unattended while the engine is running it is an offence against Art. IV (2) of the same Order, which states that the driver shall not "quit the motor car without having taken due precautions against it being started in his absence."

#### *Employment of Vehicles.*

16. The utmost economy, consistent with the real requirements of the Service, should be practised in the use of motor vehicles. All Officers controlling the transport should realise the need for exercising rigid economy in the use of petrol, and should in turn impress it upon their subordinates. Vehicles are to be used solely for Government service and no person not concerned in the immediate duty on which vehicles are being used is to be conveyed in them.

17. Service motor vehicles are not to be used for the conveyance of Officers and men between their places of residence and their work unless this course has been specially authorised by the Admiralty owing to the absence of public travelling facilities and of accommodation within a reasonable distance. When the employment of Service vehicles for this service is absolutely necessary Admiralty approval is to be obtained and routine trips should be arranged locally in a similar way to the boat routine of a ship. The employment of vehicles for the conveyance of Officers and men on duty is to be restricted to those occasions when other means of travel are not available, or when such saving of time as would be gained by the use of motor transport is strictly necessary in the Admiralty interests.

*Centralisation of Mechanical Transport.*

18. The following general principles are to be observed with a view to economical working, and to a closer co-ordination of control at all Dockyard Ports:—

- (a) Central organisation of motor transport to be arranged in the Dockyards to deal with the requirements of all departments of the Yard, and to undertake transport work for other establishments in the Port which may be beyond the capacity of the vehicles allotted to those establishments for their normal internal requirements.
- (b) The organisation, garages, vehicles, and staff of drivers and mechanic drivers, to be under the control of the Naval Store Officers at the Dockyards, who will be responsible for the organisation of the motor transport service of the Yard, and for the engagement and entry of suitable staff for the purpose, subject, in the case of steam-driven vehicles, to the concurrence of the Senior Engineer Officer of the Yard, who will satisfy himself as to their capability.
- (c) Departments normally to communicate their requirements 24 hours in advance for routine work, to enable the service to be organised to the best advantage. Urgent work to be telephoned as occasion requires.
- (d) Fixed complements of vehicles and drivers to be allotted to each Dockyard and Establishment.
- (e) Additional vehicles to be allotted to the central organisation as reserve vehicles, to replace others in the port withdrawn for overhaul and adjustment or repair, so that the pool of working vehicles may be kept at full strength.
- (f) Normal repairs and upkeep of petrol-driven vehicles attached to the Central Pool, and also of similar vehicles attached to outlying Establishments at the port, when the work is beyond the resources of those Establishments, should be dealt with by the Central Organisation.

*Motor Cars.*

19. Motor cars are not to be appropriated for the personal use of any individual Officer. The vehicles are allotted for general Service use and arrangements should be made to restrict their employment to necessary Service purposes only, e.g., Service journeys of great urgency, or where on account of number and situation of places to be visited, gear to be carried, or other special reasons, ordinary public travelling facilities are unsuitable. *Public travelling facilities are to be used to the fullest possible extent.*

20. A Log Book (D.533) for recording full particulars of all journeys made by motor cars is to be kept by the driver. The whole of the particulars required by the Log are to be recorded therein and the entries are to be signed by the Senior Officer of the party conveyed, and the time the vehicle completes its service should be noted therein. Logs should be frequently examined to see that the information required is furnished and that the petrol consumption is kept within normal limits. These Log Books will be criticised by the Inspecting Officer from the Admiralty and Officers will be held liable for repayment of the excess cost of car journeys at the rates in force at the time if the use of the cars is not considered to be justified by the circumstances. Certified extracts from these Logs are to be furnished quarterly to the Officer controlling the pool of vehicles for inclusion in his report to the Admiralty of the running and cost of Motor Transport.

*Goods Carrying Vehicles.*

21. Motor vehicles must only be used for the conveyance of stores and materials by road, on long distances, when alternative and more economical means of transport by rail or otherwise are not available. This is a matter requiring close supervision and due foresight should be exercised to ensure that the most economical transport arrangements are always made.

22. Any necessary long journeys should be undertaken only by vehicles from the Central Pool, so that the requirements of all Departments may be considered and every effort made to secure full outward loads, and possibly return loads. The small complements of vehicles allotted to outlying Departments are intended to suffice only for their normal internal work.

#### *Working Loads.*

23. Vehicles should not be loaded in excess of their normal carrying capacity.

24. For the conveyance of men by motor transport the following is the maximum number of passengers that may be carried in each vehicle:—

Lorries, 3 to 4 tons	...	...	...	...	...	...	25
Lorries, 5 tons	...	...	...	...	...	...	40

25. The Officer or Senior Rating in charge of the party is to be responsible that this number is not exceeded and that the men are properly on board before the lorry begins to move, as accidents have occurred owing to men falling from moving vehicles.

26. Drivers of Service vehicles are to be strictly warned not to accept casual passengers even if belonging to the Service.

#### *Accidents.*

27. All accidents to motor vehicles are to be reported *immediately they occur* to the Admiralty through the Superintendents at H.M. Dockyards or Senior Naval Officer of the Establishment concerned.

28. The report, which should be rendered on Form D.534, should in every case deal specifically with each of the following points and be signed by the driver:—

- (a) The date, time and place of the accident.
- (b) The names of the service driver and his passengers, and the R.N. number of the service vehicle.
- (c) Whether the service driver is authorised to drive.
- (d) What official duty he was on at the time of the accident, and by whose orders.
- (e) The names of all other persons, and the registration number (if any) and description of the other vehicle or vehicles concerned in the accident.
- (f) The width and general characteristics of the road (e.g., straight or winding, or any side turnings) and the state of its surface.
- (g) The position and direction of the vehicles concerned, and of any other traffic, *illustrated by a sketch or sketches* showing wheel track and giving exact distances if possible.
- (h) The pace of the vehicles concerned.
- (i) If the accident occurred after lighting-up time, what lights the vehicles concerned were carrying.
- (j) Whether any of the vehicles gave any warning of approach and whether there was any, and, if so, what indication that the warning had been heard.
- (k) How far apart the vehicles concerned were when they first came within view of one another.
- (l) What steps were taken, or omitted to be taken, by the parties concerned to avoid the accident.
- (m) Particulars of the occurrence itself.
- (n) Whether damage was done to any of the vehicles, or to other property, stating its nature and extent, and whether any person was hurt, and the nature of his injuries.
- (o) The names and addresses of bystanders, and the statements or comments made by them.
- (p) Any material information not already provided for.
- (q) The number of the service driver's license and where issued. Particulars of any endorsements or previous accidents in service.

29. When an accident happens in which a Service vehicle is concerned every effort should be made to secure the names and addresses of any persons who may have witnessed the occurrence. Where circumstances permit, it is very desirable that statements in writing should be taken at the time and signed by these witnesses, whether they are in His Majesty's service or not. If this cannot be done at the time of the occurrence the witnesses should be written to without delay and asked for statements of their knowledge of the occurrence, and particularly requested to furnish replies to any specific points, e.g., speed, position of the cars, etc., which it may seem desirable to elucidate.

30. It is always desirable that the report of the accident should be accompanied by an approximate estimate of the cost of repairing the damage to the Service vehicle, and, if the driver is competent to form a useful opinion, of the damage caused by the Service vehicle. It should also be stated, if possible, whether the private vehicle involved in the accident is insured, and, if so, with what Insurance Company. A copy of any police report should also be obtained and attached.

31. When damage is sustained by collision with, or through the action of, private vehicles, etc., the cost of making good the damage to the Service vehicle should be kept separate, and a statement showing the actual expenses incurred, including establishment charges, which should be stated separately, should be forwarded to the Admiralty (Director of Stores) as soon as the repairs are completed. The time occupied in effecting the repairs should also be furnished, together with a report stating whether any inconvenience or additional expense arose by reason of the vehicle having been laid up for the repairs in question. The latter information is required in order that it may be determined whether a charge should be made for "loss of use."

32. The report of the accident should not be delayed for the replies of witnesses or for the particulars of the actual cost of repairs, which should, however, be reported without delay as soon as they become available.

33. Particulars of the accident are to be entered in the log book or work sheet on the spot.

34. When a motor vehicle is sent to Albany Street Depôt, or to a Dockyard garage, for repairs rendered necessary as the result of an accident, a brief statement of the nature of the accident is to be furnished at the same time.

35. This information is required partly to enable the garage staff to judge of the possible extent of injury beyond that which is apparent, and partly in order that the cost of making good such defects as are directly attributable to the accident may be kept separate for use in the event of it being decided to make a claim against the other party to the accident, or to settle the matter under the agreements which have been entered into with certain insurance companies. *See also paragraph 31.*

#### *Admission of Liability in Accidents.*

36. Authority has been delegated in certain circumstances to the Commanders-in-Chief to settle claims within fixed limits. With these exceptions no admission of liability for damage is to be made without Admiralty approval.

#### *Court of Enquiry on Accidents.*

37. The Commander-in-Chief, Superintendent of Dockyard, or Senior Naval Officer concerned is to order the circumstances of the accident to be investigated by a Court of Enquiry:—

- (a) When the accident causes death or serious bodily injury.
- (b) When the damage on either side is likely to exceed £40.
- (c) When the Service vehicle was being used for an authorised purpose or without adequate reason.

*Liability of Drivers in Accidents.*

38. Drivers actually engaged in driving Admiralty vehicles on authorised service journeys will not be called upon to pay for damage to vehicles or claims for compensation, but if negligence or misconduct on the part of the driver is considered to have been proved, disciplinary action is to be taken. Such disciplinary action is, for Naval and Marine ratings, provided for in Article 568 of the King's Regulations and Admiralty Instructions. Civilian offenders should be dealt with by means of discharge, suspension, etc.

39. When a driver is charged with an offence by the police and is convicted and fined, he must pay the fine himself. The question of whether his defence shall be undertaken by the Crown in those instances where substantial interests of the Admiralty, financial or otherwise, are involved and may be jeopardised unless the driver is properly defended, is under consideration. In the meantime all such cases should be represented immediately to the Admiralty.

*Care and Preservation of Vehicles.*

40. Care is to be taken to maintain the transport in as good condition as possible.

41. The principal causes of deterioration in motor vehicles are as follows:—

- (a) Unnecessary mileage through lack of organisation of transport.
- (b) High speeds, for which no service urgency exists, on bad roads, etc.
- (c) Neglect to take small repairs in hand at the time of occurrence.
- (d) Want of scrupulous cleanliness in the engine and working parts.
- (e) Want of care in protecting them from bad weather, and in keeping them clean and oiled.
- (f) Failure to keep the working parts properly lubricated. This matter requires constant watching.
- (g) Careless and inefficient driving.

42. The names of careless or unskilled drivers should be promptly reported to the Central Organisation, and the necessary steps taken to replace them.

43. Non-skid chains are to be used with rubber-tyred lorries on slippery or greasy roads.

44. Where vehicles are stored in unheated garages or in the open, it is essential that the water system should be completely emptied overnight whenever a frost is threatened. In the case of steam lorries it may, in some instances, be necessary to remove the pump completely to ensure against this being fractured. Care should also be taken with all vehicles to ensure that the pump is working freely before the engine is started in the morning.

45. Vehicles left standing in daytime during frosty weather for any length of time should have bonnets and radiators covered.

46. Metallic woven linings are not to be used on Ford transmission bands, as it is found that the metal particles from these linings accumulate round the magnets and form a short circuit in the ignition system.

47. Attention is called to the importance of decarbonising engines of motor vehicles at regular intervals. Cylinders should be dismantled and the carbon cleaned off by means of scrapers and wire brushes. Piston rings should be removed and ring grooves cleaned out. Valves should also be ground in.

*Theft.*

48. In view of the danger of theft of motor vehicles, drivers are to be directed that, except in case of absolute necessity, Service vehicles are not to be left in the streets or public places unattended; and that, where it is necessary for a vehicle to be so left, the police on duty at the spot, or other responsible individual, should be informed and placed in temporary charge of the vehicle.

Loaded vehicles running outside the precincts of Naval Establishments should normally carry a second rating in the body of the vehicle to prevent possible pilfering of the load.

*Supplies—How to be obtained:*

*Vehicles.*

49. Motor vehicles required for any Admiralty service should be requisitioned on the Admiralty (Director of Stores). All applications for vehicles should comprise the following particulars:—

- (a) Load capacity required. Special bodies should never be demanded unless they are essential, when full reasons for the requirements should be furnished with particulars of the circumstances which render a special type of body necessary.
- (b) Approximate date by which required.
- (c) Full address to which to be consigned.
- (d) Detailed particulars of the necessity for the supply of the vehicle.

50. No private vehicle is to be taken over for Admiralty service without Admiralty approval.

*Hire.*

51. No standing arrangements, agreements, or contracts for the hire of motor vehicles for Admiralty service are to be made without Admiralty approval. Casual hiring of motor vehicles should be reserved for actual service urgency, and for persons travelling on duty with luggage. It should never be resorted to when other suitable means of public conveyance are available. (See paragraph 76.)

*Transfer of Vehicles between Establishments.*

52. Vehicles are not to be transferred between Establishments without prior Admiralty approval.

*Spare Parts.*

53. Stocks of spare parts are not to be maintained at Home Establishments. A central stock is kept at the R.N.M.T. Dépôt, Albany Street, London (telegraphic address, "Namotrans, Norwest London," telephone number, Admiralty 356 or Museum 5647).

54. Requirements for spare parts should be notified to the Storekeeping Officer of the Establishment concerned and demands prepared by him on the authorised form which should be forwarded to the Officer in Charge, M.T. Dépôt, Albany Street. All demands are to state the **R.N. No. of the vehicles** for which the spare parts are required.

55. Repairable spare parts should be made good locally as far as practicable. Where repairs are beyond local resources the parts should be returned to Albany Street. Unserviceable spare parts are to be dealt with locally as old material, and returned to the Central M/T organisation for disposal.

*Equipment.*

56. Each *vehicle* on issue from Albany Street Dépôt will be supplied with a kit of tools suitable for the particular vehicle, and this equipment should be carried on the vehicle.

57. Each *driver* should be supplied with a personal kit of tools (list hereunder) suitable for use on any type of vehicle, and should be held personally responsible for these items.

## DRIVER'S TOOL KIT.

Each driver to be provided with this kit and to be held personally responsible for same.

Naval Store Patt. No.	Motor Spare Ref. No.	Item.	Quantity.
-	361	Tool bag to contain following :—	1 No.
1451	-	Spanners, adjustable, 12 in. ... ..	1
848	-	Spanners, adjustable, for nuts up to $\frac{3}{8}$ in. ... ..	1
2	-	Wrenches, footprint, 9 in. ... ..	1
468	-	Pliers, side-cutting ... ..	1 pr.
1095A	-	Hammers, engineers', 1 lb. with helve ... ..	1 No.
669	-	Screw-drivers, $3\frac{1}{2}$ in. ... ..	1
1485	-	Chisels, cold steel, $\frac{5}{8}$ in. ... ..	1
19	-	Punches, rivet, small ... ..	1
22	-	Feeders, oil, $\frac{1}{2}$ pint ... ..	1
-	388	Grease gun ... ..	1
79	-	Files, round, bastard, 10 in. ... ..	1
332	-	Files, half-round, taper, smooth, 10 in. ... ..	1
827	-	Spanners, double ended, $\frac{1}{8}$ in. by $\frac{3}{16}$ in. ... ..	1
843	-	Spanners, double ended, $\frac{1}{4}$ in. by $\frac{5}{16}$ in. ... ..	1
845	-	Spanners, double ended, $\frac{3}{8}$ in. by $\frac{1}{2}$ in. ... ..	1
852	-	Spanners, double ended, $\frac{5}{8}$ in. by $\frac{3}{4}$ in. ... ..	1
36	-	Spanners, tube, box, double ended, complete with tommies, $\frac{3}{8}$ in. by $\frac{1}{2}$ in. ... ..	1
37	-	Spanners, tube, box, double ended, complete with tommies, $\frac{5}{8}$ in. by $\frac{3}{4}$ in. ... ..	1
39	-	Spanners, tube, box, double ended, complete with tommies, $\frac{1}{2}$ in. by $\frac{5}{16}$ in. ... ..	1
-	-	Spanners, tube, box, double ended, $\frac{9}{16}$ in. by $\frac{7}{16}$ in. ... ..	1

## Standard Equipment.

58. No departure from the standard equipment of vehicles should be made without prior Admiralty approval. If it is desired to carry out trials of any special fitting Admiralty approval is to be obtained before any arrangements are made. The manufacture of non-standard spare parts with a view to incorporation in Admiralty vehicles is not to be undertaken.

## Repairs.

59. The repairs to vehicles attached to Dockyards and Naval Establishments should normally be undertaken at those Establishments, provided that the estimated cost of repair does not exceed £100. Where the estimated cost of repairs exceeds £100, or is considered uneconomical having regard to the present value of the vehicle, Admiralty instructions are to be obtained before putting repairs in hand. (*See also* Paragraph 18f.)

60. Repairs by contract to Admiralty M/T vehicles will be arranged by the R.N.M.T. Depôt, Albany Street.

61. The amount of petrol in the tank should be agreed to by the Contractors when the vehicle has been delivered at the works by road. Petrol tanks are always to be emptied before a vehicle is put on rail.

62. Portable parts and tools not requiring repair are to be removed before the vehicle is sent by rail, and only those necessary for working the vehicle are to be sent when road transit is used.

## Repairs to Private Motor Vehicles.

63. Repairs are never to be effected to privately-owned vehicles with service labour at any Dockyard or Naval Establishment, except as provided for, nor are Government materials to be employed for the repair of privately-owned motor vehicles.



*Tyres and Tubes.*

64. A careful record is to be kept of all replacements of solid and pneumatic rubber tyres and tubes for motor vehicles, showing make, date fitted to vehicle, date removed, and mileage run.

65. Particulars of any tyres and tubes condemned after a working life of less than that shown hereunder are to be at once reported to the Admiralty (Director of Stores).

Solid tyres	...	...	...	...	10,000 miles.
Pneumatic tyres—rear	...	...	...	...	3,000 miles.
Pneumatic tyres—front	...	...	...	...	5,000 miles.
Inner tubes	...	...	...	...	3,000 miles.

66. A quarterly statement of all tyres or tubes renewed is to be forwarded in the following form concurrently with the statistical returns for Motor Transport:—

Size of Tyre	Vehicle to which fitted.	Name of Manufacturer	Makers' Reg. No.	Date fitted to road wheel.	Whether used on front or rear wheel	Date removed.	Miles run.	Remarks.

*Disposal of Vehicles and Spare Parts.*

67. Admiralty vehicles, etc., becoming surplus to requirements should be reported to the Admiralty (N.S.), and instructions for final disposal will be issued by the Admiralty. When vehicles included in local sales are disposed of, the licences should be returned to the D. of S., together with a report showing the names and addresses of the purchasers and the amounts realised by sale. Registration books, to be handed over to the purchaser, will be forwarded from the Admiralty when the order to sell is given.

68. Whenever motor vehicles for disposal are handed over for rail or sea transit, great care is to be taken to ensure that the petrol tanks are completely emptied for removal.

*Garage.*

69. No arrangements for the hire of garage accommodation should be concluded locally and all proposals should be submitted to the Admiralty for the arrangements to be made.

70. Wandering leads used in garages or other places where petrol or inflammable vapour is likely to be found should be made up with cab tyre sheathed cable (Pattern 2547), the third wire in the cable being used for earthing purposes. Hand lamps of a gastight type are to be used in these situations.

*Accounting.*

71. With a view to collecting all expenses in connection with motor transport under a central head as far as practicable the following method of accounting for the expenditure incurred on mechanical transport services at H.M. Dockyards and Naval Bases has been approved:—

- (a) Provision for initial purchase of all vehicles, spare parts and petrol, etc., bought specially for motor transport to be made under Item 2A of Subhead E of Vote 8/II.
- (b) The cost of vehicles, spare parts and maintenance stores supplied to other Admiralty votes to be charged to those votes, and reported in the usual manner to Accountant General through Return D.72.

- (c) Provision to be made under the respective votes for the cost of all materials (including vehicles), repairs, and labour for mechanical transport (e.g., in the case of Vote 8, labour Vote 8, Sec. I, and materials Vote 8, Sec. II). Particulars as regards requirements of all materials stocked or provided by Director of Stores to be furnished to the latter Department in the usual way; these materials not to be obtained from outside sources.
- (d) For Vote 8 Establishments the issue of vehicles and spare parts as well as the whole cost of repairs, maintenance and running (both labour and material) to be provided for under a separate item of the Storekeeping Section of the D.88 Account A.24 subdivided as follows:—

Expenditure under other Navy Votes to follow similar lines—

*Dockyards and Outports:*

- (a) Issue of new vehicles, etc.
- (b) Repairs to vehicles, machinery, etc.
- (c) Running expenses, petrol, etc.
- (d) Other charges.

*London Garage:*

- (e) Issue of new vehicles, etc.
- (f) Repairs to vehicles, machinery, etc.
- (g) Running expenses—petrol, etc.
- (h) Other charges.

- (e) Vehicles supplied from the pool to other votes, other Departments of Government, etc., for short periods to be charged on the authorised time scale for each type of vehicle, except as laid down in Clause IV, paragraph 72. This system to apply also to the Admiralty Garage.
- (f) For the Admiralty Garage in London, expenses for labour and material, including petrol, to be borne by Vote 8, Sections I and II. Most of the materials for maintenance and running will be issued from stock at a dockyard or elsewhere, and the cost should be charged to the Garage through Section D of the 88 Account. For complete vehicles an account of receipt is to be prepared by the Garage and forwarded to the Accountant General in the ordinary way, and a return D.50 to the Director of Stores. Any local purchases that may be necessary to be dealt with at the Garage in the same way as at a Dockyard, copies of the issue and receipt vouchers being forwarded weekly to the Director of Expense Accounts, in order that the necessary debits and credits may be made in the Expense Accounts. As regards issues of complete vehicles, either to Vote 8 Establishments or to outlying bases, the allocation sheets showing Head of Charge, value and reference to Receipt Voucher are to be passed to the Director of Expense Accounts to debit the services concerned, the general rule being followed, i.e., 88 Account A.24 for all services except those for which there are definite supply votes, e.g., Vote 9, Vote 10, etc. The labour will be charged to Vote 8.1.B in the cash account at the garage, and cash vouchers will be referred to Director of Expense Accounts weekly in order that the amounts may be charged in the expense accounts to A.24 of D.88 account. Charges for material for running and maintenance are to follow the charge for vehicles, and Storing Yards will be kept informed of allocations to outlying bases in order to effect this.
- (g) The cost of contract repairs to be borne by Vote 8/II for stock vehicles and for vehicles on Vote 8 services and by the pertinent votes for vehicles on charge to those votes.

*Repayment charges.*

72. The following revised scales of charges for use of Admiralty Motor Transport vehicles are to be in force as from 1st January, 1927:—

I.—FOR USE OF VEHICLES WITH DRIVER AND INCLUSIVE OF ALL CHARGES.

Type of Vehicle.	Charge for.			
	Other Navy Votes.		Other Departments of Government.	
	Per hour or portion.		Per hour or portion.	
<i>Transport.</i>	<i>s. d.</i>		<i>s. d.</i>	
Steam-driven vehicles ... ..	5	6	7	0
Fordson Tractors (without trailers) ...	2	6	3	6
Heavy Motor Lorries (3 and 5 tons) ...	3	6	4	6
Light Motor Lorries, Tenders, Trucks and Vans (2 tons and under) ...	3	0	4	0
Passenger Cars ... ..	4	6	5	6
Ambulances ... ..	4	6	5	6
Motor Cycles ... ..	1	6	2	0
	With Attend-ant.	Without Attend-ant.	With Attend-ant.	Without Attend-ant.
<i>Trailers.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
5 ton Trailer for use with Fordson Tractor	2	0	2	6
3½ ton Trailer for use with Fordson Tractor	2	0	2	6
2 ton Trailer for use with A.E.C. Lorries	1	6	1	9

II.—PRIVATE INDIVIDUALS.

(a) Service vehicles are to be provided for private individuals *only where necessary to facilitate Service business*. The charges for services rendered to private individuals shall be as above for other Departments of Government, with an addition of 33½ per cent., or at the current local rates, whichever is the higher.

(b) The applicants are required to sign the usual application form (D.461).

III.—SERVICE FUNCTIONS.

(a) Service transport may be employed in connection with *Service functions*, provided the transport can be spared at the time without inconvenience; that the applicants are required to sign the usual application form (D.461); and that they are informed at the time application is made of the probable amount of charge which will be recovered from them.

(b) *Cancelled.*

(c) Service functions include Naval, Marine and Inter-service Sports, Bisley and Port Rifle Meetings, Camps for R.N. Volunteer Cadet Corps and Royal Tournament, Olympia. In these and similar instances the full scale charges are to be claimed whether the transport is provided from the Dockyard Central Pool, Barracks, or other Government source.

## IV.—LOAN OF VEHICLES.

Charges to other Navy Votes for loan of vehicles in place of others withdrawn for repair, etc., *exclusive* of driver and all running expenses. These charges are not to be made when the defects of the vehicles withdrawn for repair, etc., are being made good in the Dockyards or at Albany Street.

<i>Type of Vehicle.</i>	<i>Charge per day.</i>
	<i>s. d.</i>
<i>Transport:</i>	
Steam and Motor Lorries (all types) ... ..	5 0
Light Tenders ... ..	4 0
Ford Vans ... ..	3 0
<i>Passenger Cars:</i>	
Ford ... ..	3 0
Other types ... ..	5 0
<i>Ambulances</i> ... ..	5 0
<i>Motor Cycles</i> ... ..	2 0

73. The charges to be levied for the loan of Admiralty Motor Transport vehicles in removing sale lots for purchasers at Admiralty sales should be assessed at the scale rates applicable to "Other Departments" of the Government.

74. When victualling stores or provisions are conveyed by motor vehicles which are controlled by Officers of the Naval Store Department, claims should be made against Vote 2, Sub-head P, on the scale rates authorised for "Other Navy Votes." When the conveyance is effected by motor vehicles allocated to R.N. Barracks, and controlled by Officers of the Establishment the cost should be borne by Vote 8. The expense of conveyance of Service personnel and baggage by *Service* Motor Transport is chargeable to the Vote to which the transport belongs.

75. The cost of Service Motor Transport when employed in connection with a Commander-in-Chief's Office, e.g., transport of office staff, baggage, despatches, or stores, should be borne by the Vote to which the transport belongs.

76. Active co-operation is to be maintained between the local representatives of the three fighting services, whereby mutual temporary assistance is rendered in the matter of motor transport in preference to hiring transport from outside sources. In order to keep this point prominently before all concerned, all charges for hired road transport are to be accompanied by a certificate that it had been ascertained that no assistance could be rendered by the other Services within the Command. The rates to be charged for mutual assistance are to be the commercial rates obtaining in the districts concerned, and are to be agreed upon locally. These instructions are applicable to the War Office and Air Ministry only. (*See* paragraph 51.)

77. For motor vehicles used on Services chargeable to India or to Foreign, Dominion, Colonial and Dependent Governments, including Protectorates and Mandated Territories, the scale charges are to be assessed at the scale rates applicable to private individuals, except when used in connection with the Crown Forces of India or the Naval Forces of Dominion Governments, when the charges should be assessed at the rates applicable to "Other Departments of the Government."

*Cost Accounting for Motor Transport.*

78. Full particulars are to be rendered of the employment of all mechanical transport at Yards and Establishments.

79. All working vehicles are to be supplied daily with one or more "work sheets" (Form D.394) and the particulars required are to be filled in by the Driver or other person employed on the vehicle. Drivers of vehicles are to produce these work sheets, if required, for inspection by any authorised official as warrant for their employment.

80. The "work sheets" are to be forwarded to a central office daily (at H.M. Dockyards to the N.S.O.), where they are to be dealt with generally in a similar way to vouchers for material, but included in a separate daily bundle of notes.

81. Particulars from the "work sheets" are to be posted daily into a "work ledger" under the heads detailed, separate sheets being used for each vehicle.

WORK LEDGER.

		VEHICLE.....			R. N. No.....		
Date.	Hours employed.		Miles Run.	Weight conveyed.	Ton Miles.	Petrol consumed.	Remarks.
	Running.	Waiting.					

Quarterly Return (Form D.536).

82. The sheets of the "work ledger" are to be totalled and abstracted to the Quarterly Return of Motor Transport (Form D.536) and in order to facilitate the compilation of statistics at Admiralty, the instructions on the cover of the form are to be strictly adhered to.

83. The expenditure in connection with motor transport is to be brought to account separately for each vehicle, so far as this is possible, for both the running expenses and the expenses for repairs. The costs of motor transport vehicles are to be collected under the heads shown on form D.536 and reported quarterly concurrently with the particulars of work performed. These Returns are to include particulars to the date of the last Saturday in each quarter.

84. For Vote 8 vehicles the costs in the cost statement should agree in total with the total expenditure under the Expense Accounts headings of item 24 of Section A of Account 88, which is also to be reported quarterly. The expenditure accounted for under item 24 of Section A of Account 88 is required to be reported in total for the Dockyard and for each Vote 8 Establishment separately.

85. The collection of "work sheets" and compilation of the particulars respecting running of mechanical transport in H.M. Dockyards should be carried out by the office of the Naval Store Officer.

86. Particulars of costs of running Vote 8 vehicles will be compiled by the Expense Accounts Officer.

87. Departments not included within the precincts of the Dockyard (e.g., Naval Ordnance, Victualling, R.N. Barracks, Hospitals, etc.) should compile and retain their own records both of running and cost, and render the quarterly returns either direct to the Admiralty or through the Commander-in-Chief, as may be directed by local port orders.

88. The quarterly return D.536 is to be accompanied by a statement showing the amounts charged for loan of vehicles against "Other Navy Votes," "Other Departments of the Government," private individuals, etc. It is not necessary to give details of vehicles, hours, etc., but the amounts for each of the Other Navy Votes or Departments should be shown separately. One total, however, will be sufficient for private individuals, etc., who need not be detailed.

89. The Returns rendered from Dockyards are to be signed, in addition to the N.S.O., by the E.A.O., who will be responsible for the correctness of the costs reported therein, and transmitted to the Admiralty (D. of S., M.T.), not later than three weeks from the termination of the period to which the Returns relate.

## MOTOR TRANSPORT SERVICE ACROSS LONDON.

90. When Naval Drafts of less than the number necessitating the provision of a special train are sent by rail involving a journey across London, the Officer responsible for the despatch of the Draft should make all necessary arrangements with the railway company concerned for the conveyance of draft to destination. Through tickets for journeys via London no longer cover conveyance by tube and underground railways between London termini and an advance of cash to cover the journey by tube or underground should be made by the ship or establishment despatching the Draft unless special conveyance of party is arranged as at (b) hereunder. The future arrangements for transport across London between the two termini stations will be as follows:—

## BAGGAGE.

Baggage will ALWAYS be transported by Admiralty Motor Transport.

## PERSONNEL.

(a) Drafts of LESS THAN 34 RATINGS (except as stated at "c") should proceed across London by public facilities (bus or tube railway), unless special reasons render better supervision desirable, such as the description of the men forming the Draft, or the early sailing of the ship to which they are being sent, when special "private hire" omnibus is to be provided as at (b), e.g.:—

- (i) A party of Petty Officers or men of a few years' service and normal character requiring little supervision should proceed by ordinary public facilities.
- (ii) A party of say 25 boys, or a party containing recovered deserters or second class men should not proceed by public facilities, but special conveyance should be provided.

THE DRAFTING COMMANDER IS TO DECIDE WHETHER SPECIAL CONVEYANCE OF PERSONNEL IS NECESSARY OR NOT.

(b) Drafts of OVER 34 RATINGS should proceed across London by "private hire" omnibuses, which will be arranged on application to Admiralty (*see* paragraph 91).

(c) PRISONERS AND ESCORTS are not to cross London by tube or public omnibus. For a small party a taxi-cab, or, if necessary, two cabs should be used, which should be arranged by the Officer-in-Charge of the escort. In the unlikely event of a large party, a special "private hire" omnibus is to be arranged as at (b) above.

91. Drafting Officers are to notify requirements to Admiralty *at least* 24 hours in advance of the time transport is required. FAILING ADEQUATE NOTICE TRANSPORT CANNOT BE GUARANTEED. Telegrams or phonograms should be *en clair* and should specify number in Draft, time and date of arrival, the terminal stations between which transport is desired, weight of baggage, with details of any special items, e.g., Sea Chests, and, when party numbers less than 34, whether special conveyance of personnel is required (*vide* specimen telegrams below). Care is to be taken that requests are not sent unless transport is *actually necessary*, and the Officer or rating in charge of Draft should be instructed to look out on arrival for the vehicles arranged for. If requests result in fruitless journeys, the Officer authorising the request will be liable to be charged for the cost of the wasted journey.

## SPECIMEN TELEGRAMS.

- (a) 30 boys arrive Waterloo 1950 on 31st instant for King's Cross require transport for baggage weight 30 cwts, and conveyance for party.
- (b) 24 ratings arrive Charing Cross 1400 on 29th instant for Paddington require transport for baggage weight 24 cwts.
- (c) 150 ratings arrive Victoria 1250 on 1st proximo for Euston require transport for baggage weight 150 cwts, and conveyance for party.

92. Drafts numbering 200 and over will normally travel by special train as heretofore, and no journey across London is involved.

93. The Admiralty Garage is normally open for work on weekdays only, between the following hours:—

Monday to Friday ... .. 8 a.m. to 5.30 p.m.

Saturday ... .. 8 a.m. to 12.30 p.m.

SHOULD SPECIAL CIRCUMSTANCES NECESSITATE PROVISION OF TRANSPORT AT OTHER TIMES, AT LEAST 24 HOURS' CLEAR NOTICE OF REQUIREMENTS MUST BE GIVEN.

94. Transport will *not* be provided for Officers crossing London.

(*A.F.Os. 405/28, 2426/28 and 2970/28.*)

### 3162.—Dutiable Stores other than Tobacco and Spirits—Issue.

*R.F.A.s proceeding to Foreign Ports.*

(N.S. Fuel 6586/26.—12.11.1926.)

It has been decided that issues of dutiable stores *other than Tobacco and Spirits* from Naval Victualling Yards at Home will be made duty free to Royal Fleet Auxiliaries proceeding to Foreign Ports, subject to the following conditions:—

- (i) The Masters of the Vessels to enter outwards at the Custom House at the port of departure.
- (ii) Shipping Bills to be presented by the Master or by someone on his behalf for all duty free stores, and the stores to be entered on the Victualling Bill attached to the vessels clearance papers.

### 3175.—Minelaying, Paravane, Depth Charges, etc.—Preparation of Equipment Drawings.

*All Home Dockyards.*

(G. 13357/26.—12.11.1926.)

The procedure for the preparation of equipment drawings for minelaying, paravane, depth charge, etc., is as follows:—

The Dockyard departments concerned are to collaborate with "Vernon" in the early stages of drawings of equipment and fittings in order that the signatories may be in agreement prior to the preparation of the D51—Art. 621, Home Dockyard Regulations.

- (i) Dockyard Departments to consult with "Vernon" as to general requirements.
- (ii) To inform "Vernon" when the drawings are in the pencil stage, and can be inspected at the yard.
- (iii) To refer prints of proposals and draft D51 to "Vernon" for remarks or concurrence before forwarding D51 for signature.

### 3211.—Aviation Spirit—Supply in Bulk to Aircraft Carriers or other H.M. Ships.

(N.S. Fuel 5842/26.—19.11.1926.)

With reference to the petrol lighters which are being provided at certain Yards for the transport of aviation spirit in bulk to Aircraft Carriers or other H.M. Ships, and also for receiving spirit from H.M. Ships when it is necessary for the tanks of the latter to be emptied, it has been decided that the following procedure shall be observed in regard to accounting for the spirit.

2. The petrol tanks in the lighters are to be calibrated and provided with a measuring device by the Engineering Department of the Dockyard to which the lighter is attached. In order to ensure complete concurrence of all concerned, the local R.A.F. authorities and the Naval Store Officer should be associated in the provision of such calibration arrangements as are made. Estimates should be forwarded from the Yards concerned before the work is put in hand. The cost is chargeable to Navy Vote 8/2/K.

3. When a bulk consignment of aviation spirit is received at a Yard for transfer to one of H.M. Ships, the quantity loaded into the lighter is to be verified by the Naval Store Officer's agent in charge of the lighter, in conjunction with the Shore R.A.F. Officer concerned. In exceptional circumstances when it is necessary to load the lighter before the attendance of the R.A.F. Shore Officer can be secured, the Naval Store Officer is to detail a representative from his office to verify the whole consignment and the quantities loaded into the lighter, so as to safeguard the interests of the Crown in case of dispute with Contractors or Railway Company. When the spirit is to be delivered to one of H.M. Ships immediately after receipt, the Engineer Officer of the ship concerned and the R.A.F. Stores Officer, if one is on board, should, if possible, be associated with the verification of the consignments in question.

4. When the spirit is transferred from the petrol lighter to one of H.M. Ships, the quantity is to be again verified by the Naval Store Officer's agent in charge of the lighter, in conjunction with the Engineer Officer of H.M. Ship concerned and the R.A.F. Stores Officer, if one is on board.

5. If there is any dispute as to the quantity of spirit delivered to Aircraft Carriers or other of H.M. Ships, the discrepancy should be mutually agreed by all concerned and the matter reported, accompanied by a full statement of the circumstances, to the Naval Store Officer. If the Naval Store Officer fails to effect adjustment locally, he is to report the matter to the Admiralty for transmission to the Air Ministry.

6. The lighter's calibrations are to be the basis of measurement in all cases.

7. Shipping Notes (D.78) raised by the Officer checking the loading, and subsequently receipted by the Officer receiving the spirit, are to be furnished to the Naval Store Officer's agent in charge of the lighter. A supply of D.78 forms should be kept on board the petrol lighter for this purpose. One copy should be retained by the Officer raising the forms, one copy handed to the Officer receiving the consignment, and one copy (duly receipted) retained in a guard by the Naval Store Officer's agent in charge of the lighter.

8. In all these transactions the Naval Store Officer will act as a "carrier" only, and his responsibility will be limited to furnishing proof that he has handed over the consignment as handed to him. He will at once investigate any appreciable difference between quantities loaded and discharged from the lighter (see paragraph 5), but will not take the spirit on ledger charge or be responsible for furnishing "supply notes" or raising "return notes."

9. A similar procedure should be followed when aviation spirit is discharged from the tanks of one of H.M. Ships, except that, where the same spirit will be taken back into the ship's tanks within a short period, the spirit can remain "on deposit" with the Naval Store Officer. It is desirable, however, that the Officer receiving the spirit "on deposit" should be in agreement with the Engineer Officer of the ship from whose tanks the spirit is discharged, in respect to the quantity placed "on deposit" and re-delivered.

10. Whenever a tank of a petrol lighter is emptied it should be suitably cleaned and arrangements made for it to be inspected by a representative of the R.A.F. before any further quantities of aviation spirit are loaded into the tank.

### **3232.—Varnishes for Electrical Purposes—REPORTS.**

(N.S. 14826/26.—19.11.1926.)

Experiments which have been carried out at Devonport Yard, during the past 12 months, have demonstrated that a varnish consisting of 2½ lb. of shellac to 1 gallon of methylated spirit has been found to give every satisfaction in micanite moulding for all purposes.

2. Varnish of the above description should be used as much as possible in preference to more expensive proprietary varnishes, such as "Sticoline."

3. Extra stout shellac varnish may be used for manufacturing and repairing Wireless Telegraph Apparatus where high insulation is required, the small quantities necessary being obtained by local purchase.



**3236.—Rear Admiral (S)—Scope and Nature of Duties.**

(M. 3762/26.—26.11.1926.)

The Rear Admiral (S) will exercise a general administrative charge over all matters affecting service in submarines in order to ensure co-ordination and uniformity in questions of personnel, training, and in matters affecting sea-going efficiency.

The direct responsibility for the efficiency of boats and flotillas will rest with the Flag Officers and Senior Naval Officers under whose command they are placed.

2. The Rear-Admiral (S) will have his headquarters at Fort Blockhouse, and will be in direct command of such flotillas as may be placed under his direct command.

3. He will be generally responsible for arrangements for provision and training of personnel, and for advising the Admiralty and Flag Officers in command on questions concerning submarine development, material and personnel.

4. He will arrange with the Naval Assistants to the 2nd Sea Lord and the Director, Mobilisation Department, as regards officers and men respectively, including their entry for, and their discharge from, service in submarines. The Rear-Admiral (S) will keep necessary rosters and records, including lists of volunteers. He will arrange with the Director, Mobilisation Department, in sufficient time for the necessary provision to be made in Vote A of the Navy Estimates for the following year.

He will provide the personnel for acceptance trials of new submarines.

5. He will be in command of the submarine schools and responsible for the efficient training at the schools of officers and men employed on service in submarines.

He will be responsible for the compilation of manuals of instructions required for service in submarines.

He will conduct such experimental work as may be allotted to him.

6. He will keep in close touch with the Naval Staff and the Director of Naval Equipment, and will visit the Admiralty from time to time as he may require for the purpose of meeting them.

7. He will advise the Naval Staff on requirements of new submarine design and will maintain close touch with the various Departments under the Controller in the preparation of the details of design and equipment to meet the Staff requirements, attending at the Admiralty as necessary for these purposes.

8. He will visit Submarine Flotillas, previously informing the Flag Officers or Senior Naval Officers concerned of his intention to do so, and obtaining their approval, and will later forward to them a report on the visit.

**3237.—Mediterranean Destroyer Flotillas Recommissioning and Refitting at Home Ports—Procedure.**

(M. 3131/26.—26.11.1926.)

The procedure described below with regard to pay and victualling accounts, Service Certificates and history sheets, is to be adopted when Mediterranean Destroyer Flotillas return to England to be recommissioned.

2. *Pay and Victualling Accounts.*—The pay and victualling accounts of the ships of the flotilla are to be transferred from "Egmont II" to their respective Home Ports on a date ordered by Rear Admiral (D). In the absence of instructions to the contrary, however, this date is to be the day ships sail from Malta for United Kingdom. The vessels are to remain independent commands while detached from the Fleet.

3. On the date of recommissioning, the pay and victualling accounts of the flotilla are to be transferred to "Egmont II."

The advance of pay due to ships' companies before sailing for service abroad, and any new, or alterations in, allotments, etc., are to be made by the home depôt prior to the discharge of the men to their ships.

4. *Contingent Account*.—The Secretary to the Captain (D) is to render to "Egmont II" before leaving Malta the postage account for the flotilla and obtain a further advance sufficient to meet requirements until the return of the flotilla to the Mediterranean.

5. *Naval Savings Bank*.—The pay office in "Egmont II" is to ascertain from all ratings with deposits in the Naval Savings Bank the manner in which they require the sums due to them disposed of, as directed in paragraph 9 of the regulations printed in the Naval Savings Bank pass book.

6. *Victualling Accounts*.—The Destroyers' victualling accounts, including the rough Daily Issue Book, Spirit Stoppage Book and the Clothing and Implement Accounts, are to be closed to the day prior to sailing from Malta inclusive and forwarded to the Accountant Officer (S), H.M.S. "Egmont II," by the *earliest possible opportunity*.

The certificates included in Forms S.462, Part I, and S.462, Part II, of the remains shown on charge are to be signed by the officer who makes the survey in addition to the Commanding Officer.

The remains shown on charge in these accounts are to be transferred to the "top-line" of the new accounts which are opened on the day of sailing from Malta inclusive, as on charge to the Accountant Officer (S) of the Home Port Depôt at which the ships pay off.

The Accountant Officer (S), "Egmont II," will transfer the remains shown on the accounts on the day prior to sailing from Malta by supply and receipt notes to the Accountant Officers (S) of the depôts.

7. *Soap, Tobacco, and Cap Ribbons*.—A sufficient number of cap ribbons for recommissioning should be supplied to each Destroyer by "Egmont II" before leaving Malta.

Cash for issues of soap, tobacco, and cap ribbons, between dates of transfer to Home Depôt and Paying Off, is to be forwarded to Accountant Officer (S) of the Depôt concerned together with detailed statement of these issues.

8. *Mess Traps*.—The Officers' Mess Traps Accounts, S.1248, are to be forwarded by the Accountant Officer (S), "Egmont II," to the Commanding Officers of the ships to which they belong before the flotilla leaves Malta.

The mess traps are to be mustered on paying off and on recommissioning as laid down in paragraphs 8, 9 and 10 of the instructions in Form S.1248, a new account being opened on recommissioning and the old commission account being forwarded to the Director of Victualling, signed by both outgoing and incoming officers, through the Accountant Officer (S) of the Home Depôt.

9. *Service Certificates and History Sheets*.—Seven days before leaving Malta, original history sheets and conduct sheets and copies of Service Certificates are to be completed by destroyers and forwarded to "Egmont II," where they will be assembled with the original Service Certificates and despatched to each destroyer before sailing. On arrival at the home ports they are to be sent into depôt.

10. *O.U. Books and Books of Reference*.—"O.U." Books and Books of Reference are to be dealt with as laid down in the instructions printed on Forms O.U.2A and S.123.

11. *Medical History Sheets*.—Medical History Sheets are to be transferred finally to the Medical Officer, R.N. Barracks, by the Flotilla Medical Officer within a week of arrival in England, and irrespective of the date of paying off.

The Medical History Sheets are to be returned to the Flotilla Medical Officer before ships leave England. At two of the Home Ports the Medical History Sheets should be sent on board the ship of the Senior Destroyer Officer for transfer to the Flotilla Medical Officer when next in company.

*Note.*—The Flotilla Medical Officer should inform the Medical Officer, R.N. Barracks, up to what date he has rendered S.159 to Rear Admiral (D), so that destroyer ratings may subsequently be included in the Depôts' returns until ships leave England again when the reverse procedure should be followed.

12. With reference to paragraph 2 above, if the date of transfer of accounts is other than the date of sailing from Malta, all dates in subsequent paragraphs are to be adjusted as necessary, viz:—

*For* date of sailing from Malta  
*read* date ordered by Rear Admiral (D),  
 and *for* day prior to sailing from Malta  
*read* day prior to date ordered by Rear Admiral (D).

### 3240.—Wreaths—Presentation—REPORTS.

(C. (II) 8776/26, C. (II) 4211/27.—26.11.1926.)

The prior sanction of the Admiralty is to be obtained for the presentation of wreaths on the occasion of funerals, etc., when such a tribute from the Naval Service is considered to be desirable. At places abroad when time does not permit of such approval being obtained, or the cost of a cable would render the expense of application unjustifiable in comparison with the cost of the wreath, the approval of the Commander-in-Chief, or Senior Naval Officer, is to be obtained, and a report indicating the circumstances attending the presentation and the cost involved should be furnished to the Admiralty immediately after the purchase.

2. It is notified that as a general rule the cost of placing wreaths on local war memorials and cenotaphs on the anniversary of Armistice Day will not be allowed as a public charge.

3. Proposals to lay wreaths on such occasions should therefore not be put forward or approved by the Commander-in-Chief or Senior Naval Officer unless the circumstances are of special significance.

(A.F.O. 1641/27.)

### 3243.—Signal Specialist Course—Syllabus.

(C.W. 9875.—26.11.1926.)

The following is the syllabus for the Greenwich Course for officers qualifying as Lieutenants (S):—

#### DURATION OF COURSE—ONE TERM.

The subjects of study, the number of periods per week devoted to each subject, and the marks at the final examination are as follows:—

<i>Subject.</i>	<i>Periods per week.</i>	<i>Marks.</i>
Mathematics ... ..	10 ...	400
Applied Mechanics ... ..	4 ...	150
Physics and Applied Electricity ... ..	11 ...	450
Total for Greenwich course ... ..	...	1,000

#### MATHEMATICS.

Ten periods per week.

*Algebra.*—Fundamental laws. Identities and *equations*. Indices and logarithms. Series, finite and infinite. Binomial theorem. General case. *Exponential, Hyperbolic and Logarithmic* series.

Operator  $j = \sqrt{-1}$ . Graphs.

*Trigonometry*.—Fundamental formulæ. *Various trigonometrical functions*. Definition of terms used in wave theory. *Composition of S.H. waves of same and different frequencies*. *Beats*. Resolution of complex wave forms into sum of S.H. waves. Calculation of co-efficients of Fourier's series.

*Analytical Geometry*.—Straight line and circle. The conic sections referred to principal axes. The general conic.

*Calculus*.—Theory of a limit. Rate of change of the more important functions to be obtained from fundamental principles. Approximation by graphical methods. Rules for differentiation. Successive differentiation. *Maxima and minima*. Expansions. Integration. Standard forms. Definite integrals. Areas, volumes, etc. Differential equations of the first and second order with constant co-efficients. *The meaning of a differential equation*.

*Note*.—Examples to be drawn mainly from W/T theory. Items in italics also to be treated graphically.

### APPLIED MECHANICS.

Four periods per week.

(1) Brief revision of fundamental dynamics, with application of Stroud system of units.

(2) *Harmonic Motion*.—(a) Mechanical examples ; (b) Algebraic treatment ; (c) Use of Phase diagram.

(3) Stable and unstable equilibrium. Natural vibration of stable systems.

(4) Forced vibration of different elastic systems free from friction.

(5) Natural and forced vibration of elastic systems with viscous damping.

### PHYSICS.

Two periods per week.

(1) *Descriptive treatment of atomic and electron theories of matter*.

(2) *Wave Motion*.—Transmission of energy by waves ; wavelength frequency and velocity of waves in various mediæ. Electro-magnetic waves.

### APPLIED ELECTRICITY.

Nine periods per week.

(1) *Magnetism*.—Brief revision of laws and units. Electro-magnetism. Magnetic flux. Permeability and hysteresis. Magneto-motive force. Reluctance. Equation for the magnetic circuit.

(2) *Direct Current*.—Revision of general principles. Testing and measuring instruments (theory). Dynamos and motors—principle of action ; torque ; back E.M.F. ; characteristics and use of various types ; voltage and speed regulation.

(3) *Alternating Current (single phase)*.

*Elementary Theory*.—Simple harmonic motion ; alternating and rotating vectors ; sine waves ; amplitude, frequency, arithmetic mean, R.M.S. value and form factor ; addition and multiplication of alternating quantities.

*A.C. Circuit*.—Inductance and capacity, definitions and units. Steady conditions in series and parallel circuits containing resistance, inductance, and capacity. Resonance conditions of impedance and reactance.

*Transformers*.—Elementary theory. Efficiency.

*A.C. Measuring Instruments*.—Hot-wire and moving-iron instruments (theory).

*Alternators*.—Simple theory. Voltage and speed regulation.

*Note*.—Syllabus to include laboratory work on electrical measurements and testing, and D.C. and A.C. machines if time permits.

**3259.—36 in. Searchlight Control—Gongs and Indicating Lamps.***Battleships, Battle Cruisers, Cruisers and Aircraft Carriers.*

(G. 15103/26.—26.11.1926.)

Instructions were issued to fit an indicating lamp at the searchlight control position, to indicate to the Control Officer that the lamp is burning correctly behind the iris shutter.

2. In ships undergoing large repairs or extensive rewiring, this pilot lamp is to be connected to the lamp side of the searchlight D.P. switch in the manipulating position, a suitable lamp and fitting being arranged for at the control position.

This lamp will thus burn (a) brightly at approximately 100 to 110 volts when the circuit is made but the lamp not burning, and (b) dimly, at approximately 70 volts when the searchlight is burning.

3. Ships with the original lamp and gong expose beam circuits (where the work is not already carried out) are to modify the lamp circuit so that the lamp is fitted at the control position and a switch at the searchlight; this arrangement will permit of a signal being made at the control position by the burner closing the switch when the arc is struck.

4. The gong circuit is to be retained as originally fitted for transmitting the signals to open or close the iris shutter.

5. The circuit, referred to in paragraph 3, will not be required when rewiring is carried out, and the arrangement in 2 fitted in lieu.

6. Electrical control of the iris shutter from the bridge will be fitted in new construction, and in such ships expose beam signals will not be fitted.

7. The work involved in modifying the circuits, as in paragraph 3, is to be carried out by ships' staffs.

**3290.—Issued Confidentially.****3291.—Gun Mountings—4·7 in. P.V. and P.X. Spare Sights, Spare Parts and Tools—REPORTS.***All Dockyards and Parkhead.*

(G. 16002/26.—26.11.1926.)

Most of the spare sights, spare parts and tools for the 4·7 in. P.V. and P.X. mountings, which are being retained for Naval Control Service, are at present distributed between Chatham and Devonport Yards and Parkhead.

Arrangements are to be made for these parts to be assembled in their respective boxes, and stowed at Parkhead for the present.

The quantities required to be stowed in boxes are as follows:—

- 24 Spare sights of each type.
- 24 Spare part sets of each type.
- 341 Sets of 4·7 in. P.V. tools.
- 179 Sets of 4·7 in. P.X. tools.

*Chatham and Devonport.*—Arrangements are to be made to complete the above requirements, as far as possible, from stocks of boxes and gear available.

*Sights.*—There are more stowed in boxes than are required to meet the above, but as many of the component sights as can be left in existing boxes should be allowed to remain.

*Tools.*—All tools, including tools from sight boxes, should be stowed in the tool boxes.

The Yard Officers should communicate with each other direct to ensure that the same policy is pursued, and when an agreement has been reached the result should be referred to the Admiralty for confirmation.

On receipt of confirmation the completed sets, except component sights for mountings at the respective Yards, are to be despatched to Parkhead, together with all parts remaining.

*Parkhead.*—Arrangements are to be made to complete as many more sets as possible up to the numbers stated above, and to report results and deficiencies which will need to be made up.

The proposed marking for the boxes of spare sights, parts and tools should be submitted.

*Chatham, Devonport and Parkhead.*—The whole of the spare sights are to be reconditioned, as necessary, and treated as indicated in Admiralty letter, dated 20.9.26, G.11148/26, the necessary open sights and open sight supports being obtained from Portsmouth, the supports being fitted to the sights.

*All Dockyards except Chatham and Devonport.*—Reports are to be forwarded stating what spare or surplus sights, parts and tools, if any, for the mountings referred to are available in store.

Estimates of the cost involved are to be forwarded by Devonport and Chatham before the work is taken in hand.

### 3328.—Ball Bearings—Procedure to be followed in Purchasing.

(C.P. 20732/26.—3.12.1926.)

The Skefko Ball Bearing Company, Ltd., of Luton, have now given an undertaking that all bearings ordered from them, for Admiralty purposes, will be made in this country from British steel.

2. In future, when tenders are invited for ball or roller bearings, the name of The Skefko Manufacturing Co., Ltd., is to be added to the list of firms.

3. All future invitations to tender for these items are to contain the following clause:—

“ The articles are to be manufactured in this country from British materials, including steel produced in the United Kingdom. Please confirm that this condition will be observed.”

A similar condition should be included in any orders placed.

4. It should be noted that in cases where ball bearings of any make are called for on Admiralty or Dockyard drawings, the following firms should be invited to tender:—

The Auto Machinery Co., Ltd., Hood Street, Coventry.

\*The Hoffmann Manufacturing Co., Ltd., Chelmsford.

\*Ransome & Marles Bearing Co., Ltd., Stanley Works, Newark-on-Trent.

\*Rudge Whitworth, Ltd., Bearing Works, Reddings Lane, Sparkhills, Birmingham.

The Skefko Manufacturing Co., Ltd., Luton.

The three firms above marked \* are prepared to supply ball bearings to replace those of the Skefko Company's manufacture in certain sizes.

5. In view of the interchangeability of many sizes of ball and roller bearings made by different firms on the Admiralty List, specifications and drawings should, wherever possible, avoid specifying a particular make of ball or roller bearing.

6. The type of bearing should be described in such manner that bearings of the correct size and type made by such firms on the Admiralty List will be acceptable as regards design.

7. In cases of replacements being required, the designation of the fitted bearing should be given but all makers should be informed, when invited to tender, that such designation is for guidance only as regards dimensions and design of the bearing required.

8. The above instructions may be summarised as follows:—

- (i) In all normal cases, where a certain make of bearing is mentioned in drawings and specifications, the words "or equivalent" shall be added.
- (ii) In the comparatively rare cases where only one particular make and type of bearing can be accepted, that fact is to be stated definitely in the specification and drawing.

(A.F.O. 2089/27.)

### 3362.—Naval Stores—Direct Purchase for New Zealand.

(N.S. 13464/26.—3.12.1926.)

All supply vouchers relating to Naval Stores *purchased on direct charge to New Zealand* are to bear a special note to that effect.

2. Demands for any particular stores from New Zealand Government which would normally be met partly by supply from stock, the balance being purchased on direct charge, should in future be complied with wholly by purchase on direct charge to the New Zealand Government.

### 3364.—Fleet Air Arm—Adjustment of Aircraft Compasses.

(M. 3028/26.—10.12.1926.)

The compass of an aircraft will be adjusted on the following occasions:—

- (a) On acceptance of the aircraft by the Royal Air Force.
- (b) On change of position or replacement of any magnetic material in the vicinity of the compass (e.g., change of the engine, or of armament, or steel or iron fittings).
- (c) When the aircraft leaves the hands of an aircraft or engine repair section or dépôt.
- (d) On replacement of the compass in the aircraft by another. A compass must never be fitted in an aircraft in any position other than the approved one without the authority of the Director of Technical Development, Air Ministry. Also the type of compass must not be changed from the approved one without the authority of the Director of Technical Development.
- (e) After the aircraft has been standing heading in any one direction for four weeks.
- (f) On the occasions referred to in paragraph 5 below.
- (g) After a considerable change in magnetic latitude.
- (h) At any time when the accuracy of the deviation table is in doubt.

In addition to the special occasions referred to at (a) to (h) above, the deviations of the compass of an aircraft will be checked, and, if necessary, adjusted periodically as a matter of routine, once every four weeks if possible, but on no account less frequently than once every eight weeks, except in the case of aircraft on board Aircraft Carriers or other H.M. Ships.

The compasses in aircraft embarked in Aircraft Carriers or other H.M. Ships will be adjusted on the occasions referred to at (a) to (h) above, and, in addition, they will be checked and, if necessary, adjusted as soon as opportunity offers after the aircraft is received on board from the Base, and subsequently as necessary, to ensure that they are maintained in adjustment.

2. The flight commander will be responsible to the Commanding Officer that the compasses in aircraft, of which he is in charge, are adjusted on the occasions specified in paragraph 1 above by the air pilotage officer, or, if an officer so qualified is not available, by an officer who is considered by the Commanding Officer to be competent to carry out this work.

3. When an aircraft has been swung for the adjustment of its compass the errors remaining after correction will be recorded on a card (Form 316) which will be placed in a conspicuous position on the instrument board of the aircraft. A check of the errors recorded will be made by a test flight.

4. The box holding the compensating magnets will be securely closed.

5. When an aeroplane is detailed for a flight as specified in (a), (b), (c) or (d) below and immediately before the flight, the compass will be examined and the deviations as recorded in the deviation table checked. Should any errors exist, the compass will be adjusted and the new deviations recorded as directed in paragraph 3 above.

(a) Landplane (other than ship planes embarked in Aircraft Carriers or other H.M. Ships).

- (i) a flight involving a sea crossing of twenty miles or more.
- (ii) a long cross-country flight at the discretion of the Flight Commander.

(b) Seaplane (other than seaplanes embarked in Aircraft Carriers or other H.M. Ships).

- (i) an oversea flight of 100 miles or more;
- (ii) a flight which does not come under (i) at the discretion of the flight commander.

(c) Amphibian (other than amphibians embarked in Aircraft Carriers or other H.M. Ships).

- (i) a flight as in (a) (ii), or (b) (i);
- (ii) a flight which does not come under (i) at the discretion of the flight commander.

(d) Aeroplanes embarked in Aircraft Carriers or other H.M. Ships; any flight at the discretion of the Commanding Officer of the carrier or ship.

6. At the commencement of the flight as specified in paragraph 5 above, and before leaving the vicinity of the place of departure, the aeroplane will be given a thorough flying test and the pilot will satisfy himself as to the efficiency of the compass.

7. At every flying unit a compass log book (Form 343) will be kept in which will be entered details of all compass adjustments carried out at the unit, including adjustments to the bomb-sight compass. The officer making the adjustment will be responsible that the information required by the form is correctly entered. Compass log books will be inspected and initialled monthly by the Commanding Officer, and will be produced as required for the inspection of the air or other officer commanding or other inspecting officer.

(A.F.O. 875/26.)

### 3382.—W/T—Type 71 Set—Fitting of Warning Notice to Transmitters 7H and 7HX.

(S.D./G. 18012/26.—10.12.1926.)

A case occurred recently in which one of the safety switches fitted to the doors of a Transmitter 7H failed to open when the door was opened.

2. This involves the risk of severe electric shock, and all ships with Transmitters 7H or 7HX are to examine whatever type of safety switch is fitted, to ensure that all such switches operate correctly when the transmitter doors are opened.

3. These switches are to be inspected on each occasion of opening the doors of the transmitter, and the instruments inside are not to be approached until these switches are seen to be open.

4. Future Transmitters 7H will have a plate, engraved as shown below, fixed to the front of each door, and ships already fitted with Type 71 W/T sets are to make and fit similar labels.

**DANGER.**

CARE TO BE TAKEN THAT BOTH SAFETY SWITCHES BREAK CONTACT WHEN DOOR IS OPENED.



### 3392.—Sub-Committee of the Technical Co-ordinating Committee dealing with Packing Materials—Copy of Reports.

(N.S. 5732/26.—10.12.1926.)

The following copy of the reports of the Sub-Committee of the Technical Co-ordinating Committee, dealing with packing materials, is published for information and for adoption as far as practicable of the methods proposed.

Attention is drawn to Note (b) in regard to the use of special packing paper in lieu of Double Imperial Cap, Glazed.

The specification for hessian will be published shortly.

#### *Technical Co-ordinating Committee on Textiles and Clothing—Report of Panel of Sub-Committee on Packing Materials.*

We have carefully discussed the question concerning packing materials referred to by the Sub-Committee and have come to the following conclusions :—

2. We consider that the standardisation of certain descriptions of the following materials is justified, viz. :—

Hessian.  
Paper.  
Baling Twine.

3. We have visited representative depôts of the Admiralty, Army and Air Force Services, and find that, whilst the methods of packing in the Army and Air Force Services are identical, the Admiralty requirements are so diverse and the pressures and sizes of bales so different, a standardised method of folding and laying out of garments or materials cannot be recommended.

4. Regarding the quality of hessian, we are of opinion that ultimate economy is not necessarily with the cheaper, any more than it is with the better quality material. Which to use depends solely upon the conditions. Provided the proportion of hessian returned is high compared with the amount issued, and provided that efficient departmental arrangements are made for the re-use of the returned material, the use of a good quality fabric is justifiable.

5. When, however, the amount returned is small, economy obviously lies in using as cheap a wrapper as will safely keep the contents in sound condition during storage and carry goods satisfactorily to their destination.

6. We consider that the qualities of hessian already in use fulfil general requirements and we recommend that the following be standardised :—

- (1) To W.O., Patt. A.1905 ... For valuable stores and stores which are subjected to strong compression in packing.
- (2) To Admiralty (Victg.), Patt.22 For stores that are not subjected to strong compression in packing.
- (3) To Admiralty (N.S.), Patt. 26 For bagging and packing generally where strength and outer protection are not so essential.

7. Although we are not prepared to recommend a standardised method of packing, we consider that considerable economy in hessian can be effected by the judicious use of correct widths, whereby additional strength is gained because of the selvedge.

8. We have also noticed that, in the Army and Air Force Depôts, bales consigned to stations abroad are packed in double hessian. In the case of temperate, and possible sub-tropical stations, such as Gibraltar or Malta, and even the West Indies, we consider that a trial might well be made of the use of one layer of hessian (with the usual under wrappings of paper) for these issues. Should this prove a success it might be extended further and would result in appreciable economy in material.

9. Regarding paper, it is considered that the packing papers already standardised by the Sub-Committee will meet all purposes.

10. In bales of other than white articles for Home Establishments, it is recommended that a lining of brown paper (Double Imperial Cap, No. 187) should only be used. For bales of white articles, Double Imperial Cap, Glazed, should be used in lieu of brown.

11. In the case of issues abroad, we recommend a lining of Kraft Union paper should be used in conjunction with the Double Imperial Brown, or Glazed, as the case may be.

12. Regarding baling twine, we find there are two descriptions being used, both made of good long hemp, but one finished in the strand and the other not. We recommend, at any rate, the use of the former in all bales under heavy compression, and suggest it might be worth enquiry whether the adoption of the better quality generally might not prove advantageous in the long run.

*Technical Co-ordinating Committee on Textiles and Clothing, No. 2 Sub-Committee—  
Packing Materials.*

*Final Report.*

*Terms of Reference.*

To consider the standardisation of textiles and other fabrics used in packing. Eleven meetings have been held.

The Sub-Committee commenced with the consideration of making up bales in general, and came to the decision that before they could make any progress it would be necessary to go into the method of packing bales, as carried out by the three Services. Before undertaking detailed examination on this point, the Sub-Committee examined the papers used as a lining to textile material employed for packing, and found that there were different kinds of paper used singly or doubly for this purpose. They excluded from their consideration any papers used for special purposes, such as packing ammunition, etc.

The Sub-Committee, therefore, consider it is necessary to standardise the papers used. After much discussion they selected the papers shown below, and would recommend that these be standardised throughout the Services for ordinary packing purposes. This will eliminate a number of papers now in use and will lead to economy.

Service depôts, at which packing is carried out on a large scale, were visited. Tests also were carried out with bales packed in various ways and under various pressures, and as a result the Sub-Committee submit the following recommendations :

*Hessian.*

That three qualities of hessian should be standardised to meet all ordinary requirements of the Services. The qualities recommended, and the general purposes to which they should be applied, are as under :—

*No. 1 Quality.*

War Office, Patt. 1905 ...	... }	For stores which are subjected to strong compression in packing.
Air Ministry, Patt. 3023...	... }	

*No. 2 Quality.*

Admiralty, Patt. 22 ...	...	For stores which are not subjected to strong compression in packing.
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*No. 3 Quality.*

Admiralty, Patt. 26 ...	... }	For bagging and packing generally where strength and outer protection are not so essential.
Air Ministry, Patt. 2396 ...	... }	

The Sub-Committee are, however, of opinion that ultimate economy is not necessarily with the cheaper, any more than it is with the better quality material. The quality to be used depends solely on the conditions.

The Sub-Committee have also noticed that in the Army and Air Force Depôts, bales consigned to stations abroad are packed in double hessian. Since a single layer of hessian has been successfully used for many years by the Admiralty and India Office, the Sub-Committee recommend that trials should be made by the Army and Air Force of the use of one layer of hessian (with the usual inner linings of paper) for these issues.

It has been suggested by the Association of Jute Spinners and Manufacturers that the purchase of hessian under 32 in. in width is not economical. As the Sub-Committee are not in a position to verify this statement, they suggest that the matter be referred to the Contracts Department.

In this connection it is to be borne in mind that double widths would have to be out longitudinally (*i.e.*, 52 in. for 26 in.) and the halved material has a raw edge.

#### *Packing and Baling Twine.*

##### 1. *Packing Twine.*

The Sub-Committee recommend that for *large* packing twine a type similar to sample No. 3108 (Army) is suitable.

For *middling* packing twine a type similar to sample No. 47 (Navy) is recommended.

For small packing twine, either Patt. 3103 (Army) or Patt. 51A (Navy) is considered suitable for tying up small parcels generally, and the Sub-Committee suggest that a type similar to these be agreed upon.

##### 2. *Baling Twine.*

Two twines are at present in use in the Services, *viz.* :—

Army, Patt. 3114.

Navy, Patt. 47.

It is recommended that for bales under strong compression a type similar to Army, Patt. 3114 be used.

For other packages the type of twine recommended for middling packing (*i.e.*, Navy, Patt. 47) appears suitable.

Whether one baling twine only could be adopted for general purposes instead of two (Patts. 47 and 3114) appears to turn upon the question of price, supply and strength.

Any pattern of twine adopted for baling purposes should be of left hand twist (reverse laid).

A copy of the above recommendations regarding twine, together with the necessary samples, has been forwarded to the Cordage Sub-Committee for consideration.

#### *Packing Paper.*

Although the Sub-Committee consider that a certain latitude may be allowed in selecting from the following list the most suitable paper for a particular wrapping purpose, they consider that the recommendations made below as to the particular uses of the papers will meet general requirements.

The Sub-Committee recommend that requisitions for papers, other than those listed, should be accompanied by an explanation of the necessity.

#### *List of Papers Recommended for General Packing Purposes.*

<i>Description.</i>	<i>Size.</i> <i>Inches.</i>	<i>Weight per</i> <i>Ream of</i> <i>500 Sheets.</i> <i>Lbs.</i>
1. Imperial Cap 107, g.s.m. ... ..	29 × 22½	50
2. Double Imperial Cap 107, g.s.m. ... ..	45 × 29	100
3. Imperial Cap 187, g.s.m. ... ..	29 × 22½	87
4. Double Imperial Cap 187, g.s.m. ... ..	45 × 29	174
5. Lumberhand 47, g.s.m. ... ..	22½ × 19	14½
(a) 6. Double Small Hand 47, g.s.m. ... ..	30 × 19	19
7. Whitey Brown 42, g.s.m. ... ..	44½ × 29½	39
(b) 8. Double Imperial Cap, Glazed, 142, g.s.m. ... ..	45 × 29	132
9. Kraft Union ... ..	As required.	

Of the above papers, Nos. 1 and 2 are considered suitable for light parcels for use as linings in packing cases and in conjunction with Hessian, No. 3 quality, if required.

Nos. 3 and 4 are suitable for heavy parcels and for use in conjunction with Hessian, Nos. 1 and 2 qualities.

For white bleached articles requiring special protection or for despatch abroad, Paper No. 8 is considered suitable without the addition of Nos. 1, 2, 3 or 4.

In the case of packing for despatch abroad, a further protective outer lining of Kraft Union paper (No. 9 on list) is recommended.

It is recommended that Kraft Union should be used for all purposes where a waterproof paper is required.

The standard papers and necessary specifications are held by the Stationery Office.

Should any Service require sizes in any large quantity outside those mentioned, enquiries should be made as to whether the Stationery Office can supply it economically.

Any Service is at liberty to use a less expensive material if considered more suitable to their requirements.

*Notes.*

(a) Can also be supplied in larger size, 30 in. × 38 in.

(b) This is an expensive paper and should be used only for special purposes where necessary. Special packing paper, 44 in. × 44 in., at half the cost will generally be found quite satisfactory.

### **3397.—Aluminium Fittings—Cleaning.**

(N.S. 14069/26.—10.12.1926.)

All aluminium fittings in H.M. Ships, etc., should be cleaned by using hot water and pure soap if necessary followed by polishing with whiting.

In no case is soda to be used for cleaning aluminium fittings.

### **3399.—Handhole Fittings for Babcock and Wilcox Boilers.**

(N.S. 13277/26.—10.12.1926.)

It has been decided that Pattern 55 Bridges for handhole fittings for Babcock & Wilcox Boilers can be used where no deformation of header or crushing of bearing surface under the feet of the bridges has taken place.

2. This pattern bridge should be demanded and issued in all cases where possible, until the present stocks are exhausted, and before the general substitution of the new Pattern 60A Bridge is made.

3. The probable shorter life of Pattern 55 Bridge should be borne in mind when demanding, and should be accepted.

### **3409.—Tracing Cloth.**

(Sta. 7426/26.—10.12.1926.)

Attention has recently been drawn to the increasing demand for tracing cloth by the Naval Service.

2. The cost of tracing cloth is approximately ten times that of tracing paper. Tracing requirements of H.M. Ships and Shore Establishments are, therefore, to be met by the use of tracing paper as far as possible, the use of tracing cloth being restricted to tracings of a special or permanent nature.

3. Tracing cloth will only be supplied to H.M. Ships in very special circumstances, and demands are invariably to be accompanied by a statement of the reasons why paper is unsuitable.

### **3449. Issued Confidentially.**

### 3453.—Aluminium and Aluminium Alloy Fittings in Ships Building—REPORTS.

(S. 05021/26.—17.12.1926.)

In order that careful observation may be made of the behaviour of aluminium and aluminium alloys on service, a detailed record is to be kept by the dockyard officers or the respective overseers and District Electrical Engineers, of all fittings, etc., for which these materials are entirely or partially used in each of H.M. Ships under construction. The record is to show the compartment, or otherwise indicate the position in which such items have been fitted. The name of the alloy, the manufacturers from whom obtained, and the weight of each item are also to be stated. The composition of the alloys used for all fittings is to be ascertained and included in the record in every instance in which the alloys used are not proprietary alloys such as "Alpax," "Wilmil," etc. Where a number of similar articles are fitted, the number and total weight of each type are to be stated. Where possible, the weight of alloy components in complete fittings is to be obtained before assembly.

2. There is no precise form in which the record is to be made, but the information given is to be sufficiently complete to enable ships' officers readily to identify the various fittings, so that reports may be made as to the behaviour of the materials under service conditions.

The reports referred to are to be rendered by the ships' officers as follows:—

The first in 6 months from the date of commissioning, and the second and subsequent reports at intervals of 6 months from the date of the first.

In the event of the material behaving in such manner as to affect the continued efficiency of the fittings earlier, an interim report should be forwarded.

3. The returns are to be rendered in duplicate, one copy for Admiralty records and one copy for supply to the ship concerned, and are to be forwarded to the Admiralty on the completion of the ship.

### 3474.—Telegrams—Revised Procedure for indicating Relative Priority.

(M. 01836/26.—17.12.1926.)

The following modified arrangements in connection with the marking, in accordance with their relative priority, of telegrams (a) Foreign, and (b) Inland, will come into operation on and from 15th January, 1927:—

#### (a) FOREIGN.

(i) *British Cables*.—British cable companies recognise three degrees of priority above the normal. The classification of telegrams transmitted over British cables and the appropriate markings to indicate the relative degrees of priority will be as follows:—

#### *Category 1.*

For messages of vital importance and for use in times of strained relations or on the outbreak of war—

(1) The words "State Chez" to be inserted in the "To" space before the telegraphic address.

(2) The word "Priority" to be inserted in the "Office of Origin and Service Instructions" space.

(3) The words "Emergency—State" to be inserted at the commencement of the message immediately following the "Address—from—" if any.

*Category 2.*

For messages of great urgency which do not fall under Category 1—

(1) The word "Immediate" to be inserted in the "To" space before the telegraphic address.

(2) The word "Priority" to be inserted in the "Office of Origin and Service Instructions" space.

(3) The word "Immediate" to be inserted at the commencement of the message immediately following the "Address—from—" if any.

*Category 3.*

For messages of less urgency which are, however, to be given precedence over ordinary messages—

(1) The word "Important" to be inserted in the "To" space before the telegraphic address.

(2) The word "Priority" to be inserted in the "Office of Origin and Service Instructions" space.

(3) The word "Important" to be inserted at the commencement of the message immediately following the "Address—from—" if any.

*Category 4.*

For ordinary messages not requiring priority above the normal, no special marking is necessary. By International agreement (in force as from 1st November, 1926) every Government message is given priority over private telegrams unless the sender definitely renounces his right to priority in the manner stated in Category 5 below.

*Category 5.*

For messages below the normal degree of priority which can be treated in order of transmission as ordinary private telegrams—

(1) The words "Without Priority" to be inserted in the "Office of Origin and Service Instructions" space.

*Note.*—It is anticipated that few messages will fall within this category, but the procedure indicated could, for example, be very well applied to messages which are sent by cable merely because a letter would take so long in transit as, say, to China.

The words "State Chez," "Immediate" or "Important," inserted in the "To" space are never to be coded. They serve as instructions to the cable company and appear on the delivered copy of a message.

(ii) *Foreign Cables (i.e., cables under foreign administration).*—By International agreement (in force as from 1st November, 1926) every Government message is given priority over private telegrams unless the sender definitely renounces his right to priority in the manner stated in Category 5 above.

It must be understood that the markings of messages for degrees of priority above the normal are effective during transit for traffic over British-owned cables only. On lines controlled by foreign administrations the markings have no effect. The appropriate indications of priority should, however, be included in the "To" space and in the message itself as for messages sent over British cables, as, although these markings will have no effect on transmission, they will appear on both the envelopes and delivered copies of telegrams, and will be a useful guide to the addressees as to the relative priority of the messages.

(b) INLAND (within the British Isles).

*Category 1.*

For messages of vital importance and for use in times of strained relations or on the outbreak of war—

(1) The words "State c/o" to be inserted in the "To" space before the telegraphic address.

(2) The word "Priority" to be inserted in the "Office of Origin and Service Instructions" space.

(3) The words "Emergency—State" to be inserted at the commencement of the message immediately following the "Address—from—" if any.

*Category 2.*

For messages of great urgency which do not fall under Category 1—

(1) The word "Immediate" to be inserted in the "To" space before the telegraphic address.

(2) The word "Priority" to be inserted in the "Office of Origin and Service Instructions" space.

(3) The word "Immediate" to be inserted at the commencement of the message immediately following the "Address—from—" if any.

*Category 3.*

For messages of less urgency which are, however, to be given precedence over ordinary messages—

(1) The word "Important" to be inserted in the "To" space before the telegraphic address.

(2) The word "Priority" to be inserted in the "Office of Origin and Service Instructions" space.

(3) The word "Important" to be inserted at the commencement of the message immediately following the "Address—from—" if any.

*Category 4.*

For ordinary messages not requiring priority no special marking is necessary. *Category 5* is not applicable to Inland messages.

The words "State c/o," "Immediate" or "Important" inserted in the "To" space are never to be coded. They serve as instructions to the postal authorities.

The "Office of Origin and Service Instructions" space appears on official Post Office telegram forms, and the appropriate indication in this space (according to the foregoing instructions) is to be inserted when messages are written on these forms.

When messages are drafted on other forms (as in the Admiralty) the appropriate markings inserted in the "To" space before the address and at the commencement of the message will indicate, for messages in Categories 1, 2 and 3, the necessity for the insertion of "Priority" in the "Office of Origin and Service Instructions" space, and this marking is to be inserted when the messages are transferred to Post Office forms. When messages for places abroad fall within Category 5, however, the fact that they are "without priority" must be indicated on the forms on which they are drafted.

In peace, the words "Emergency—State," "Immediate," or "Important" to be inserted at the commencement of the message, according to the degree of priority, should be in Government Telegraph Code in messages proceeding by cable to places abroad, and in plain language in Inland messages. In time of war special instructions will be in force as to when these words are to be coded and the method to be adopted. These arrangements are included in the "Coding Instructions, 1925." Normally the words should be inserted in plain language, and the necessary action to code them when required is to be taken if and when the messages are put into cypher or confidential code (*e.g.*, in the Admiralty the War Registry will take the necessary action as regards coding these words).

The use of markings which place any message in Category 1 may be authorised in Shore Establishments only by the Senior Naval Officer present.

Officials of Admiralty Departments who are stationed in the United Kingdom away from the Admiralty will not be allowed to use the markings in Category 1.

The use of the markings for telegrams in Category 2 will be restricted in Shore Establishments to the Superintendent. Where it is proposed to use these markings, it must be recognised that important Government telegrams may possibly be delayed in consequence, especially in time of strained relations or of war, when the use of Category 2 for telegrams should be limited as far as possible.

Great care should be exercised that the values of markings indicating degrees of priority, which have been arranged for the general advantage of the Government Services, are not degraded by unnecessary use.

### 3498.—Portable Guard Rails—Substitution by Fixed Rails where circumstances admit.

(D. 20243.—24.12.1926.)

A fatal accident occurred to a signal boy on one of H.M. Ships whilst employed re-lacing weather screens on the guard rails around the flag deck (conning tower platform).

2. When the accident occurred, the boy was standing on the lower (fixed) rail and leaning against the upper (portable) rail. The latter became unshipped causing him to overbalance and fall to the deck below.

3. This upper rail was made portable to permit a clear arc of vision for a searchlight, but as the latter has been removed, the necessity for a portable rail no longer exists.

4. With a view to preventing a recurrence of a similar accident in future:—

(a) The Commanding Officers of ships should arrange to substitute fixed for portable guard rails in all cases where no necessity for the latter exists.

(b) Whenever fittings (such as searchlights), which necessitated the provision of portable guard rails in their vicinity, are removed from ships by the dockyard, the portable guard rails should be replaced by fixed ones.

### 3504.—Cylinder Blocks of A.E.C. Engines—Deposit of Rust, etc.

(N.S.M.T. 878/26.—24.12.1926.)

Examinations of cylinder blocks of A.E.C. engines reveal the fact that considerable quantities of rust, etc., accumulate in the rear portion of the water jacket of the rear cylinder block of the engines, and that this deposit is frequently the cause of overheated engines, cracked jackets, etc.

2. In future, after an A.E.C. lorry has run 2,000 miles, the rear cap of the water jacket of the rear cylinder block of these engines is to be dismantled, the deposit cleared away, and the water jackets flushed through with clean water.

3. The flushing should be done by placing the end of a hose in the filler orifice of the radiator, the deposit meanwhile being raked out with a piece of stiff wire.

4. After a complete engine overhaul it is desirable that this operation should be carried out after the first 100 miles running.

### 3546.—New Main Batteries—REPORTS.

*Submarines.*

(D. 18594/26.—31.12.1926.)

In order that the question of liability for any undue deterioration which may occur in new main batteries of Submarines may be raised with the firms who supplied the batteries before the expiration of the twelve months' guarantee period, a report respecting the condition of the battery is to be forwarded to the Director of Contracts, Admiralty, within the appropriate



period stated for the respective condition of contract under which the particular battery was supplied, viz. :—

- (a) Battery delivered in a charged condition and installed in the Submarine within thirty days from the date on which delivery was completed—

Report to be forwarded to reach the Admiralty within *eleven* months from the date on which delivery was completed.

- (b) Battery delivered in a charged condition and maintained in this condition by firm at a Dockyard for a period exceeding thirty days from the date on which delivery was completed—

Report to be forwarded to reach the Admiralty within *twelve* months from the date on which delivery was completed.

- (c) Battery delivered in an un-charged condition and subsequently assembled and charged at a Dockyard either by firm or by the Dockyard—

Report to be forwarded to reach the Admiralty within *eleven* months from the date on which delivery was completed.

2. In the case of Submarines on the China Station the report is to be forwarded by wire.

3. The condition (a), (b) or (c) above is to be communicated to the Ship's Officers by the Dockyard Officers immediately after the battery has been installed and the appropriate condition entered in the Battery Record Book by the Ship's Officers.

4. Unless a new battery gives distinct indications of abnormal behaviour prejudicial to its length of life (in which case a few cells in each section should be lifted for visual examination), lifting need not be resorted to and the certificate to be forwarded should be based on the behaviour of the battery as indicated in the battery records.

The certificate should be in the following form :—

Has the behaviour of the battery, as indicated by the battery records, been entirely satisfactory? . . .

If not, state the abnormal indications and also the result of visual examination of typical cells. . . .

### **3548.—Refits of Submarines—Batteries—REPORTS.**

*Submarine Depôt Ships, Submarines and Dockyards.*

(D. 18594/26.—31.12.1926.)

In order to avoid delay in dealing with Submarine batteries when these vessels are taken in hand for refit, the following procedure should be carried out by the Depôt Ships or Submarines concerned :—

- (a) One month before the vessel is due for refit a sample of acid should be taken from one cell of each section of the battery and forwarded to the Admiralty Chemist, H.M. Dockyard, Portsmouth, for analysis; information also being given of the date when the vessel is to be taken in hand, and the port at which she will refit. In the case of Submarines on the China Station the sample should be sent to the Superintending Electrical Engineer at Hong Kong.

In the case of Submarines on the Mediterranean Station, the samples of acid should be forwarded to reach the Superintending Electrical Engineer, Malta, not less than six weeks before the vessel is due for refit, in order that transmission of the samples to the Admiralty Chemist, H.M. Dockyard, Portsmouth, for analysis and report, may be arranged for. Results of tests should be communicated to Malta by telegram when time will not permit of reply by letter. Copies of results of tests should be sent to the Admiralty for information.

- (b) At the time of forwarding the defect list to the Dockyard concerned, Ships' Officers should state in Column 2 of the defect list the nature of any defects in the battery, so far as they can be ascertained from the behaviour of the battery, as indicated in the Battery Record Book; it is not sufficient to state that the battery requires examination. If no specific defects can be cited, the reason for requesting examination by Dockyard should invariably be stated.
- (c) Directly circumstances show that a Submarine requires a new battery the fact should be reported to the Admiralty through the usual channels, details of capacity tests, etc., also being supplied.
- (d) Each sample of acid sent to the Admiralty Chemist for test in accordance with the above instructions should measure not less than one quart. The samples should be suitably marked to connect them clearly with a reference, which should be sent at the same time as the samples, and which should state that they are for chemical test under the order in question.

2. In connection with (b) above, it is desired to emphasise the fact that the present high capacity batteries in use give the best results if the plate groups are allowed to remain undisturbed for as long as possible.

3. When it is considered advisable to land a battery for extensive refit or replacement, a detailed inspection of the battery should be made by the Dockyard and Ship's Officers, and a joint report forwarded to the Admiralty as to the condition of the battery, the nature, extent, and probable cause of the defects, and recommendations as regards further service. Where a difference of opinion exists between the Dockyard and Ship's Officers respecting the probable cause of the defects, the report should include the definite opinions held by the officers concerned.

4. The foregoing instructions should be strictly observed by all concerned.

### **3555.—Electric Table Fans of Unauthorised Patterns—Supply of Spare Parts.**

(N.S. 16450/26.—31.12.1926.)

When spare parts are required for the purpose of effecting repairs to table fans of unauthorised patterns, such parts are only to be supplied if available in stock or if they can be economically made in the Dockyard; otherwise the fans are to be placed on sale charge and fans of authorised patterns drawn in lieu.

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## 1927.

**\*8.—National Savings Certificates—System of Supply and Accounting.**

(C. (III) 18125/26.—7.1.1927.)

The following are the detailed instructions relating to the matters more generally referred to in A.F.O. 9/27.

*Terms of Issue.*

(1) National Savings Certificates, unlike Stocks and Shares, do not go up and down in money value. The only change is upwards. The least that is repaid is the original purchase price, viz., 16s. per certificate. Interest is added after twelve months, and at the end of six years the 16s. becomes one pound. At the end of ten years it becomes £1 4s.

(2) The interest on National Savings Certificates is free of Income Tax, and is not required to be included in any Income Tax Return.

(3) It is important that Savings Certificates purchased should be kept in a safe place, and also that a list of the serial numbers should be kept in some place separate from that in which the certificates themselves are stored.

(4) No individual may buy more than 500 certificates in his own name. He may, however, buy up to that limit for each member of his family.

*Supply, Issue, and Accounting at Malta and Gibraltar Dockyards.*

(5) Supplies of certificates are obtainable from—

The Controller,  
Post Office Stores Department,  
Stamp Section,  
Somerset House,  
London, W.C.2.

(6) Requisitions are to be made out in duplicate and, when practicable, on the printed application forms supplied by the Post Office.

(7) Instructions as to issuing certificates are given in the Post Office Rules, Section C (II), Rules Nos. 21-46, copies of which are being issued to the Cashiers at Malta and Gibraltar Dockyards. These rules concern the Cashiers as regards the issue only of certificates. The Postal Order stamp should be used for dating certificates.

(8) Arrangements are being made for Multiple Certificates of the denominations £10, £25, £50 to be of the same size as the present £5 and £100 certificates. The receipt portion in all cases will be affixed to a page of the Certificate Book.

(9) The new form of certificates will be supplied as the existing stocks become exhausted.

(10) The certificates are not to be included in the balance of Public Money, and sums received from the sale of certificates are to be kept separate from other moneys in the hands of the Cashier. When the balance of Public Money is counted the Examining Officer is to verify the Savings Certificates Fund cash balance.

(11) On the first day of each month, or as soon after as practicable, the Cashier is to remit to the General Post Office the amount of the Savings Certificates Fund cash balance up to the last day of the preceding month. On the Remittance List the Cashier should be shown as the remitter, and the remittee will be the Comptroller and Accountant-General (A.G.D. 1318), General Post Office, London, E.C.1.

(12) Returns are to be rendered at the end of each month, or as soon after as practicable, to the Comptroller and Accountant-General, General Post Office, London, E.C.1, in a cover marked "A.G.D. 1318" in the bottom

left-hand corner, showing the sales during the month, and the number and value of the certificates remaining. The Examining Officer is to verify the stock in hand and to countersign the return. If no transactions have taken place during the month a "nil" return should be furnished.

(a) The counterparts and the signature cards in the case of new holdings of ordinary issues of certificates should be enclosed with the returns of sales, etc.

(b) Credit should be claimed in the returns for any certificates spoilt before issue, or in the course of issue, and the spoilt certificates with the relative counterparts should be forwarded with the return of sales, etc.

(13) Supplies of forms for requisitioning National Savings Certificates and supplies of Certificates Book No. 74, and further copies of the Post Office Rules, Section C (II), if required, should be requisitioned from—

The Controller,  
Post Office Stores Department,  
Studd Street Depot,  
Islington,  
London, N.1.

Supplies of forms for rendering returns of sales, etc., should be requisitioned from—

The Comptroller and Accountant-General,  
(A.G.D. 1318),  
General Post Office,  
London, E.C.1.

*Purchase by Remittance.*

(14) Remittances for the purchase of National Savings Certificates should be made through the Accountant Officer, Paymaster or Cashier, and the Admiralty in the same way as remittances to relatives, etc.

(15) The date of the Remittance List in which the payment appears will be taken as the date of purchase in each case. Special care should, therefore, be taken to note the exact date (and not the month only) in the Paymaster's certificate on each Remittance List.

(16) Until further notice, National Savings Certificates purchased under this Order will be retained in the custody of the Postmaster-General unless an application for their disposal otherwise is received from the purchaser.

(17) In the event of the death of the purchaser, the certificates will be sent to his legal representative on application to the Postmaster-General. Steps will be taken in due course to effect a settlement in any such case in which an application has not been received.

(18) All amounts remitted under this Order will be paid over to the General Post Office immediately on receipt of the Remittance Lists at the Admiralty. Any enquiries or communications which may be necessary with regard to the remittance from this point onwards should be addressed to the General Post Office and not to the Admiralty; that is, questions as to the acknowledgment of Remittance Lists should be addressed to—

The Controller,  
Money Order Department,  
General Post Office,  
Manor Gardens,  
Holloway,  
London, N.7,

and enquiries or instructions as to individual investments *made* by *Remittance* or *Allotment* should be addressed likewise. Such correspondence is to be forwarded through the Commanding Officer, and care is to be taken that full particulars of the identity of the officer or man concerned, and of the transaction referred to, are clearly stated.

(19) It is important that correspondence shall be restricted to what is really necessary.

(20) Individual remittances will not be acknowledged otherwise than by the remittance receipt given by the Paymaster, but the Post Office will

forward to the Ship or Establishment in respect of each Remittance List a notification of the receipt for investment of the total amount of the list.

(21) All remittances must be made in amounts of 16s. or a multiple thereof. Purchase cannot be made by the remittance of instalments.

(22) Single certificates can be obtained for £1 (purchase price 16s.) and for £5, £10, £25, £50 and £100 (purchase prices £4, £8, £20, £40, and £80 respectively). Purchasers of such should state on the Remittance Lists that they desire a single certificate to be issued.

*Preparation of Remittance Lists.*

(23) Remittance receipts are to be given and Remittance Lists (S.66) to be signed as usual.

(24) Men's full Christian names and Official Numbers together with Registered Holder's No. (if known) are to be stated on both forms in addition to the particulars ordinarily noted.

(25) It is essential that the remitter's own signature shall appear on the Remittance List; otherwise the remittance will be rejected.

(26) "National Savings Certificates" is to be substituted on the forms for the name and address of a remittee.

(27) In the case of these remittances sums exceeding £10 may be included in the same lists as sums of £10 and under.

(28) Remittances to "National Savings Certificates" are not in any circumstances to appear on the same list as ordinary remittances.

(29) The special Remittance Lists are to be plainly marked on the front "National Savings."

*Purchase by Monthly Allotment.*

(30) Allotment declarations should in all cases be signed by the allotter in duplicate on Form S.63B, whatever the branch of the service to which the officer or rating may belong.

(31) Allotments must be at the rate of 16s. per month or a multiple thereof. Instalments of less than 16s. cannot be accepted.

(32) Permission to declare Allotments for the purchase of National Savings Certificates may be granted to Civilians employed in Naval Establishments abroad. On receipt of the Allotment forms in duplicate at the Admiralty, one copy will be transmitted to the Postmaster-General as his authority for purchase.

(33) An acknowledgment that he is an investor, showing the monthly amount allotted, will be furnished to each allotter by the Postmaster-General as soon as possible after receipt of the first payment.

(34) Purchases will be effected as on the first day of the month following that for which the allotment commences, and monthly thereafter until notice of stoppage on the usual Form S.54B is received. Interest will accrue as from the date of purchase.

(35) Other arrangements in connection with this method of purchase will correspond with those indicated above under the heading "Purchase by Remittance."

*Repayment.*

(36) As a special concession to men serving in the Royal Navy it has been arranged that repayment of Savings Certificates may be made by the Accountant Officer without reference to the Money Order Department, London. Any man desiring repayment should fill in a Form No. 576 and surrender the certificates which he wishes to be repaid. The Accountant Officer must satisfy himself that the certificates are date-stamped as duly issued, and that the applicant is the person named on the certificates (or the cover of the Certificate Book) as the registered holder, and may then pay the value of the certificates, including any interest which has accrued. Tables showing the interest due at date of repayment may be obtained on application to—

The Comptroller and Accountant General,

(A.G.D. 1318),

General Post Office,

London, E.C.1.

A receipt should be taken on the back of the Form No. 576 in the following terms:—

Received the sum of \_\_\_\_\_ being the value, including interest, of the Savings Certificates described on the other side, which are hereby surrendered.

Signature.....

Date.....

(37) This arrangement does not apply to certificates purchased by remittance and held in the custody of the Postmaster-General.

(38) The partial repayment of a certificate in excess of £1 is not permissible.

(39) Cash for the repayment of National Savings Certificates is to be obtained from Naval Public Money and not from cash received for certificates previously sold.

(40) When the value of National Savings Certificates has been repaid the certificates should be securely attached to the relative receipted Forms No. 576, and forwarded as early as possible to the Controller, Money Order Department, G.P.O., Manor Gardens, Holloway, London, N.7., with a covering notation in the following form—

The Controller,  
Money Order Department.

Attached are National Savings Certificates repaid on H.M.S.  
"....." Total amount repaid £ .....

Accountant Officer.

Date.....

(41) The form of notification can be obtained from the Comptroller and Accountant General (A.G.D. 1318), G.P.O., London, E.C.1.

(42) The cash voucher for the money refunded should contain a list of the certificates which have been repaid, showing the full serial numbers of the certificates, the names of the payees, the amount repaid to each person, and the respective dates of repayment.

(A.F.O. 9/27.)

### **\*9.—National Savings Certificates—Revision of Arrangements for Sale and Repayment in H.M. Ships and Establishments.**

(C. (III) 18125/26.—7.1.1927.)

The existing scheme in connection with the sale of National Savings Certificates has been under consideration, and the following arrangements have been approved for adoption in the future:—

2. It is not necessary to maintain stocks of certificates in Depôts and ships either at home or abroad.

3. Stocks were withdrawn from Home Depôts and ships in Home Waters (including the Atlantic Fleet) in 1923, and are now to be withdrawn from Depôts and ships on Foreign Stations.

4. The issue of certificates should cease on the 28th February, 1927, and the present stocks returned to—

The Controller,  
Post Office Stores Department,  
Stamp Section,  
Somerset House,  
London, W.C.2,

with a statement giving the name of the ship and the number and value (purchase price) of each denomination. The value of the returned certificates should be claimed in the monthly return of supplies and sales (Form A.G.D. 66) furnished to the Comptroller and Accountant-General, General Post Office, London, E.C.1, as "Returns to the Post Office Stores Department."

5. Stocks of certificates are to continue to be kept at Malta Yard and Gibraltar Yard.

6. Officers and men serving in ships on the Mediterranean Station may purchase certificates as required, through their respective Accountant Officers, from the Cashier, H.M. Dockyard, Malta, or Gibraltar.

7. Facilities are still to be afforded for the purchase of certificates by allotment or remittance, and for the repayment of certificates in H.M. Ships.

Detailed instructions for the future are contained in A.F.O. 8/27.

(A.F.O. 8/27.)

## 12.—Gun Mountings, 15 in., I and I\*—Flashtight Arrangements in Working Chambers.

“*Queen Elizabeth*,” “*Royal Sovereign*” and “*Renown*” Classes.

(G. 16219/26.—7.1.1927.)

The Commanding Officers of H.M. Ships “*Malaya*,” “*Barham*,” “*Warspite*,” “*Royal Sovereign*,” “*Renown*” and “*Repulse*” are to insert an item in the next list of outstanding alterations and additions to cover the fitting of flashtight arrangements in the working chambers of all turrets.

2. The remaining vessels of these classes are being dealt with separately.

## 13.—Ornamental Gun Tampions.

(S. 5198/26.—7.1.1927.)

When H.M. Ships are being paid off for disposal, care is to be taken that any ornamental or crested gun tampions which may be in the ship are not disposed of without the prior approval of the Admiralty.

## 24.—Empty Cement Sacks—Return.

(N.S. 18173/26.—7.1.1927.)

The sacks in which supplies of cement are delivered by contractors are returnable within 3 months of date of supply, if in good condition, or they are charged at the rate of 1s. 6d. each.

2. When cement or sand is supplied from Dockyards to H.M. ships and services, the empty sacks, if still in good condition, should be returned to the Dockyard as soon as possible after they become empty.

## 36.—Writing Inks.

(Sta. 6405/26.—7.1.1927.)

The following particulars of the various writing inks supplied by H.M. Stationery Office are promulgated for information.

The inks supplied for ordinary writing purposes are as follows:—

- Blue black record ink.
- Blue black general service ink.
- Blue black ink powders.
- Coloured inks and ink powders.

Of the above, blue black record ink and blue black and coloured ink powders only are supplied to H.M. Ships and Naval Establishments.

*Blue Black Record Ink* gives permanent results and is to be used for records of a permanent nature.

*Blue Black General Service Ink* is suitable for use when absolute permanence is not essential. This ink is to be used for work which manifestly will not become records. Writing produced with this ink will last a period of 10-20 years, according to the degree of exposure.

*Blue Black Ink Powders* are supplied to Services where the risk of breakage of the bottles, while in transit, and the cost of packing and carriage of fluid ink would be considerable; this applies to H.M. Ships and Naval Establishments generally. The ink prepared from blue black ink powders gives results similar to the general service ink.

*Coloured Inks and Ink Powders* (including red) are, generally speaking, fugitive and are on no account to be used for work which is not of a purely temporary nature.

*All notations on Service Certificates and History Sheets* should be made with blue black record ink, red or other coloured inks are not to be used for the purpose in any circumstances.

## 67.—Gun Mountings—Quarterly and Half-yearly Returns of Mountings in Store.

(G. 18899/26.—7.1.1927.)

In future quarterly and half-yearly returns of gun mountings in store, the elevation of which each type of mounting and sight is capable should be inserted, observing that certain mountings were originally manufactured with sights which have different elevation to the mounting.

The return should indicate whether the mountings are supplied with shields or not.

It should also be stated if mountings have been reconditioned since last issued on service.

## 68.—Copper for Electrical Purposes—Conductivity.

(N.S./D.18469/26.—7.1.1927.)

A case has recently occurred where copper, which was issued from store for the manufacture of electrical switchgear, was found to possess an electrical conductivity of less than 50 per cent. of that of pure copper.

2. In view of the serious temperature rise which might be caused by the use of copper of low conductivity, care should be exercised by yard officers and district electrical engineers, to ensure that the copper to be used for electrical purposes is of high conductivity, in accordance with Clause 57 of the Standard Specification for Quality of Materials, etc., for Electrical Gear.

3. Overseers responsible for the inspection at the Maker's works of copper which is purchased to Admiralty Contract Schedule No. 7 should take steps to verify that copper supplied for electrical purposes complies with the specified requirements as to conductivity as laid down in the Schedule Specification.

4. Only those plates and sheets in Schedule 7, and pages 175 and 176 of the Rate Book for Naval Stores, 1926, which are stated to be for "electrical purposes" are subject to the specification requiring a high electrical conductivity, and plates and sheets of other dimensions when required for electrical purposes should be demanded on the Admiralty for special purchase.

## 74.—*Issued Confidentially.*

## 82.—Service Certificates—Inspection.

(N.P. (II) 3282.—14.1.1927.)

In connection with notations on Service Certificates of payment of Prize Money and/or War Gratuity no action need be taken to rectify omissions (i) of the date of payment; (ii) of the amount actually paid; or (iii) of the Commanding Officer's signature.

(K.R. & A.I. Art. 608 (5).)



### 84.—Diphtheria and Tetanus Anti-toxic Sera—Keeping Qualities.

(M.D.G. 5173/26.—14.1.1927.)

It has been found that "time-expired" Diphtheria and Tetanus Anti-toxic Sera show a loss of potency of from 25 to 50 per cent. over a period of from 2½ to 4½ years.

2. These sera become "time-expired" after two years from the date of issue, which is printed on each box.

3. Tests, carried out at the Lister Institute, indicate that these sera retain their therapeutic action unimpaired after they are "time-expired," *i.e.*, during the third year, provided that twice the volume is administered.

4. These sera are, therefore, not to be returned to store or condemned as unserviceable until the expiration of at least three years after the date of issue printed on the box.

5. The usual attention should be given to the possibility of anaphylaxis.

### 90.—Breech Safety Change-over Contacts—Fitting.

(G. 18386/26.—14.1.1927.)

Breech safety change-over contacts will be supplied and fitted to B.L. guns and models, in Gunnery Schools and Royal Marine Batteries, for which these contacts are allowed, when they are available.

2. The work will be carried out by Naval Armament Depot Staff.

### 97.—Depth Charge Throwers—Annual Examination.

(G. 82/27.—14.1.1927.)

A number of cases have recently been noticed in which the Annual Examination of Depth Charge Throwers (O.U. 5320, Chapter VIII) has not been carried out.

2. The attention of Commanding Officers of H.M. Ships fitted with depth charge throwers is called to the necessity for strict compliance with this regulation, and to the possible danger to personnel which may result if such examinations are omitted.

### 100.—Microscope Objectives, etc.—Care.

(M.D.G. 146/27.—14.1.1927.)

Cases have recently occurred of microscope objectives and other lenses being damaged by attempts to unscrew the mounts of the lens. In most cases the pressure of the pliers or gripping instruments used have loosened the setting of the lenses, and, even when this has not occurred, the centering of the lenses has been interfered with, as it is not possible to screw the lens mount into the same position as originally placed by the maker. The correct axis of the combination of lenses is obtained in a lathe by a series of intricate adjustments, and Medical Officers are to note, therefore, that the mounts of objectives, etc., are not to be unscrewed *under any circumstances*.

2. If lenses are considered to need cleaning *between combinations* they must be returned into store in order that arrangements may be made for the operation to be carried out by the makers.

3. Special care should be taken in handling old Ross 1/12 in. objectives. These lenses have been repeatedly reset, with a resultant progressive thinning of the metal seating. As a consequence, the shoulder retaining the setting is reduced and the mount is rendered comparatively fragile.

4. Precautions should be taken to guard against lenses being loosened in their settings by heat transmitted from the source of illumination when incandescent or arc lamps are used.

**104.—Awnings—Method of Hauling out.***New Construction.*

(D. 50/27.—14.1.1927.)

It has been decided to adopt for Battleships and Cruisers in new construction, the method of hauling out awnings by tackle and pendant (i.e. with shackle instead of hook) as shown on sketch D.N.C. 5/197 (E.F.O. 81/26 (1)).

2. The arrangement shown on sketch D.N.C. 5/187 (E.F.O. 81/26 (2)) is to be adopted in new construction for Destroyers, Sloops and Ships with small awnings.

**120.—Naval Store Accounts—Transfers to Fixture Lists.***H.M. Ships and Establishments.*

(N.S. 17712/26.—14.1.1927.)

The examination of a Naval Store Account of a ship has brought to notice the write-off of several items as "Transferred to Fixture List," without action having been taken by the ship's officers to debit the Fixture List.

2. Attention is, therefore, drawn to Article 710, clause 24, King's Regulations and Admiralty Instructions. In connection with future transactions, the registered number of the relative Form D.526, or the date of the half-yearly return to the Superintendent of the Dockyard to which the ship is attached, is to be quoted against the corresponding entry in the Naval Store Account when the vessel concerned is not fitted for central-storekeeping. In ships fitted for central-storekeeping the reference should be made on the appropriate Form S.156.

**134.—Issued Confidentially.****158.—Bombs, Practice, 8½ lb., Mark I.**

(G.6614/26.—21.1.1927.)

The 8½ lb. practice bomb has now been approved for use in the Naval service, and is being issued to aircraft carriers as supplies become available.

The stannic chloride container is incorporated within the tail unit of the bomb.

Empty bombs are issued, assembled, 10 in a box. There are only two units—body and tail—screwed together near the main diameter and secured by a locking grub-screw. The standard detonator aerial bomb, No. 4, Mark I is employed.

It is advisable, when the bombs are dissembled for filling, that each unit should be assembled with its original counterpart as delivered.

Particulars as to weights and dimensions are as follows:—

Overall length	...	...	...	...	...	16 inches.
Main diameter	...	...	...	...	...	3 inches.
Weight empty	...	...	...	...	...	7¼ lb.
Weight of charge, stannic chloride	...	...	...	...	...	22 ozs.

As regards detail construction, this new bomb is exactly similar to the 8lb. bomb. The method of operation, including filling, is as follows:—

*To Charge the Bomb.*—Loosen grub-screw, which will be found diametrically opposite the suspending eye. Unscrew nose from tail unit. Remove filling plug from container and fill with stannic chloride. The method of filling the canister of practice bombs with stannic chloride is as follows:—

Stannic chloride, a heavy liquid which fumes vigorously when exposed to moist air, is supplied for use under pressure in cylinders. The action of these cylinders is similar to soda water syphons, and the cylinders should therefore be used in a vertical position.

Upon receipt of the cylinder the hexagonal nut which closes the exit hole is first removed. This nut is replaced by one which is made up with a tube.

To fill the canister, remove the cap and hold the canister so that the turned down end of the tube is in the mouth of the canister. Turn wheel to deliver the liquid and fill canister up to the neck. This operation will cause large clouds of smoke and it is advisable to stand to windward of this, for although harmless it will cause violent coughing. If, owing to weather conditions, it is impossible to avoid the cloud, the personnel occupied with the filling may be adequately protected by covering the mouth and nose with gauze pads soaked in a solution of washing soda.

It is essential that the container be completely filled in order to ensure correct balance of the bomb, and tail units should be weighed before and after filling to ensure that filling is complete.

Replace filling plug and screw home sufficiently tight to ensure compression of the lead sealing washer.

Next ensure that the wire retaining safety spring pin and safety pin is intact.

Holding the tail unit in a vertical position with filling plug uppermost, insert the detonator in the pocket provided and screw on nose unit. Tighten grub-screw.

*Fitting Bomb to Carrier.*—Engage the release hook of carrier into suspending eye of bomb, and adjust nose and tail crutches so as to ensure that the head of safety spring pin of bomb is depressed into a position flush with bomb body.

Remove the wire encircling bomb and withdraw safety split pin.

*Note.*—If bombs are not dropped, the safety split pin and wire must be replaced before the bomb is removed from the carrier.

*Notes on Carriers for use with these new Bombs.*—The bombs may be accommodated on the following carriers:—

- (A) Carriers, bomb, 4/20 lb. Mark I—Ref. No. 15, Section II. A.P.1086 when fitted with Adapters Nose Crutch Ref. No. 277, Section II, A.P.1086. (This type is obsolescent, but is at present supplied to all Fleet Air Arm Aircraft except Dart and Bison, Mark II.)
- (B) Carriers, bomb, Light Series, Mark I—Ref. No. 290, Section II, A.P.1086, and fitted with attachments, No. I Mark I, Ref. No. 292, Section II, A.P.1086. (This type will replace the former. It is at present supplied to Bison, Mark II, and will be supplied to all new Fleet Air Arm aircraft.)

*Instructions for Filling Practice Bombs from Stannic Chloride Drums.*

1. *Preparation for Withdrawal from Drum.*—(a) Remove the stopper from the top of the stannic chloride drum and replace by the screw stopper with pressure gauge and safety valve provided.

(b) Connect the foot pump to nozzle by means of rubber tubing, at the same time ensuring that the outlet valve is closed.

(c) Place the receiving canister on receiving container under outlet valve.

2. *To fill Canister or Receiving Container.*—(d) Pump the foot pump lightly until a pressure of and not exceeding 5 lb. is obtained—then slightly open outlet valve by turning handle anti-clockwise. The stannic chloride should then flow into the canister or receiving container.

(e) When sufficient stannic chloride has been drawn off, cease pumping and turn off outlet valve by turning handle clockwise.

3. *Precautions.*—(f) In the event of outlet valve becoming blocked, pricker should be used to clear.

(g) Lead joints as supplied should only be utilised at the stopper junction.

(h) A greater pressure than 5 lb. should never be pumped into the drum—a pressure greater than this is liable to blow off the drumhead.

(i) The drum stopper should be removed once a week and the threads recoated with mineral jelly if necessary. Unless this is done, considerable difficulty will be found in removing stopper when required.

(j) Stannic chloride under pressure escaping into the atmosphere forms offensive choking fumes; careful handling in this respect will obviate any discomfort to operators.

4. *Cleansing*.—When the requisite number of canisters has been filled, remove the screw stopper and pressure gauge unit from stannic chloride drum, and screw it into a similar drum filled with water. Connect foot pump, obtain pressure of 5 lb. and open outlet valve for a few minutes to ensure thorough internal cleansing of system.

*Storage of Stannic Chloride*.—Stannic chloride embarked on H.M. Ships is to be stored only on deck. The drums should not be subject to rough handling or be exposed to moisture.

(A.F.O. 2686/29.)

## 159.—Bombs and Pyrotechnics for Aircraft—Procedure for Demanding.

(G. 7582/26.—21.1.1927.)

Demands for bombs (including components), pyrotechnics, etc., for aircraft attached to H.M. Ships are to be forwarded to the nearest Naval Armament Depôt in the same way as ordinary ships' demands, or, if a Naval Armament Depôt is not accessible, to the Admiralty (C.S.A.S.).

2. Only such bombs and pyrotechnics as have been specially approved by the Admiralty are allowed to be stored on board H.M. Ships, and the following procedure is to be carefully observed.

3. When necessary for aircraft to proceed from Air Force Bases to Naval Bases, or to H.M. Ships, any bombs and pyrotechnics (which are Air Ministry property) carried *en route* are to be returned to the nearest Air Force Depôt or Naval Armament Depôt at the earliest opportunity. Whilst on board they are not to be stored between decks but may be kept on the weather deck magazine for a few days awaiting an opportunity to return them. If no early opportunity to land them occurs, they are to be thrown overboard in deep water, and a report made to the Admiralty (C.S.A.S.) for the information of the Air Ministry.

4. All such returns to Naval Armament Depôts should be laid aside as "on deposit from Air Ministry," and returned to nearest Air Force Depôt at next opportunity.

5. If, under exceptional circumstances, stores should be supplied *direct* from Air Force Depôts, a special report should be made to Admiralty (C.S.A.S.), the stores unexpended being dealt with as already indicated.

## 171.—Main Batteries of Submarines.—Sealing Materials.

(N.S. 16489/26.—21.1.1927.)

Requisitions for cell sealing materials of The Chloride Company's manufacture should state the firm's registered Trade Mark of the material required (i.e., "Compex," "Sealex" or "Pinex").

2. These materials and the particular purpose for which they are used, are as follows:—

- (a) "Compex" is a compound which is placed, in ribbon or strip form, between the container and cover of Exide 3810, Exide 4400, Exide Ironclad 3820L.S. and Exide Ironclad 3820L.S.V., type cells. It is also used as a putty compound for the types of cells referred to in (b) below, i.e., a small portion of "Compex" is placed in each of the four corners of the joint, in order to prevent molten "Sealex" from flowing into the cell.

- (b) "Sealex" is a compound which is poured into the trough between the container and cover of Exide 6000, Exide Ironclad 3815 and Exide Ironclad 3820 type cells.
- (c) "Pinex" is a solution which is painted on the indiarubber joint, the top of the container and on the underside of the cover, of the types of cells referred to in (a) above, in order that the "Compex" compound will adhere.

3. The sealing materials should be stored in a cool position, but storage in the Inflammable Store is not considered necessary.

### 176.—Rawhide, etc., Pinions and Gears—Local Purchases.

(C.P. 28278/26.—21.1.1927.)

In all cases where time permits, competition is to be obtained when local purchases of rawhide and/or compressed paper pinions and gears are being made.

The following firms are to be included in every case in addition to the makers of the machinery and any other selected firms, viz. :—

George Angus & Co., Ltd., St. John's Works, Newcastle-on-Tyne. The Buffoline Noiseless Gear Co., Ltd., Chapel Street, Levenshulme, Manchester. Campbell & Isherwood, Ltd., Raleigh Street Works, Bootle, Liverpool. The British Thomson-Houston Co., Ltd., Rugby. The British Rawhide Belting Co., Ltd., Hythe Road, Willesden, London, N.W.10.

The British Thomson-Houston Co., Ltd., will forward quotations for articles made in their special "Fabroil" material.

### 194.—Looping-in Bases, Pattern 3825—Utilisation in Lieu of Pattern 3824, where possible.

*Home and Foreign Yards.*

(N.S. 16244/26.—21.1.1927.)

In view of the large available stocks of Pattern 3826, looping-in bases, consideration should be given to utilising this Pattern in lieu of Pattern 3824, wherever possible, consistent with the usual conditions as regards the watertightness of the electrical installation being maintained.

### 202.—Toasts at Official Dinners—Procedure when Foreign Officers are Present.

(M.—28.1.1927.)

Whenever Foreign Officers or Officials are entertained on board of His Majesty's Ships on occasions when it is customary for toasts to be exchanged, the following procedure, which is in consonance with the generally accepted International custom, is to be strictly observed:—

1. The British Officer acting as host will propose as the first toast the health of the Head of the State (Sovereign or President) of the country to which the visitors belong.

2. After this has been honoured, the Senior Officer of the foreign guests will propose the health of His Majesty King George V.

3. When more than one nation is represented among the guests, the host will propose a collective toast of the Heads of the several States represented, naming them in the order of the rank and seniority of their respective representative Officers present.

4. To this collective toast the senior and highest in rank of the Foreign Officers present will respond on behalf of all the foreign guests by proposing the health of His Majesty King George V.

5. This procedure should be arranged beforehand between the British Officer who is the host and his foreign guests.

6. The first toast should always be proposed in English, but, if possible, it should also be repeated in French, or in the language of the visitors.

7. Any subsequent toast may follow as the occasion demands.

**204.—Drinking Water—Ferrol.**

(M. 41123/22.—28.1.1927.)

The water supplied by the Sociedad de Aguas Potables at the Port of Ferrol is dangerous for drinking purposes unless boiled or chlorinated.

The use of water from this source should be restricted as much as possible.

**205.—Infectious Cases—Landing at Gibraltar.**

(M. 55130/21.—28.1.1927.)

No case nor suspected case of cholera, plague, or yellow fever can be landed in Gibraltar.

If a case or suspected case occurs on board one of H.M. Ships, the ship will have to proceed elsewhere to land it.

**213.—Director Installation—Failure of Director Receiver during Full Calibre Firing.**

(G. 801/27.—28.1.1927.)

During full calibre firing, failure of director training receivers at two 6 in. guns occurred, due to steel grit in the ball race of the receiver motors.

2. Care is therefore to be taken by Dockyards and ships on all occasions of stripping or making alterations to director motors, that the ball races are examined to see that they are perfectly clean and free from all foreign matter.

3. The motors are on all such occasions to be tested in the Reade's testing device by the Dockyards before issue to the ships, and by the ships' staffs in cases where the motors have been stripped and overhauled on board.

4. The motors should be transported in future in dust-tight cases for the protection of the bearings during transit.

**215.—Cartridges, Q.F.—Introduction of New Design of Clips—REPORT.**

(G. 19492/24.—28.1.1927.)

A new design of clips for Q.F. Cartridges has been adopted and will be issued as shown in paragraph 2 below.

A drawing of the design is included in E.F.O. 142/26.

2. The new clip, to be known as Clip, Q.F. Cartridge, No. 25, Mark I, will be supplied as follows:—

(a) For all cartridges, Q.F., 4.7 in., VIII gun.

(b) For all cartridges filled in future for Q.F., 5.2 in. gun.

(c) To replace existing clips for cartridges, Q.F., 4 in., V and V\* H.A. guns, in ships fitted with pusher or endless chain hoists. Supply of cartridges fitted with the new clip will be made gradually, as Q.F. cartridge cases designed or altered to take the No. 25 clip become available for filling cartridges.

3. To remove the clip, pull smartly on the webbing loop.

To replace the clip, see that the three studs register with the three holes in the base of the cartridge, and give the clip a sharp tap with the hand.

The webbing loop is on *no account* to be used for lifting the ammunition, and ratings handling ammunition so fitted are to be instructed to this effect. Clips should not be removed more than is absolutely necessary, as continual removal and replacing will weaken the grip.

4. In order to obtain information as to the efficiency of this clip under service conditions, in the event of the clip falling off in the hoist or at other times, the round in question and the clip are to be set aside and a full report of the circumstances is to be forwarded.

The following information is to be included in the report:—

- (a) Calibre of the round.
- (b) Date of the occurrence.
- (c) Whether the clip had been previously removed and replaced. If so, whether more than once.
- (d) Full information as to the circumstances.

## **222.—Refits of H.M. Ships—Work Allocated to Naval Ratings.**

(D. 15990/26.—28.1.1927.)

Where Naval ratings are not available for work in connection with the refits of H.M. Ships which is carried out normally by them, the work is to be carried out by the Dockyard, and the circumstances stated on the Defect list. When, however, Naval ratings are available for work normally carried out by them, the Dockyards should not carry out the work, except in the most exceptional cases.

## **225.—W/T—Re-issue of Partly Worn W/T Valves.**

(N.S. 723/27.—28.1.1927.)

W/T valves returned to Portsmouth for re-survey in accordance with instructions contained on Page IV, Paragraph 18, Clause (d), of the W/T Establishment, 1922, if found serviceable, will be re-issued for further service.

2. Boxes containing re-surveyed valves will be clearly marked "Part worn, use first," and will be issued proportionately with new valves.

3. Ships reporting on short life of valves are not to include these partly worn valves in such reports.

## **230.—Central Storekeeping in Stationary Ships and Shore Establishments—Laying of Linoleum.**

(N.S. 17071/26.—28.1.1927.)

Some divergence of practice exists in stationary ships and shore Naval Establishments in regard to the renewal of linoleum, and the following instructions are to be observed in future:—

- (i) All renewals of linoleum are to be carried out whenever possible by naval ratings.

- (ii) The value of the linoleum issued from Dockyard stocks is to be brought to account in the Expense Accounts as indicated below, viz. :—

	Supplies for.	
	Stationary Ships.	Shore Naval Establishments.
If the laying is to be done by :—		
Naval ratings ...	“ Maintenance Stores ” in Account No. 89 (Subhead E. of the Programme).	} “ Maintenance Stores ” in Account No. D.89 (Subhead E. of the Programme).
Dockyard labour...	“ Expenditure under Estimate ” in Account No. 89 (Subhead D. of the Programme).	

- (iii) The valuation allowances for the various ships and establishments make provision only for small quantities of linoleum for patching and not for extensive renewals, the value of which should be shown separately in the Quarterly Valuation Return (S.1095A).
- (iv) Whenever linoleum is drawn which the establishment does not propose to accept as a charge against the valuation allowance, the concurrence of the Constructive Department as to the necessity for its supply should be obtained before the material is laid.

### 249.—Submarines—Confidential Nature.

(M. 233/27.—4.2.1927.)

The following changes in procedure are to be made concerning the confidential nature of submarines.

2. All Submarines, building of new types not yet in commission, and all papers in connection with them, are to be treated as secret. Papers in connection with submarines in commission need not be marked secret or confidential unless they refer to apparatus which is secret or confidential in itself, apart from the Submarine.

3. Submarines in commission, *which have completed their trials*, need not be regarded as secret, and may be treated in the same manner as all other of H.M. Ships as regards visitors, *but in the case of new types Admiralty approval must be obtained before visits are permitted.*

4. The confidential nature of apparatus to be preserved as well as that of any special apparatus or fittings which may be temporarily under trial.

5. Visits of foreigners to submarines in commission and not of new types may be permitted at the discretion of the Senior Naval Officer, such visits being reported to the Admiralty.

6. No photographs or drawings of the interiors of any submarines are ever to be allowed without Admiralty permission.



7. No visitors, except Naval, Military, and Air Force Officers on the Active List are to be allowed to embark in H.M. Submarines when exercising, except by special permission of the Commander-in-Chief of the Squadron or port or the Admiralty.

## 250.—Hydrographical Surveying—Co-operation of Aircraft.

(M. 20582/19.—4.2.1927.)

When H.M. Surveying Ships are working within reasonable distance of a Royal Air Force Station where Kite Balloons, Airships, Seaplanes or Aeroplanes are available, the Commanding Officer of the Ship will, should he consider that the help afforded by aircraft would be of material value in the prosecution of the survey, communicate with the Commanding Officer of the Station from which assistance is required, who will in turn, should he consider he is in a position to do so, ask for permission to comply with the request from the G.O.C. of the Area or Group in whose command the Station is situated.

In these circumstances the Royal Air Force Unit concerned will afford all facilities possible by arranging special photographic or reconnaissance flights as may be required.

Full reports of these flights will be forwarded without delay to the Hydrographer of the Navy, and Air Ministry, through the usual channels.

## 256.—*Issued Confidentially.*

## 277.—Gun Circuits—New Types of Breech Safety Change-over Contacts and Interceptors—Supply of Sockets for Cable Connections.

(G. 10832/26.—4.2.1927.)

Arrangements have been made for the supply of quantities of cable sockets types A and B for the cable connections to the new types of breech safety change-over contacts, breech safety contacts and interceptors, and for their distribution as shown in the attached Schedules I to IV.

2. Pattern No. 3428 has been allocated to the type A socket and Pattern No. 3429 to the type B, and these articles have been added to the authorised list of Naval Stores under B.9B and following Schedule 116 clips for electric cables (page 307). They will not be included in any schedule at present.

3. The following quantities have been requisitioned for purchase :—

Pattern 3428—1,600	Chatham,	500	Portsmouth,	500	Devonport.
„ 3429—3,000	„	1,000	„	1,000	„
Value £89		£30		£30	

Chatham should issue the following quantities to Foreign Yards on receipt :—

Pattern 3428—400	Malta,	50	Hong Kong,	40	Bermuda,	40	Trincomali.
„ 3429—900	„	80	„	100	„	40	„

Chatham should also select and distribute patterns to other Home Yards and Admiralty pattern rooms.

4. The following drawings are circulated for information and guidance in fitting the cable sockets, viz. :—

- (1) Drawing D.T.M. 67/25/1 (E.F.O. 2/27(2) ) of the cable sockets, Patterns 3428 and 3429.
- (2) Drawing D.T.M. 83/23 (E.F.O. 2/27(1) ) of the dies which are to be used for crimping the sockets on the cables.
- (3) Drawing D.T.M. 161/26 (E.F.O. 2/27(4) ) showing a typical arrangement of breech safety change-over contact for guns on transferable mountings.
- (4) Drawing D.T.M. 160/26 (E.F.O. 2/27(3) ) showing a typical arrangement of interceptor on transferable mountings.

5. *Schedule I*.—Lists X and Y show the quantities of cable sockets which are required as components for first fitting on the cables for connecting to the new types of interceptors and breech safety change-over contacts.

List Z shows the quantities of spare cable sockets to be carried on board each ship for these services.

6. *Schedule II* shows the quantities of cable sockets required for first fitting of the new types of breech safety change-over and breech safety contacts to the 5·5 in. guns in “ Hood ” and the 6 in. guns in the “ D ” and “ E ” classes of cruisers and the destroyers of the Repeat “ W ” class and flotilla leaders of the “ Scott ” and “ Shakespeare ” classes.

The quantities shown for “ Hood ” and “ D ” and “ E ” classes of cruisers also provide sufficient cable sockets for fitting the new types of interceptors on the 5·5 in. and 6 in. mountings in these ships should it be decided at a later date to fit the new type of interceptors to these mountings.

7. *Schedule III* shows the quantities of cable sockets which are being fitted by the gun machinery manufacturers on the mountings in the ships of new construction and “ Courageous ” and “ Glorious.”

8. *Schedule IV* shows the total quantities which are being provided in this Order for the various services mentioned in Schedules I, II and III.

9. No provision has been made in these quantities for the cable sockets required for first fitting of the interceptors and breech safety change-over contacts for the service mentioned in List X, Schedule I, as the work of fitting has in most ships been completed by the Dockyards.

10. The spares provide for 50 per cent. of those fitted to be carried on board each ship and 100 per cent. of those fitted as a first supply to the various Dockyards.

11. The crimping dies shown on Drawing D.T.M. 83/23 (E.F.O. 2/27(1) ) are to be made by the Dockyards and ships' artificers.

12. The sockets are being annealed before supply in order to comply with the conditions mentioned in the drawing.

13. The sockets required for the lock end of the expendable leads will be supplied by the armament depôts. These are not therefore dealt with in this Order.





SCHEDULE II.

GUN CIRCUITS. EXISTING SHIPS.

“Hawkins” and “D” and “E” Class Cruisers, Repeat “W” Class Destroyers, 12 Flotilla Leaders, quantities of Cable Sockets, Types A and B, Patts. 3428, 3429, required for fitting B.S.C.O. Contacts and Interceptors.

Ships.	Type A, Patt. 3428.		Type B, Patt. 3429.	
	Each Ship.	Total Class.	Each Ship.	Total Class.
1 “Hood” ... ..	56	56	56	56
8 “D” class cruisers ... ..	24	192	24	192
2 “E” class cruisers ... ..	28	56	28	56
4 “Hawkins” class ... ..	—	—	14	56
16 Repeat “W” class destroyers (with 4.7 in. guns).	—	—	4	64
12 Flotilla leaders (with 4.7 in. guns)... ..	—	—	5	60
Total components for first fitting ... ..	—	304	—	484

For B.S.C.O. contacts.

} For breech safety contacts (i.e., new single contacts).

SCHEDULE III.

GUN CIRCUITS. NEW CONSTRUCTION AND "COURAGEOUS" AND "GLORIOUS."

Statement of Quantities of Cable Sockets, Types A and B, Patts. 3428, 3429, fitted as Components.

H.M. Ships.

Ships.	Cable Sockets, Type A, Patt. 3428.			Cable Sockets, Type B, Patt. 3429.			Total for Class.	
	Main Arma-ment.	Secondary Arma-ment.	H.A. Guns.	Total for each Class.	Main Arma-ment.	Secondary Arma-ment.		H.A. Guns.
2 "Nelson" and "Rodney" each ship	36	48	24	216	36	48	12	192
5 "Kent" class ... each ship	32	—	16	240	32	—	8	200
4 "London" class each ship	24	—	16	160	24	—	8	128
2 "Courageous" and "Glorious" each ship	—	—	72	144	—	—	36	72
1 "Adventure" class each ship	—	—	16	16	—	—	8	8
2 "Amazon" and "Ambuscade" each ship	16	—	—	32	16	—	—	32
Total components provided on mountings.	—	—	—	808	—	—	—	632

Components provided on gun mountings.

Australian Ships.

"Australia" and "Canberra" Seaplane carrier ...	32	—	16	96	32	—	8	80
...	—	—	16	16	—	—	8	8
Total components on mountings.	—	—	—	112	—	—	—	88

Components provided on gun mountings.

## SCHEDULE IV.

## GUN CIRCUITS.

Quantities of Types A and B, Patts. 3428, 3429, Cable Sockets purchased, omitting provision for first fitting, List "X," Schedule I, and Components, for New Construction, etc., Schedule III.

	<i>Type A.</i> <i>Patt. 3428.</i>	<i>Type B.</i> <i>Patt. 3429.</i>	
List "X"—Spares to be carried on board ...	140	294	} Existing ships.
„ "X"—Spares at Dockyards ...	280	588	
„ "Y"—First fitting at Dockyards ...	—	704	
„ "Y"—Spares to be carried on board ...	—	352	
„ "Y"—Spares at Dockyards ...	—	704	
Schedule II—First fitting ...	304	484	} New ships.
Spares on board ...	152	242	
Spares at Yards ...	304	484	
Schedule III—Spares to be carried on board ...	404	316	
H.M. Ships—Spares at Dockyards ...	808	632	
Totals for H.M. Ships ...	2,392	4,800	
Totals for "Australia," "Canberra" and Seaplane Carrier ...	168	132	
Total requirements ...	2,560	4,932	
Purchased ...	2,600	5,000	

## SCHEDULE V.

## GUN CIRCUITS.

Cable Sockets, Types A and B, Patts. 3428, 3429, proposed first distribution to Dockyards for H.M. Ships.

	<i>Type A.</i> <i>Patt. 3428.</i>	<i>Type B.</i> <i>Patt. 3429.</i>
First fitting at Dockyards, List "Y," Schedule I and II	304	1,188
Spares at Dockyards, List "X" and "Y," Schedule I, Schedule II, and new ships, Schedule III ...	1,392	2,408
Total at Yards ...	1,696	3,596
<i>Yards.</i>		
Portsmouth ...	500	1,000
Devonport ...	500	1,000
Chatham ...	1,600*	3,000†
Malta ...	400	876
Hong Kong ...	50	80
Bermuda ...	40	100
East India (Colombo) ...	40	40

*Note.*—The 50 per cent. spares to be carried on board are not included in the above quantities.

\* Includes 530 for Foreign Yards shown.

† Includes 1,096 for Foreign Yards shown.

(A.F.O. 1562/28.)

## 281.—Practice Projectiles, 4 in., Heavy—Withdrawal of Solid Shot, Marks I and II, N.T.

*Ships armed with 4 in. B.L. guns or 4 in. Q.F. guns fring separate ammunition.*

(G./G.D. 4409/25.—4.2.1927.)

Any practice shot (solid), 4 in., heavy, Mark I and Mark II, N.T., remaining in H.M. Ships are to be returned to the nearest Naval Armament Depôt and other practice projectiles demanded in lieu.

2. Officers-in-Charge of Naval Armament Depôts abroad are to send home projectiles of these descriptions as opportunities offer.

3. No further supplies of these Marks of solid shot are to be made to sea-going ships, and remaining stocks ashore, together with any returned under this Order, are to be appropriated for issue to Gunnery School tenders.

(A.F.O. 698/28.)

**342.—***Issued Confidentially.*

**353.—Workmen's Compensation Act, 1925, and Government Scheme of Compensation, 1923 — Re-assessment of Average Weekly Earnings.**

(C. (III) 589.—11.2.1927.)

In order to ensure that the provisions of Section II (3) of the Workmen's Compensation Act, 1925, and Clause 5 of the Government Scheme of Compensation, 1923, are not overlooked, it has been decided that Establishments concerned with claims to compensation under these instruments shall be responsible for reporting whether any, and if so, what, modifications of average weekly earnings are necessary, under the section or clause quoted, as a result of fluctuations in rates of remuneration.

2. Accordingly, in future, the requisite information is to be inserted on the superannuation form (D.73), where appropriate, or furnished with the reports forwarded in connection with the periodical medical reviews in other cases.

**358.—Gun Mountings, Lewis, Double—Positions.**

*New Construction.*

(G. 16344/26.—11.2.1927.)

The positions of the double Lewis gun mountings in ships of new construction will be selected by the gunnery officers conducting the equipment trials.

2. The mountings will be supplied to the ships prior to the equipment trials, to allow of them being placed in the most advantageous positions.

**361.—Tubes, V.S., Electric—Boxes not to be Opened unnecessarily.**

(G. 19556/26.—11.2.1927.)

Cases have recently occurred of considerable numbers of tubes being returned to Armament Supply Depôts in boxes which have been opened.

2. As the tubes contained in such boxes are liable to deteriorate owing to the action of damp, wastage of otherwise good tubes results.

3. The number of boxes containing tubes opened in preparation for firings is therefore to be restricted to the number of tubes required for the practices with a reasonable margin for missfires, etc.

4. When opened boxes of tubes are returned to Armament Supply Depôts, information as to the date on which such boxes were opened is to accompany them.

5. Attention is called to the orders contained in Articles 251 and 257 of the Naval Magazine and Explosives Regulations.

**385.—Forms S.340 and 340B—Use of Typewriting Paper for Duplicate and Triplicate Copies.**

(Sta. 6276/26.—11.2.1927.)

The duplicate and triplicate copies of the Defect Lists (Forms S.340 and 340B) are, in future, to be made out on typewriting paper, instead of on the printed forms, as at present.

(C18807)

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**\*414.—Officers' Cooks—Drafting.**

(N. 5659/24.—18.2.1927.)

In view of a present shortage of senior Officers' Cooks for draft, suitable Officers' Cooks, 3rd Class, may be sent to Destroyers or other vacancies for Officers' Cooks, 2nd Class, in cases where this has not already been done, and the Officers' Cooks, 2nd Class, thus relieved may be drafted in lieu of Officers' Cooks, 1st Class. This procedure will be followed in filling subsequent vacancies for Officers' Cooks, 1st and 2nd Class, until the numbers become adjusted to requirements.

2. Officers' Cooks, 1st and 2nd Class, of the Portsmouth and Devonport Port Divisions, becoming available in this manner, will be used as necessary to meet requirements in the Chatham Port Division, where the shortage of senior Officers' Cooks is most acute.

3. Men drafted under this Order to fill vacancies for higher ratings allowed in complement are not to be given acting higher ratings, but they will be eligible for grant of difference of pay under King's Regulations and Admiralty Instructions, Article 1591.

**\*416.—Funerals and Graves.**

(N.L. 244/27.—18.2.1927.)

**I. FUNERAL PARTIES.****(a) OFFICERS AND MEN DYING ON ACTIVE SERVICE.**

The strength and composition of funeral parties are given in the "Royal Naval Handbook of Field Training," subject as provided in Clause 3 of Article 159, King's Regulations and Admiralty Instructions, to the means at the disposal of the Senior Officer present.

2. If it is not practicable to pay naval funeral honours even on a reduced scale the relatives should, on applying, be referred to the local Military authorities, who will render Military Honours when possible in accordance with directions issued by the Army Council.

**(b) RETIRED OFFICERS AND PENSIONERS.**

3. At the funeral of officers on the retired list or of pensioners who possess a war medal or a good conduct medal, a gun carriage and a bugler to sound the Last Post may be lent when desired, together with bearer parties and men to drag the gun carriage. This privilege is, however, only to be granted upon the conditions that there is no interference with Service duties, that no expense to the public is entailed, and that the services of the men in the bearer and gun carriage parties are entirely voluntary.

4. Firing parties and official honours are to be reserved as at present for officers and men on the active list except in very exceptional cases.

5. Attention is directed to clause 2 of Article 160, King's Regulations and Admiralty Instructions, prohibiting any expense being incurred for which it would be necessary to seek repayment from the representatives of the deceased.

**II. GRAVES—MARKING AND REPORT OF PARTICULARS.**

6. Whenever the funeral of an officer, man or boy is carried out by the Naval Authorities, full particulars of the burial (i.e., name, and address of cemetery, number of plot, row and grave) are to be furnished on Form S.1121 (Report of Death) or, if this form has been rendered prior to burial, on Form S.51 (Monthly Return of Deaths and Desertions). The separate monthly returns of burials hitherto rendered should now be discontinued.

7. The permanent marking of the graves in a naval cemetery or naval reservation of officers, men and boys who died since 31st August, 1921, or who may be interred there in future, including such graves already marked by temporary wooden crosses, is to be governed by the pre-war practice, i.e., the Admiralty standard memorial is to be erected unless a memorial is provided by relatives or friends. If, however, any such grave is situated in a plot containing "war graves," the matter should be reported to the Admiralty for instructions, as the erection of an Admiralty pattern memorial may be considered detrimental to the treatment of the whole plot by the Imperial War Graves Commission. The report should be accompanied by a plan showing the position of the grave in relation to the "war graves."

8. The graves of all officers, men and boys who died between 4th August, 1914, and 15th April, 1921 (inclusive), are to be regarded as "war graves," as also are the graves of those who died between 16th April and 31st August, 1921 (inclusive), provided death was due to wounds inflicted, accident occurring or disease contracted between 4th August, 1914, and 15th April, 1921 (inclusive). Before any action is taken to mark the grave of an Officer, man or boy who died between 16th April and 31st August, 1921, inquiry should be made of the Admiralty as to whether or not the grave is to be regarded as a "war grave."

9. The graves in naval cemeteries and naval reservations of those who died between 16th April, 1921, and 31st August, 1921 (inclusive), if not "war graves" as defined above, are to be treated as prescribed in paragraph 7.

10. No memorial, etc., can be erected at the expense of naval funds upon the graves of officers, men or boys buried in civil cemeteries (unless in a naval reservation therein), nor upon naval graves abroad unless these are situated in a naval cemetery or naval reservation.

(*K.R. and A.I., Arts. 157, 158, 160, 1254 and 1255.*)

### **433.—Dinghies for Submarines—Buoyancy Tanks.**

(D. 16160/25.—18.2.1927.)

Dinghies for submarines are to be fitted with buoyancy tanks, one forward and one aft, each tank to be of  $1\frac{1}{2}$  cu. ft. capacity and to be provided with a screwed plug in the bottom as shown on sketch (E.F.O. 4/27). In cases where such a screwed plug would be inaccessible a visible and accessible pipe should be fitted from the bottom of the tank, sloping so as to drain out any water and provided with a screwed plug and chain at the end. An indicator plate is to be fitted near each tank and inscribed:—

"The screwed plugs to the buoyancy tanks are to be withdrawn when the boat is in her stowing position on the submarine, but are to be replaced so as to make the tanks watertight at all other times."

### **436.—Issued Confidentially.**

### **452.—Wrapping Materials.**

(Sta. 3933/26.—18.2.1927.)

The cost of packing materials for the purpose of parcelling the clothing of new entries for return to their homes is chargeable to Navy Votes, and supplies are to be obtained from the appropriate storing yard.

The wrapping materials supplied by H.M. Stationery Office in satisfaction of stationery demands are intended for ordinary office purposes only, and supplies required for other purposes are not to be included in demands for stationery.

**\*455.—Overseers—Conditions of Service, Allowances, etc.**

(C.E. 703/27.—18.2.1927.)

The following revised conditions of service, allowances, etc., have been approved and will come into effect as from 9th July, 1926, except where otherwise stated :—

*Classes eligible for various Overseeing Posts.*—The following classes will normally be considered eligible for appointment to Overseeing Posts as indicated :—

<i>Appointment.</i>	<i>Classes eligible.</i>	
Officer in Charge of District    ...    ...	Senior Constructor. Constructor. Senior Electrical Engineer. Electrical Engineer. Senior Foreman.	
	<i>Engineer-in-Chief's Department.</i> Normally Naval Officer.	
	<i>Naval Ordnance Department</i> (Gun Mounting). Naval Officer as Officer in Charge of District and Principal Overseer.	
Principal Overseer    ...    ...    ...	*Constructor. Assistant Constructor. Assistant Electrical Engineer. Senior Foreman. Foreman. Senior Draughtsman. Inspector (for certain appointments in the Naval Construction Department only).	
	<i>Engineer-in-Chief's Department.</i> Normally Junior Naval Officer (Senior Warrant Officers and Officers of Lieutenant's rank), but Senior Foremen, Foremen and Senior Draughtsmen are also eligible.	
Overseer    ...    ...    ...    ...	}	Foreman. Senior Draughtsman. Inspector. 1st class Draughtsman.
Senior Assistant to Engineer Overseer ...		
	<i>Naval Ordnance Department</i> (Gun Mounting).	
Senior Assistant Overseer    ...    ...	Naval Officers.	
Assistant Overseer, Grade I (including Naval Ordnance Department (Gun Mounting)).	}	Inspector. 1st class Draughtsmen. 2nd class Draughtsman. Senior and Electrical Station Engineers.
Assistant to Engineer Overseer, Grade I		
Assistant Overseer, Grade II (including Naval Ordnance Department (Gun Mounting)).	}	Chargeman. Mechanic. Electrical Station.
Assistant to Engineer Overseer, Grade II		Mains and Telephone Supervisors.

\* It will be necessary to appoint a Constructor as Principal Overseer for the larger or more important vessels ; also in some special instances it may be necessary to appoint an Electrical Officer of higher rank than Assistant Electrical Engineer.

*Qualification for Appointment.*—Only Professional Officers and those qualified on an examination list will be eligible for appointment to the Overseeing Staff.

*Period of Appointment.*—The period of appointment of any officer appointed after the 1st April, 1926, to any overseeing post will normally be five years. When, however, the interests of the Service require it, such appointments may be renewed under Admiralty authority for a period not exceeding one year, and in very exceptional cases for a period not exceeding five years.

*Promotion in the Dockyard, etc.*—A member of the Overseeing Staff who becomes eligible for promotion in his turn at the Dockyard or Headquarters Department will normally take up such appointment and cease to be employed on overseeing duties. If promoted and retained on overseeing duties for exceptional reasons, he will take up the new appointment as soon as circumstances permit. If he does not wish to accept the appointment for private reasons, such refusal will be without prejudice to the offer of any subsequent appointment. The onus of keeping the Department informed of any changes in his wishes in regard to the acceptance of promotion in a particular grade will rest on the individual, and an officer who has once refused the offer of an appointment in a particular grade will not again be offered such an appointment until he has in writing signified that he desires to be considered therefor.

*Removal Expenses.*—Wages Overseers, equally with Salaried Overseers, will in future be regarded as eligible for the grant of removal expenses under the ordinary regulations. This concession will, however, not apply to any member of the Overseeing Staff who was so employed before the Report of the Incheape Committee in 1912, and who does not elect to come under the conditions in regard to allowances attaching to the scheme instituted as a result of that report.

#### *Scale of Allowances.*

##### *Officer in Charge of District—*

Senior Constructor, Constructor ... ..	}	Nil.
Senior Electrical Engineer ... ..		
Electrical Engineer ... ..		
Senior Foreman ... ..	}	£100 per annum (plus Civil Service Bonus).

##### *Principal Overseer—*

Constructor... ..	}	Nil.
Assistant Constructor ... ..		
Assistant Electrical Engineer ... ..	}	£100 per annum (plus Civil Service Bonus).
Senior Foreman ... ..		
Foreman ... ..		
Senior Draughtsman ... ..		
Inspector ... ..		

##### *Overseer ... ..*

##### *Senior Assistant to Engineer Overseer—*

Foreman ... ..	}	£100 per annum (plus Civil Service Bonus).
Senior Draughtsman ... ..		
Inspector ... ..		
1st Class Draughtsman ... ..		

##### *Assistant to Engineer Overseer, Grade I ... ..*

<i>Assistant Overseer, Grade I (including Naval Ordnance Department (Gun Mounting))—</i>	}	£75 per annum (plus Civil Service Bonus).
Inspector ... ..		
1st Class Draughtsman ... ..		
2nd Class Draughtsman ... ..		
Senior and Electrical Station Engineer ... ..		

##### *Assistant to Engineer Overseer, Grade II ... ..*

<i>Assistant Overseer, Grade II (including Naval Ordnance Department (Gun Mounting))—</i>	}	£75 per annum.
Chargeman ... ..		
Mechanic ... ..		
Electrical Station, Mains and Telephone Supervisors ... ..		

Overseeing Allowances are not payable to Naval Officers holding overseeing appointments.

All Overseers (including Industrial grades) at present serving on the old scale of allowances will retain those allowances until the 1st April, 1928. All Overseers appointed in vacancies arising on or after the 9th February, 1926, and who are now on the reduced scale of allowances, and all future appointees, will receive the scale of allowances as set out above. The allowances will continue to be on a non-pensionable basis.

Wages Overseers will continue to be eligible for additional pay under Article 269 of Instructions as to Cash Duties in addition to Overseeing allowance.

**\*457.—Draughtsmen (Constructive, Engineering and Electrical)  
—Hours of Attendance, Overtime, Subsistence Allowance, etc.**

(C.E. 700/27.—18.2.1927.)

It has been decided that the following scheme in regard to hours of attendance, overtime payment, etc., for draughtsmen, is to be put into operation forthwith:—

**HOURS OF ATTENDANCE.**

*Headquarters:* 42 a week (gross) as hitherto.

*Outports:* 41 a week (net) as hitherto.

With regard to the distribution of hours of attendance at Outport Establishments, the terms of A.L., C.E.1484/25, of the 9th March, 1925, are to be extended to cover draughtsmen, and where there is a desire on the part of drawing staffs for any re-arrangement of hours, the matter is to be discussed on the local Whitley Committee, and any decision reached to make a change within the competence of the committee to determine, should be put into operation and reported to the Admiralty.

**OVERTIME PAYMENT.**

The following classes will be regarded as eligible to receive payment for overtime, viz. :—

First class draughtsmen (where overtime has been specifically authorised by the Admiralty).

Second class draughtsmen.

Redundant assistant draughtsmen.

Temporary draughtsmen.

The formula for arriving at the hourly rate will be in the case of first and second class draughtsmen:—

Annual salary (plus bonus) divided by 52 and then by 42.

In the case of redundant assistant draughtsmen and temporary draughtsmen:—

Weekly rate (plus bonus) divided by 42.

Overtime will be calculated week by week, after an attendance of 42 hours (gross), in the case of staff serving at headquarters, and 41 hours (net), in the case of outport staff, and the same formula for arriving at the hourly rate will apply in both cases.

The increase on ordinary time rate will be as follows:—

Time rate and a quarter for the first ten hours worked.

Time rate and a half thereafter.

The present policy of restricting overtime payment to a minimum is to be adhered to.

**STEAM TRIALS.**

Second class and redundant assistant draughtsmen employed on steam trials of machinery will be paid overtime, under the ordinary conditions, for extra attendance at such trials. Appendix IX of Cash Duties Instructions is, therefore, no longer to be applied in the case of these draughtsmen.

SUBSISTENCE ALLOWANCE TO SECOND CLASS DRAUGHTSMEN.

The application of the higher rates of subsistence allowance to second class draughtsmen is to take effect as from 6th June, 1924.

SUNDAY ATTENDANCE.

Sunday attendance will be compensated for by time and a half, or if time off during the week is taken, this will also be at the rate of time and a half.

LEAVE ON SATURDAY.

It should be clearly understood that the grant of leave on Saturday to salaried draughtsmen counts as a whole day, and not a half day as in the case of wages employees.

**510.—S.519, Junior Officers' Journals—Demands for Re-binding.**

(Sta. 7030/26.—25.2.1927.)

Demands for the re-binding of S.519, Junior Officers' Journals, will in future be carried out to the two following patterns only, at the charges quoted:—

	<i>s.</i>	<i>d.</i>
½ buff buckram (i.e., original pattern of book) ... ..	9	6
Stout blue roan, with cloth sides ... ..	17	0

2. Demands for re-binding should be forwarded through the Accountant-Officer of the ship or establishment, on Form D.2c, and, if necessary, should indicate the address to which the re-bound volume is to be sent.

3. The appropriate sum as quoted above should be charged on the despatch of the volume, and brought to account as a credit to the vote of H.M. Stationery Office.

4. Midshipmen will be allowed to have their journals re-bound in ½ buff buckram only. Officers, after completion of service as midshipmen, will be allowed the alternative of the more expensive binding.

5. Re-binding must on no account be carried out otherwise than in accordance with the above procedure.

**521.—Civilian Employees—Hurt Pay and Compensation for Eye Injury.**

(C. (III) 1550/27.—25.2.1927.)

Employees on Hurt Pay are to be kept under reasonably frequent medical surveillance throughout the period of their sickness, especially in cases in which attributability is doubtful or obscure.

Where it is necessary to continue employees on the Hurt List beyond three months, the local medical certificates should be investigated by the appropriate Medical Authorities. Such investigation, in the usual course, should be carried out at the nearest Naval Hospital, but, if necessary, difficult cases should be submitted to the Medical Director-General.

All cases of eye injuries sustained by civilian employees, except those in which sight is totally destroyed and those which are of a trivial nature and are clearly due to an accident arising out of the employees' work, are to be sent at once with a full report to the nearest Naval Hospital for consideration of the question of attributability. All cases in which a period has elapsed between the injury and the manifestation of the disability for which compensation is claimed are to be sent to the nearest Naval Hospital for the same purpose and referred by the latter with full report to the Medical Director-General for final decision as to attributability and assessment.

### **523.—Minimum Pay of Assistant Surveyors and Assistant Surveyors of Lands serving Abroad.**

(C.E. 1101/27.—25.2.1927.)

Assistant Surveyors and Assistant Surveyors of Lands appointed abroad for a normal period of service may be granted a basic salary of £200 a year on a mark-time basis while so serving, in lieu of their existing salaries, if the former rate is more advantageous to them. They will revert to their normal salaries on their return to England. The usual house and colonial allowances will remain payable. The special salary is not payable during the period of passage out from, or back to England.

This arrangement is to take effect from 16th February, 1927.

### **524.—Workmen's Compensation Act, 1923—Instructions.**

(C. (III) 1549/27.—25.2.1927.)

The following Treasury Circular is promulgated for information:—  
 Treasury Chambers,  
 29th December, 1923.

SIR,

#### **WORKMEN'S COMPENSATION ACT, 1923.†**

I am directed by the Lords Commissioners of His Majesty's Treasury to advert to Treasury Circular of 1st January, 1920 (55263/19) and previous Circulars dated 7th September, 1917, 6th November, 1908, and 28th June, 1907, relative to the application to the Government Service of the Workmen's Compensation Act, 1906, and the Workmen's Compensation (War Addition) Acts, 1917 and 1919.

2. The law with regard to the payment of compensation to workmen who are injured in the course of their employment has now been materially altered by the Workmen's Compensation Act, 1923, which comes into operation on 1st January, next.

3. The Workmen's Compensation (War Addition) Acts, 1917 and 1919, are repealed as from 31st December, 1923, except that the addition provided for in the said Acts will still be payable in respect of total incapacity arising from an accident which occurred on or before that date, so long as the workman remains totally incapacitated. The addition is, however, to be treated for all purposes as if it was part of the weekly payment under the Workmen's Compensation Act, 1906. It will accordingly be practicable to commute the whole of a compensation payment which includes the temporary war addition in respect of total

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† *Note.*—The law relating to Compensation for Injury is consolidated in the Workmen's Compensation Act, 1925.

incapacity. Suitable cases of permanent total incapacity where commutation appears desirable should therefore be submitted for Their Lordships' consideration at an early date.

4. In the case of accidents occurring on or after 1st January, 1924, the maximum compensation payable in the event of total incapacity is, if the average weekly earnings do not exceed 25s. a week, three-quarters of such average weekly earnings; if the average weekly earnings exceed 25s. but do not exceed 50s. a week, the sum of 12s. 6d. per week added to one-quarter of such average weekly earnings; if the average weekly earnings exceed 50s. a week, one-half of such average weekly earnings, subject to a maximum of 30s.

5. The definition of "workman" has been extended so as to include any person not engaged by way of manual labour whose remuneration does not exceed £350 per annum, and the Warrants issued under Section 1 of the Superannuation Act, 1887, are being modified so as to exclude all such persons from their operation.

6. Compensation is payable in respect of any accident which disables the workman for more than three days, but is not payable in respect of the first three days unless the incapacity lasts for four weeks or upwards.

7. I am accordingly to authorise you to pay compensation under the Workmen's Compensation Acts, 1906 and 1923, without reference to this Department, in accordance with the following provisions, in cases where an Officer employed in your Department, to whom those Acts apply, is injured by an accident arising out of and in the course of his employment and is totally but not permanently incapacitated by such injury:—

- (i) When the injured person would have been eligible under the ordinary regulations to receive sick pay if the absence had been due to illness and not to accident, he may receive either ordinary sick pay, for which he would have been so eligible, or compensation at the rate prescribed in paragraph 4, subject to the proviso in paragraph 6 as regards the first three days, or sick pay followed by compensation, whichever is more favourable to him, but in no case beyond the expiration of six months, *as a maximum*, from the date of the injury.
- (ii) When the injured person is not eligible for sick pay under ordinary regulations (or, being eligible, has exhausted the authorised limits of ordinary sick pay) he may be paid compensation at the maximum rate under the Act—no payment being made for the first three days' absence unless the total absence amounts to at least four weeks—but in no case beyond the expiration of six months, *as a maximum*, from the date of the injury.
- (iii) When sick pay is granted under (i) above, the Officer should be informed that such pay is inclusive of compensation under the Act; and the appropriate deduction in respect thereof will fall to be made from any payment to dependants if the injury terminates fatally.
- (iv) Any period during which sick pay has been allowed under (i) above will be counted towards the prescribed maximum limits for ordinary sick pay. When, however, the effect of this rule is to render an Officer ineligible for sick pay during any subsequent absence due to ordinary illness within the periods of twelve months or four years (or to reduce his rate of sick pay during such absence below the amount of compensation which would have been payable under the Acts during the former absence due to injury) the following payment may be made in respect of such subsequent absence, *viz.*, sick pay at a rate not exceeding the amount of compensation as above referred to—less deductions in respect of sickness (insurance) benefit where such deductions are ordinarily prescribed—but



only for a period not exceeding that for which sick pay inclusive of compensation was allowed during the former absence.

- (v) Where an Officer eligible for ordinary sick pay is injured under circumstances which appear to give rise to a liability on the part of a third party and also to a claim under the Workmen's Compensation Acts against the Department, he may, if he elects to do so, receive ordinary sick pay. He should, however, if the injury arose in circumstances creating a liability against the Department under the Workmen's Compensation Acts, be informed in terms of paragraph 7 (iii) of this Circular that such sick pay is inclusive of the compensation payable under those Acts, in order that he may consider whether, regard being had to the provisions of Section 6 of the Act of 1906, it is to his interest to accept it.

If he decides not to accept such sick pay, he may (pending the result of his action) be allowed an advance at sick pay rates to support him while the case is *sub judice*, this advance to be repayable out of damages which he may recover, and if the Officer ultimately fails to recover in damages at least as much as he would have received in sick pay under departmental regulations during this interval, he may be allowed to retain the difference between the damages recovered and such amount.

- (vi) When a medical report is received by you after 1st January, 1924, to the effect that an Officer of your Department who is in receipt of sick pay or compensation under the Workmen's Compensation Acts in respect of an injury is fit to return to duty and he fails to return when called upon, a formal notice of intention to suspend compensation on the expiration of 10 clear days from the date of such notice should be served upon him, together with a copy of the medical report (which should set out the grounds of the opinion of the medical practitioner), as required by Section 14 of the Workmen's Compensation Act, 1923; and, if sick pay is being paid, payment should be immediately suspended and payment of compensation at the maximum rate prescribed under the Acts substituted. If within the aforesaid 10 days the Officer forwards a medical certificate that he is not fit to return to work, the case should be reported to Their Lordships, payment of compensation being continued in the meantime at the existing rate.

8. In the following circumstances, the case should be submitted for the directions of this Board with the least possible delay:—

- (i) If the injury terminates fatally.
- (ii) If the injury is certified to be such as to incapacitate the employee permanently for the performance of his duty or if such permanent incapacity appears likely. In these cases payment may be made temporarily by your Department, pending the receipt of Treasury instructions, at the rates prescribed in this Circular, provided, however, that payment in excess of the rate shown in paragraph 4, where such payment is admissible under paragraph 7 of the Circular, shall not in any case be continued for more than one month after the issue of a certificate of permanent incapacity.
- (iii) If there are grounds for doubt as to whether liability arises.
- (iv) If legal proceedings have been instituted or are threatened.
- (v) If the employee fails to return to duty after having been certified as fit to return (*vide* paragraph 7 (vi) above).

9. Where compensation is being paid by you under paragraph 7, and it seems likely that incapacity will continue for more than six months, the case should be submitted to this Board not later than 14 days before the expiry of that period.

10. This Circular supersedes Treasury Circulars of 28th June, 1907 (10441/07), 6th November, 1908 (15097/08), 7th September, 1917 (29480/17)

and 1st January, 1920 (55263/19), which are hereby withdrawn; and the Memorandum of Sick Leave Regulations applicable to Temporary and Unestablished Employees (issued with Treasury Circular No. 21/23) should be amended as follows:—

Article 7, lines 11-12, for “ e.g., the first week of absence when the total absence is less than two weeks ” read “ e.g., the first three days of absence when the total absence is less than four weeks.”

Article 8, line 9, for “ as if that absence were due to injury ” read “ during the former absence due to injury.”

Articles 7-8 will apply, *mutatis mutandis*, to those Officers covered by Part I of the Memorandum whose remuneration does not exceed £350 per annum: the deductions referred to in those Articles are not, of course, applicable to such Officers.

11. A further communication in regard to the Scheme framed under the Workmen's Compensation Act, 1906, will be addressed to the few Departments concerned.

I am,

Your obedient Servant,

R. R. SCOTT.

Special attention is drawn to the following remarks in regard to certain of the Clauses:—

*Clause 3.*—Action will be taken in Office as regards cases of permanent total incapacity where commutation appears desirable.

*Clause 4.*—Hurt Pay is to be issued at the rates now laid down in respect of injuries sustained on duty on and after 1st instant in cases falling for consideration under the Workmen's Compensation Act of 1906 and 1923.

*Clause 5.*—The definition of “ Workman ” has been extended so as to include any person not engaged by way of manual labour whose remuneration does not exceed £350 per annum.

*Clause 6.*—The provision referred to is in lieu of that in Clause 1 of the First Schedule to the Workmen's Compensation Act, 1906, as regards injuries occurring on and after 1st January, 1924.

In dealing with any claims to Hurt Pay from workmen who have not accepted the Government Scheme of Compensation, the following instructions are to be observed in calculating the waiting period of three days:—

(a) The day on which the workman is injured should count as the first day of disablement, if it can be shown that, as a result of the injury, the workman was not in fact physically capable of earning full wages for the whole of that day.

(b) Sundays, or other public holidays, should be included in the three days waiting period, if inability to earn full wages by reason of the injury exists on those days.

(c) The three days constituting the “ waiting period ” need not necessarily immediately follow the injury, nor need they be consecutive.

(d) Notwithstanding the instruction in (a), an injured workman is to be allowed a full day's pay for the day on which he is hurt, or the day on which he is ordered by the Medical Officer to leave the Yard in consequence of a hurt previously received on duty, as in the case of men who have accepted the scheme.

*Clause 7 (v).*—Any case of a person injured under circumstances which appear to give rise to a liability on the part of a third party and also to a claim under the Workmen's Compensation Acts is to be reported immediately with all relevant information to the Accountant-General of the Navy for directions.

*Clause 9.*—This does not affect the instructions relative to the furnishing of superannuation forms and other documents.

COMPENSATION FOR INJURY TO ADMIRALTY EMPLOYEES IN  
THE IRISH FREE STATE AND NORTHERN IRELAND.

1. In the case of the Irish Free State, the Workmen's Compensation Act, 1906, continues in force as amended by the Workmen's Compensation (War Addition) Acts, 1917 and 1919, and the Treasury Circulars referred to as withdrawn by paragraph 10 of the Circular of the 29th December, 1923, reprinted above, should be regarded as still in operation; and the revised Memorandum of Sick Leave Regulations applicable to temporary and unestablished employees (issued with Treasury Circular No. 9/25 of the 24th April, 1925) should be read as though Article 3 were omitted, and Articles 11 and 12 referred to the Workmen's Compensation Acts, 1906 to 1919, e.g., the proviso at the end of Article 11 should read as "the first week of absence when the total absence is less than two weeks."

2. The Government of Northern Ireland having passed an Act (The Workmen's Compensation Act (Northern Ireland) 1923) analogous to the Imperial Act of 1923 and containing the same definition of the expression "workman," the Treasury have made an amending Warrant dated the 22nd July, 1925, under Section 1 of the Superannuation Act, 1887, and Section 5 of the Superannuation Act, 1909, debarring (*inter alia*) Imperial employees in Northern Ireland who are within the definition of "workmen" (or their relatives) from awards of compensation under Section 1 of the Superannuation Act, 1887, and leaving such persons to be dealt with under the provisions of the local Workmen's Compensation Act. The terms of the Treasury Circular reprinted above will accordingly apply to claims to compensation for injury received from employees of the Admiralty serving in Northern Ireland who are "workmen" within the meaning of the above-mentioned local Act.

**525.—Claims for Hurt Pay or Compensation.**

(C. (III) 1548/27.—25.2.1927.)

Whenever a claim for Hurt Pay or Compensation in respect of incapacity alleged to have been caused by an accident or the contracting of an industrial disease is preferred, and there is a doubt as to liability, a statement should be obtained from the claimant himself as soon as practicable after the arising of the alleged accident. This statement should detail the circumstances which result in the claim being made, and the claim, together with a full report of the circumstances, is to be forwarded to the Accountant-General in order that a decision may be given as to whether or not Hurt Pay may be issued.

The importance of prompt action and of the need for supplying comprehensive statements of *all* the particulars relevant to a consideration of the question of liability is emphasised in view of the necessity for avoiding delay between the date of first absence of the employee from work in consequence of the alleged injury or disease, and the issue to him of appropriate Hurt Pay in the event of a decision in his favour being reached.

**531.—Petroleum and C.M.B. Spirit and Mineral Vapourising Oil  
—Stocks to be Maintained.**

(N.S. Fuel 840/27.—25.2.1927.)

*Home Yards.*

*Petroleum Spirit and C.M.B. Spirit.*—Stocks of petroleum and C.M.B. spirit at Home Yards should not exceed three months' average expenditure and should not be allowed to fall below one month's average expenditure.

*Mineral Vapourising Oil.*—Stocks of mineral vapourising oil at Home Yards should not exceed four months' average expenditure and should not be allowed to fall below two months' average expenditure. Any special issues, such as to Shotley and H.M.S. "Ark Royal" from Sheerness, where replenishments are arranged in large consignments sent direct from Contractors' works, should not be included in the average.

*Yards Abroad.*

The following stocks of petroleum spirit and mineral vapourising oil should be maintained :—

	Obtained from.	Petroleum Spirit.	Mineral Vapourising Oil.
Gibraltar ... ..	Local contract for petrol. M.V.O. from England.	3 months' average expenditure.	4 months' average expenditure.
Malta ... ..	Local contract.	3 months' average expenditure (to be held by Contractors).	3 months' average expenditure (to be held by Contractors).
Trincomali ...	Local contract.	3 months' average expenditure.	3 months' average expenditure.
Hong Kong ...	Local contract for petrol. Local purchase for M.V.O.	As for Home Yards	Minimum of 2 months' average expenditure. In order to obtain cheaper terms purchases may be arranged for about 20,000 galls. at a time.
Wei Hai Wei ...	Local contract for petrol. M.V.O. from Hong Kong.	As for Home Yards	4 months' average expenditure.
Cape ... ..	Local contract for petrol. M.V.O. from England.	As for Home Yards	One year's average expenditure.
Bermuda ... ..	Trinidad.	4 months' average expenditure.	4 months' average expenditure.

**\*540.—Warrant Officers and above—Effect of Reduction of Age for Retirement.**

(C.W. 9286/26.—4.3.1927.)

Representations have been received from various quarters as to the effect, upon officers now serving, of the working of the rules for the reduction of the age for compulsory retirement in certain classes of Warrant Officers and above, from 55 to 50.

2. This matter has been carefully considered, but the Board regret that they are unable to approve of any alteration being made in these rules, which must accordingly be adhered to.

3. When a vacancy for the equivalent rank of Lieutenant occurs, and there is no Commissioned Officer from Warrant rank eligible for promotion on account of age, or willing to accept promotion if so eligible, the vacancy will remain in abeyance until a Commissioned Officer from Warrant rank is available, who is eligible for and desirous of promotion. The question of the minimum period to be served in the rank of Commissioned Officer from Warrant rank will be considered in each case on its merits.

4. Promotion to Commissioned Officer from Warrant rank and Warrant Officer will not be affected.

### 543.—Entry or Re-entry of Naval Ratings—Statement as to Non-receipt of Disability Pension.

(N.P. (II) 363.—4.3.1927.)

Men with former service in His Majesty's Forces, including pensioners and Maltese, but excluding natives who are candidates for entry or re-entry into the Royal Navy, are to be required to sign a statement that they are not in receipt of a pension (either permanent or temporary) on account of any disability or injury sustained whilst serving in His Majesty's Forces.

A question to this effect was incorporated in Form S.55 (Continuous Service Engagement or Re-engagement) on reprint in May, 1926, and will be included in Forms S.56 (Non-Continuous Service Engagement or Re-engagement) and S.56A (Special Service Engagement) on next reprint.

Where a candidate acknowledges former service in His Majesty's Forces and the engagement form used does not provide for the above question to be answered, the statement is to be added in manuscript on the back of Forms S.56 and S.56A and on a slip affixed to Form S.55.

To avoid unnecessary correspondence, care is to be taken that the addition is made where necessary before engagement forms are forwarded to the Accountant General of the Navy.

### 555.—Chadburn's Mechanical Torpedo Control Instruments—Method of Fitting Opalescent Dials.

(G. 18303/26.—4.3.1927.)

It has been reported that difficulty is being experienced in fitting the opalescent glass dials supplied.

2. The principal difficulty lies in the fact that the new dials are thicker than those originally fitted, and the modifications found necessary to enable the new dial to be shipped are shown in red in drawing E.F.O. 10/27.

3. These modifications entail:—

- (a) The sweating of a washer (A) of necessary thickness to the pointer.
- (b) Fitting of a longer grub screw (B).
- (c) Reduction in thickness of the brass securing ring (C).
- (d) The fitting of a  $\frac{1}{8}$  in. screw (D) to prevent dial turning. A convenient position for screw (D) to screw into the spider plate must be selected, and the edge of the dial filed away to take the head of the screw.

4. Owing to tolerances allowed in manufacture of the dials they will be found to vary slightly in thickness. It is not, therefore, possible to give dimensional details of the items, referred to in paragraph 3 (a), (b) and (c) above, and these details must be adjusted to suit individual dials.

### 566.—Bombs filled Amatol.

(G. 0387/27.—4.3.1927.)

The attention of all concerned is drawn to the orders as to the precautions to be taken in the handling, stowage and landing for examination of all bombs filled Amatol.

2. The orders concerned are contained in Articles 245 and 301 (M) of the Naval Magazine and Explosives Regulations as amended by the latest addendum.

### 567.—Battle Practice Targets—Modification to Towing Arrangements.

(D. 2651/27.—4.3.1927.)

On a recent occasion of the towage of an 110 ft. B.P. target, the tug decided on account of the weather to turn and proceed to shelter. During the turn, the shackle securing the towing bridles to the point of tow opened out, and the tow parted.

2. Arrangements are to be made by the Dockyards concerned, on the next occasion of docking B.P. targets, for a 2½ in. link to be welded into the existing eyeplate "A" shown in sketch E.F.O. 50/23 (A.F.O. 1573/23.).

3. This will avoid any cross strain on the shackle, either when the target yaws or when the tow surges with the target dead astern, or in any combination of these two circumstances.

4. The alteration will also make it unnecessary to fit either a screw shackle or one whose pin is secured by a forelock, as the bridle can be joined to the link by the ordinary pattern joining shackle secured by pin and pellet.

(A.F.O. 1573/23.)

### \*579.—Royal Naval Benevolent Trust—Contributions from Canteen Rebate, etc.

(V. 580.—4.3.1927.)

Attention is drawn to the instructions for carrying out the scheme adopted in 1925, under which a contribution representing one-fifth of the amount due as canteen rebate, rent, or profit to the ship's or establishment funds of H.M. ships and fleet establishments is made to the Royal Naval Benevolent Trust. For convenience, these instructions are re-published below.

*Ships and Establishments in which the Canteen is conducted by the Navy, Army and Air Force Institutes.*

2. Where the canteen is conducted by the Navy, Army and Air Force Institutes, that Corporation will (except in the case of the R.N. Barracks) remit the amount of the contribution to the Royal Naval Benevolent Trust monthly, deducting it from the amount of rebate payable to the ship's fund.

3. In the case of the Royal Naval Barracks at the three home ports, the Navy, Army and Air Force Institutes will pay over to the barrack fund the full amount of rebate without deduction. One-fifth of this amount, plus one-fifth of any sums accruing to the barrack fund on account of local purchases by the general mess or by other messes, as well as of any other income to the barrack fund which it is the custom to include, is to be remitted, monthly or quarterly as convenient, direct to the Trust by the Treasurer of the barrack fund.

4. In establishments where the contribution from rebate is remitted to the Trust by the Navy, Army and Air Force Institutes (paragraph 2), but where further contributions are due from sources similar to those mentioned in the latter part of paragraph 3, the additional amount is to be remitted, monthly or quarterly as convenient, direct to the Trust by the Treasurer of the fund.

*Ships and Establishments in which the Canteen is not conducted by the Navy, Army and Air Force Institutes.*

5. Where the canteen is not conducted by the Navy, Army and Air Force Institutes, but is run on the service or tenant systems, the appropriate proportion of the profit or rent is to be remitted direct to the Royal Naval Benevolent Trust, monthly or quarterly as convenient, by the ship or establishment concerned.

*General.*

6. *Rebate due to Officers' Messes.*—When the amount of rebate on canteen purchases by officers' messes is authorised to be paid wholly or in part to the ship's fund, one-fifth of the amount so allotted is to be included in the contribution remitted to the Royal Naval Benevolent Trust.

7. *Ships with Royal Air Force Ratings in their complement.*—Since ratings of the Royal Air Force do not participate in the benefits of the Trust, when ships have a proportion of such ratings in their complement the total amount of rebate due to the ship's fund is to be apportioned on the basis of the respective numbers of Naval and Air Force ratings victualled during the period concerned, and the contribution to the Royal Naval Benevolent Trust calculated on the naval portion only.

8. *Contributions to be reported to the Admiralty.*—In order that a detailed list of the amounts contributed to the Trust under this scheme may be published in Admiralty Fleet Orders, particulars of any amounts *remitted direct to the Trust* (see paragraphs 3, 4 and 5) from any of H.M. ships or fleet establishments are to be reported at the same time to the Admiralty (Director of Victualling) with a statement showing how the amount has been arrived at. Similar particulars in respect of amounts remitted by the Navy, Army and Air Force Institutes (paragraph 2) are communicated to the Admiralty periodically by that Corporation, so that a complete record of the contributions is available.

9. *Posting on Notice Boards.*—Where the contributions are remitted to the Trust by the Navy, Army and Air Force Institutes, that Corporation will furnish the ship or establishment with a monthly statement of the amount of rebate due in the following form, for posting on notice boards:—

	£	s.	d.
Total amount of rebate due to ship's fund ... ..			
One-fifth remitted to the Royal Naval Benevolent Trust			
Balance payable to ship's fund ... ..			

Similar statements are to be made out and posted up in respect of contributions under the scheme which are sent direct to the Trust by ships and establishments.

10. *Boys' Funds.*—Contributions are not made under this scheme from rebate paid into funds which are used for the sole benefit of boys in the training establishments and apprentices in H.M.S. "Fisgard."

### 589.—Typewriters—Establishment.

(Sta. 5035/27.—4.3.1927.)

The following revised Establishment of typewriters has been approved:—

(a) *H.M. ships and vessels in full commission:—*

	No. of Machines.	
Battleships and battle cruisers ... ..	7*	}
Cruisers and aircraft carriers ... ..	5*	
Leaders ... ..	2*	
Destroyers ... ..	1	}
Sloops ... ..	1	
Surveying ships ... ..	2	Including one for surveying work.
Minesweepers ... ..	1	
China and Danube River gunboats ...	1	
Submarines "K," "M" and "X" Classes	1	
Depôt ships (destroyers and submarines)	1	

No fixed allowance. The number of machines to be approved by Admiralty for each vessel.

\*The machines may be distributed according to the discretion of the Commanding Officer, but one foolscap-size machine is to be allocated to the signal distributing office of battleships, battle cruisers, cruisers, and aircraft carriers.

(b) *Flagships* will be supplied with typewriters according to the number allowed to the class and in addition will carry machines for the use of the Staff of Flag Officers and Commodore (D). No fixed number of machines can be assigned for this purpose and the number allowed will be as approved by the Admiralty for each *Flagship*.

(c) *H.M. ships and vessels in reserve*:—

Parent ships	... ..	Establishment to be as for full commission according to class.
Tenders to above	...	To <i>surrender</i> any typewriters on board.
Ungrouped ships with reserve complements.	with	One typewriter, if classed for issue of typewriters when in full commission. To <i>surrender</i> if later grouped as tender, or completed up according to class, if made parent ship.
Ungrouped ships with care and maintenance party.		To <i>surrender</i> any typewriters on board.

2. The reserves of emergency typewriters hitherto held at Home Dockyards for temporary issue to H.M. Ships and Services whilst machines are under repair are no longer maintained. In view of the increased numbers of machines now allowed to the larger vessels, the temporary replacement of a machine sent for repair is not considered necessary. For smaller vessels serving in Home waters when a machine is required to replace another out for repair, an application is to be forwarded to the Admiralty (Stationery Branch) for a serviceable typewriter and an indication is to be given as to the probable time that will elapse before the repairable machine will be available. If necessary, arrangements will be made for another typewriter to be issued temporarily.

3. Emergency machines will continue to be maintained at foreign yards.

4. All transfers of typewriters, etc., from one ship or establishment to another are invariably to be reported to the Superintendent, R.N. Store Office, West India Docks, London, E.14, in order that the records may be adjusted.

5. The makes and factory numbers of machines are to be quoted in all correspondence.

(A.F.O. 3067/28.)

## 618.—Survey of Stores from Contractors—REPORTS.

(N.S. 13139/26.—4.3.1927.)

Questions relating to the survey and receipt of stores at dockyards from contractors have been under consideration, and in order that the procedure at all yards may be co-ordinated, the instructions detailed below should be followed:—

(a) In connection with stores in general use at all yards purchased under contract schedules and usually ordered in bulk for delivery direct to the several yards and survey thereat, the responsibility for initiating action in respect of acceptance, rejection and chemical or special tests is to be shared between the three yards, Chatham, Portsmouth and Devonport. These yards are hereafter referred to as the "responsible" yards.

(b) For the present the stores for which each of these yards is to assume responsibility are those in the contract schedules for which they are already responsible, and as indicated in page 56, *et seq.*, of the Rate Book for 1926 under the index of Contract Schedules.

Departures from this allocation will be made from time to time at the instance of the Admiralty, due notice of which will be given.

(c) The responsible yard should in all cases forward copies of any correspondence with any yard in respect of any contract to all other yards, who may be receiving deliveries under the same contract, for information.



(d) First deliveries of stores to any yard under any contract requiring chemical or other special test should be reported to the responsible yard for decision whether samples are to be forwarded to the Admiralty chemist, etc., for test, or whether any other action is to be taken in addition to the survey usually carried out.

The question of chemical and other special tests in subsequent deliveries is left to the responsible yard unless adulteration is suspected, in which case the surveyor of stores of the responsible yard should be informed of the action taken.

Where it is known that a yard which is not the responsible yard will receive first deliveries under a contract, that yard should take action at once as regards any chemical test necessary, and should inform the responsible yard of the action taken.

On completion of the tests the Admiralty chemist should arrange for a copy of the report of test to be forwarded to the responsible yard, in addition to the yard from which the sample was received. On receipt of the result of the chemical test the responsible yard should forward copies to all other yards, adding any remarks as to action to be followed. A copy of the remarks should also be forwarded to the yard immediately concerned.

(e) *Cancelled.*

(f) In the case of rejections the responsible yard should be informed by the receiving yard of the action taken without delay, and a copy of the letter sent to the responsible yard by the receiving yard should be forwarded by the latter to all other yards concerned, a notation being made on the letter as to the names of the other yards so informed.

(g) The results of any special mechanical or other tests should be communicated to all yards concerned, including the responsible yard, if such results are not considered satisfactory, particulars of the results being given.

(h) When stores are accepted in accordance with (e) which differ in certain respects from the pattern, etc., a statement in detail of the particulars in which the articles differ should be inserted on the invoice, and the contractor requested to adhere strictly to the pattern in further deliveries.

(i) In connection with paragraph (d) the Form D.297 used in sending samples to the Admiralty chemist for test should be sent in duplicate. The duplicate copy should be sent by the Admiralty chemist to the surveyor of stores of the responsible yard with a copy of the report of test sent to the receiving yard.

(j) A new form will be instituted in order to reduce clerical labour as much as possible, and requests for information should always be sent to the responsible yard in duplicate to enable the surveyor of stores at the responsible yard to retain readily copies of all decisions given.

(k) No alterations are to be made in existing arrangements in connection with the survey of the following, viz. :—

Oils,  
Disinfectant fluid,  
Hard soap,  
Compositions,  
Methylated spirits,  
Files.

(l) The object of this revised procedure is to ensure that :—

- (i) All yards work on a concerted plan.
- (ii) Their decisions as regards acceptance or rejection of similar stores are uniform.

- (iii) No avoidable overlapping occurs.
- (iv) The system is as free from defects as it would be if the survey of all stores were centralised entirely at one yard.
- (v) Special tests (chemical, etc.) are reduced to a minimum consistent with satisfactory survey.

These instructions may be varied in detail if considered advantageous.

(m) Reports should be forwarded at the end of six months' and twelve months' working stating whether the system has proved advantageous and satisfactory, and forwarding any recommendations for amending these instructions which may be considered desirable.

2. Attention is also called to the following points relating to the receipt of stores from contractors :—

*Selection of Patterns.*—Every care is to be taken in the selection of sealed patterns to ensure that they are in agreement in all respects with specification requirements.

*Reports of Selection of Patterns.*—Reports D.214 of selection of patterns are to be sent to all yards concerned in addition to the Director of Navy Contracts.

*Comparison of Deliveries with Latest Pattern or Specification.*—Surveyors of stores are to be informed immediately of the—

- (a) Receipt or selection of new patterns (*see* above).
- (b) Alterations to sketches, patterns or specifications, and they are to ensure that deliveries are examined with the latest patterns, etc.

*Alterations to Patterns, Sketches, etc.*—Any alteration made to any pattern, sketch or specification by the yard responsible for the particular schedule is to be communicated to all other yards and overseers concerned, notation being made whether or not the alterations are awaiting Admiralty approval.

*Drawings issued to Overseers.*—All drawings, except those prepared by the Electrical Department, supplied to overseers for guidance should be correctly tinted to show the machining required as in the case of drawings supplied to the Admiralty and pattern rooms.

3. As far as possible this new procedure should be brought into force in connection with the contracts for stores being purchased to meet requirements for next financial year.

(A.F.O. 2333/29.)

## 627.—Submarines—Exercises, Diving, etc.

(M. 3412/26.—11.3.1927.)

With the exception of the following areas submarines may now exercise in all home waters to the west of longitude 4° E., provided a depth of 10 ft. is maintained under the bottom.

Submarines are *not* to dive in any of the following areas, but if already submerged, and fully under control, they may proceed submerged through these areas, provided a depth of 10 ft. is maintained under the bottom.

### 1. MOUNTS BAY :

(a) Lat.	50	01	20 N.,	long.	5	33	35 W.
(b) „	50	01	20 N.,	„	5	25	40 W.
(c) „	50	00	00 N.,	„	5	25	40 W.
(d) „	50	00	00 N.,	„	5	33	35 W.

### 2. LIZARD :

(a) Lat.	49	55	25 N.,	long.	5	14	30 W.
(b) „	49	55	15 N.,	„	5	06	25 W.
(c) „	49	50	15 N.,	„	5	07	35 W.

## 3. START POINT :

(a) Lat.	50	09	30 N.,	long.	3	47	50 W.
(b) "	50	11	05 N.,	"	3	36	40 W.
(c) "	50	08	45 N.,	"	3	35	30 W.
(d) "	50	07	45 N.,	"	3	40	35 W.
(e) "	50	08	20 N.,	"	3	48	10 W.

## 4. PORTLAND :

(a) Lat.	50	32	30 N.,	long.	2	23	00 W.
(b) "	50	32	30 N.,	"	2	13	00 W.
(c) "	50	28	30 N.,	"	2	13	00 W.
(d) "	50	28	30 N.,	"	2	23	00 W.

## 5. PORTSMOUTH :

(a) Lat.	50	39	24 N.,	long.	0	57	33 W.
(b) "	50	36	10 N.,	"	0	57	33 W.
(c) "	50	36	14 N.,	"	0	56	0 W.
(d) "	50	39	54 N.,	"	0	56	0 W.

## 6. ROYAL SOVEREIGN SHOALS :

(a) Lat.	50	40	30 N.,	long.	0	17	50 E.
(b) "	50	43	25 N.,	"	0	34	10 E.
(c) "	50	41	15 N.,	"	0	37	50 E.
(d) "	50	33	20 N.,	"	0	23	40 E.
(e) "	50	34	20 N.,	"	0	20	10 E.

## 7. DOVER STRAIT :

(a) Lat.	51	04	00 N.,	long.	1	12	30 E.
(b) "	51	03	00 N.,	"	1	16	00 E.
(c) "	51	03	30 N.,	"	1	19	00 E.
(d) "	50	55	30 N.,	"	1	37	00 E.
(e) "	50	49	30 N.,	"	1	32	00 E.
(f) "	50	54	00 N.,	"	1	21	30 E.
(g) "	51	00	30 N.,	"	1	09	30 E.
(h) "	51	02	30 N.,	"	1	10	00 E.

## 8. VERGOYER SHOAL :

(a) Lat.	50	38	00 N.,	long.	1	20	00 E.
(b) "	50	38	00 N.,	"	1	24	00 E.
(c) "	50	35	00 N.,	"	1	24	00 E.
(d) "	50	35	00 N.,	"	1	20	00 E.

## 9. NORTHERN APPROACHES TO DOVER STRAIT :

(a) Lat.	51	02	30 N.,	long.	1	58	30 E.
(b) "	51	06	30 N.,	"	1	40	30 E.
(c) "	51	04	30 N.,	"	1	39	30 E.
(d) "	51	06	00 N.,	"	1	30	30 E.
(e) "	51	10	00 N.,	"	1	30	30 E.
(f) "	51	39	00 N.,	"	1	40	30 E.
(g) "	51	54	00 N.,	"	1	35	00 E.
(h) "	51	59	30 N.,	"	2	04	00 E.
(k) "	51	42	00 N.,	"	2	47	00 E.
(l) "	51	42	00 N.,	"	3	18	00 E.
(m) "	51	37	30 N.,	"	3	22	00 E.
(n) "	51	24	10 N.,	"	3	15	40 E.
(o)	Thence by a line drawn parallel to the coast and 3 miles from it to position (a).						

## 10. OFF LOWESTOFT :

(a) Lat.	52	41	30 N.,	long.	2	12	00 E.
(b) "	52	31	00 N.,	"	2	12	00 E.
(c) "	52	24	00 N.,	"	2	07	00 E.
(d) "	52	24	00 N.,	"	2	01	30 E.
(e) "	52	34	30 N.,	"	2	01	30 E.

## 11. BASS ROCK :

	°	'	"	°	'	"
(a) Lat.	56	08	40 N.,	long.	2	35 55 W.
(b) "	56	09	10 N.,	"	2	32 35 W.
(c) "	56	05	43 N.,	"	2	30 45 W.
(d) "	56	02	10 N.,	"	2	34 20 W.
(e) "	56	04	10 N.,	"	2	37 48 W.
(f) "	56	06	30 N.,	"	2	34 50 W.

## 12. ST. ANDREW'S BAY :

(a) Lat.	56	25	05 N.,	long.	2	36 45 W.
(b) "	56	25	15 N.,	"	2	33 15 W.
(c) "	56	18	10 N.,	"	2	32 30 W.
(d) "	56	18	05 N.,	"	2	36 00 W.

## 13. TOD HEAD :

(a) Lat.	56	53	30 N.,	long.	2	08 50 W.
(b) "	56	52	25 N.,	"	1	58 40 W.
(c) "	56	50	25 N.,	"	1	59 20 W.
(d) "	56	51	30 N.,	"	2	09 30 W.

## 14. LOSSIEMOUTH :

(a) Lat.	57	49	00 N.,	long.	3	13 53 W.
(b) "	57	46	45 N.,	"	3	07 45 W.
(c) "	57	42	40 N.,	"	3	13 00 W.
(d) "	57	44	45 N.,	"	3	19 30 W.

## 15. TARBET NESS:

(a) Lat.	57	53	30 N.,	long.	3	44 30 W.
(b) "	57	51	10 N.,	"	3	35 10 W.
(c) "	57	47	12 N.,	"	3	37 15 W.
(d) "	57	49	45 N.,	"	3	47 30 W.

## 16. CLYTH NESS :

(a) Lat.	58	20	40 N.,	long.	3	08 30 W.
(b) "	58	22	00 N.,	"	2	59 20 W.
(c) "	58	17	50 N.,	"	2	58 10 W.
(d) "	58	16	20 N.,	"	3	11 00 W.
(e) "	58	18	00 N.,	"	3	12 30 W.

## 17. ORKNEY ISLES TO NORWAY :

(a) Lat.	59	09	00 N.,	long.	5	12 00 E.
(b) "	59	32	00 N.,	"	2	32 00 E.
(c) "	58	50	00 N.,	"	0	50 00 W.
(d) "	58	50	00 N.,	"	2	15 00 W.
(e) "	59	20	00 N.,	"	2	09 00 W.
(f) "	60	10	00 N.,	"	3	10 00 E.
(g) "	59	50	00 N.,	"	4	57 00 E.

## 18. NORTH CHANNEL :

(a) Lat.	55	26	10 N.,	long.	6	56 30 W.
(b) "	55	35	20 N.,	"	6	43 15 W.
(c) "	55	32	40 N.,	"	6	37 45 W.
(d) "	55	27	30 N.,	"	6	45 00 W.
(e) "	55	24	50 N.,	"	6	53 45 W.

## 19. OFF YORKSHIRE COAST :

(a) Lat.	55	28	00 N.,	long.	0	48 30 W.
(b) "	54	18	00 N.,	"	0	55 00 E.
(c) "	54	02	30 N.,	"	0	34 00 E.
(d) "	53	59	30 N.,	"	0	14 00 E.
(e) "	54	12	00 N.,	"	0	05 00 E.
(f) "	54	31	00 N.,	"	0	28 00 W.
(g) "	55	05	00 N.,	"	0	34 30 W.
(h) "	55	22	30 N.,	"	1	00 00 W.

2. Bottoming exercises may be carried out by submarines in an area bounded by the following points :—

(a)	Lat.	50°	33'	33" N.,	long.	2°	57'	20" W.
(b)	"	50	32	20 N.,	"	2	55	40 W.
(c)	"	50	32	20 N.,	"	2	50	36 W.
(d)	"	50	32	0 N.,	"	2	49	30 W.
(e)	"	50	32	0 N.,	"	2	45	36 W.
(f)	"	50	30	33 N.,	"	2	47	10 W.
(g)	"	50	30	33 N.,	"	2	49	50 W.
(h)	"	50	29	12 N.,	"	2	53	38 W.
(j)	"	50	30	30 N.,	"	2	57	30 W.
(k)	"	50	30	45 N.,	"	3	1	50 W.
(l)	"	50	30	15 N.,	"	3	3	00 W.
(m)	"	50	29	00 N.,	"	3	3	00 W.
(n)	"	50	27	15 N.,	"	3	8	30 W.
(o)	"	50	29	10 N.,	"	3	9	55 W.
(p)	"	50	29	45 N.,	"	3	8	30 W.
(q)	"	50	29	30 N.,	"	3	7	00 W.
(r)	"	50	30	30 N.,	"	3	5	50 W.
(s)	"	50	31	40 N.,	"	3	6	30 W.
(a)	"	50	33	33 N.,	"	2	57	20 W.

### 628.—C.M.B. Hulls used as Towed Targets—Distinguishing Letters—RETURNS.

(M. 3843/25.—11.3.1927.)

All C.M.B. hulls issued to the Fleet as towed targets are to be assigned letters as distinguishing marks. All reports, whether by letter, telegram or signal, concerning the loss, repair or movements of towed C.M.B. targets, are to refer to them by those distinguishing letters.

2. The distinguishing letters are to be painted in white on each side of the hulls, the letters being of sufficient dimensions to be distinguishable at long distances. Hulls will have their distinguishing letters painted before issue to the Fleet.

3. No use is made of the letters F, G, Q, R and U in the system of lettering, in order to avoid confusion with other similar letters used.

The intention is that when a C.M.B. target is destroyed or lost, its letter shall lapse with it.

When the alphabet has been expended, double letters AA, BB, etc., will be commenced, and on the completion of this second series, the single letters will be recommenced.

4. A return is to be rendered to reach the Admiralty not later than 16th March each year, by dockyards and bases concerned, giving the distinguishing letters of all attached C.M.B. targets, and a general description of their condition, etc.

The return is to be in the following form :—

Distinguishing Letters.	Whether in Sea-going or Damaged Condition.	Remarks (e.g., whether damaged boats are repairable, etc.) :— (a) By Ship's Staff. (b) By Dockyard.

Boats lost or destroyed since last return.

Distinguishing Letters.	Date Lost.	Remarks.

### 629.—Trials of New Material and Methods—Method of Rendering Reports.

(G.D. 3309/26.—11.3.1927.)

Review of the reports of trials of new material and methods carried out at sea and in shore establishments shows that the objects of such trials are frequently not stated, and in addition the method of carrying out the trials, weather conditions, etc., are omitted.

2. These omissions greatly detract from the value of such reports, entail the probable loss of valuable data, and sometimes necessitate a further protracted correspondence.

3. When such reports are drawn up in future, a general scheme embodying the following details should be used:—

- (a) Reference numbers and dates of former correspondence. Authority for carrying out trials.
- (b) Object of trials.
- (c) Brief description of gear or method under trial.
- (d) Methods employed to carry out trials. Time, personnel and ships or units involved.
- (e) Weather and sea conditions (where applicable).
- (f) Results obtained.
- (g) Deductions drawn.
- (h) Recommendations made.
- (i) Other points of value brought to light and which are not directly concerned in the object of the trial.

(A.F.O. 2908/29.)

### 646.—Calf Lymph—Receipts.

(M.D.G. 1507/27.—11.3.1927.)

Receipts should be forwarded to the Government Lymph Establishment, Colindale Avenue, The Hyde, London, N.W., for all consignments issued direct from that establishment on and after 1st April, 1927, to Naval medical establishments and H.M. ships.

2. The receipt should show the date of issue from the Government Lymph Establishment and the date of receipt at the Naval establishment or H.M. ship. A duplicate of the receipt should also be made out and forwarded as a voucher to the medical store account on which the calf lymph is taken on charge.

3. Notification should be sent to the Government Lymph Establishment by the Naval medical establishment or H.M. ship concerned, of the non-receipt of any consignment due, after sufficient time has been allowed to elapse to cover the postal journey.

4. In cases where supplies of calf lymph are received by H.M. ships from R.N. hospitals, receipted vouchers should, as hitherto, be forwarded to the establishment concerned.

### **650.—Torpedo Tube Shelters.**

*New Construction Cruisers.*

(G. 19221/26.—11.3.1927.)

Information has been received that an approved drawing—showing the arrangement of electrical instruments for the tube shelters of a ship of the "Kent" Class—cannot be worked to because miscellaneous pipes have already been fitted in the positions.

2. In view of the limited space available for fitting the electrical instruments suitable for satisfactory operation, care should be taken to avoid fitting such extraneous articles in the positions allocated for tube shelter instruments, which will normally be at the fore end of the shelter or space for withdrawing the torpedoes.

### **665.—W/T—D/F Sets in New Construction—Initial Calibration.**

(S.D./G. 1919/27.—11.3.1927.)

It has been decided that the actual calibration of W/T D/F sets in new construction should not in future be carried out until after the ship concerned is commissioned for service.

2. The existing preliminary trials necessary for the acceptance of the D/F installation will be carried out as at present, during the external communication trials as laid down in O.U. 5332, "Procedure for Contract-built Ships," Article 4 (v), page 8, and Home Dockyard Regulations, 1925 (O.U. 5225), Article 669 and Appendix XXII.

3. The actual calibration, which can only be carried out at Devonport, Portland or Portsmouth, should take place as soon as possible after re-commissioning. The Commanding Officer of the ship concerned is to include this in his programme, a copy of which is to be sent to the Captain, H.M. Signal School, Portsmouth, in order that the calibrating officers may attend.

4. For this calibration the ship will be required to be under weigh for about four to six hours at a distance of approximately 5 miles from the station transmitting.

### **671.—Propellers of Motor Boats—Guard Sleeve to Prevent Fouling.**

(D. 16654/26.—11.3.1927.)

A fitting on the lines indicated on sketch (E.F.O. 9/27) has been brought to notice by H.M.S. "Adamant," as proving satisfactory in preventing the fouling of the shaft of motor boats between the after bearing and the propeller by ropes, etc.

2. Although originally the device was designed to overcome fouling in boats in which movement of the shaft in the fore and aft direction is necessary for the operation of the gear box, a similar device should be fitted to all motor boats where practicable, the work being carried out by the staff of ships or establishments to which boats are attached.

## 694.—Typewriters—Repair, Care and Use.

(Sta. 6691/26.—11.3.1927.)

The following instructions in regard to the repair of typewriters are circulated for general information:—

1. *Repairs to be effected by accredited Agents only.*—Minor repairs and adjustments should, if possible, be effected by the Service. Repairs of a more serious nature should be entrusted to the nearest accredited Agent of the manufacturers who have authority from the Stationery Office to effect necessary repairs within the limit of £2 without prior approval, and who will obtain approval from the Stationery Office for putting in hand repairs in excess of this amount. Machines found by the Agent after examination to be beyond economical repair will be reported by the Agent to the Stationery Office, and a machine in replacement will be forwarded from West India Docks. *Machines should be repaired by a local typewriter firm only where the repairs required are so slight that their cost is likely to be exceeded by the cost of carriage to the nearest accredited Agent.* An abridged list of accredited Agents for Empire Typewriters is issued from time to time. For other makes of machines where the Agent of the Company is not known, application should be made to the Admiralty (Stationery Branch) for instructions as to where the machines are to be sent for repair.

### 2. *Payment for Repairs.*

(a) *Home Stations.*—As from 1st April, 1927, all accounts for repairs by accredited Agents will be sent by the Agents to the ships or establishments for which repairs are effected. Upon receipt, the accounts are to be endorsed by the Accounting Officer or Secretary as proof that the repairs have been satisfactorily performed, and that the amounts charged are fair and reasonable. The accounts are then to be forwarded without delay to the appropriate Branch of H.M. Stationery Office (*London*—Princes Street, Westminster, S.W.1.; *Scotland*—47A, George Street, Edinburgh; *Northern Area Branch*—Post Office Box No. 239, Manchester) and *not* to the Admiralty.

*In no circumstances are the accounts to be paid by H.M. ships and establishments.*

(b) *Abroad.*—On Foreign Stations it is undesirable to return typewriters to England for repairs at the present time, and the limit of £3 10s. authorised for local repair is cancelled. In making arrangements for repair, care is to be taken that the charges incurred are fair and reasonable. The cost of repairs effected locally Abroad should be paid by H.M. ships or establishments, and the amount brought to account as a charge against H.M. Stationery Office.

3. *Loan of Machines during lengthy repairs.*—To avoid possible inconvenience when repairs cannot be effected quickly, a small reserve of Empire Typewriters is kept by the Naval Store Officers at the following Dockyards for issue on loan to H.M. ships:—

Malta.	Hong Kong.
Gibraltar.	Simonstown.

The loaned machines should invariably be returned to the Naval Store Officer immediately after the receipt of the repaired machines. In the event of a ship leaving port before repairs are completed, the loaned reserve machine should be taken on charge and a receipt obtained for the machine under repair, which should, on return from the Contractors, be dealt with by the Naval Store Officer as a reserve machine in lieu.

4. *Accidents.*—Where machines have been damaged by accident or otherwise, a full report of the circumstances should be forwarded to H.M. Stationery Office when the machine is sent for repair so as to avoid correspondence and delay.

5. *Losses.*—The loss or theft of any typewriter should be reported to the Admiralty (Stationery Branch) *immediately*, with a full explanation of the case.



6. *Identification in correspondence.*—The make and factory number of machines are to be quoted invariably in all correspondence with H.M. Stationery Office and the Admiralty.

7. *Transport and Packing.*—Care should be taken to forward machines complete with covers and baseboards, and in no circumstances should any parts be retained when machines are sent for repair, otherwise considerable correspondence will arise as to parts missing when the machines reach their destination. Special care should be taken to secure the moving parts of the machine before packing; to secure the machine itself to the metal or wooden base by means of the iron clamp screws, to see that *all* hooks holding the cover to the base are fastened securely; and finally to pass strong cord round the cover and base to ensure that the machine does not fall to the ground should the hooks become loose. Lack of these precautions have resulted in broken main or top frames and other damage from faulty packing.

When typewriters are sent by rail it has been found preferable not to pack them in wooden cases as they are less roughly handled when the metal cover is exposed.

8. *Returns.*—When returning machines surplus to requirements, care is to be taken that cases are addressed to the Superintendent, R.N. Store Depot, Royal Victoria Yard, Deptford, London, S.E.8.

9. *Notes on Care and use of Typewriters.*—(a) *General.*—Keep the type clean. No machine will do good work when the type is clogged with an accumulation of ribbon, dust or ink. Clean the type frequently with a hard type-brush.

Keep all the working parts of the machine clean and free from dust. The best results can only be obtained when the machine is kept clean—and the working life of any machine can be greatly prolonged by careful attention to this point.

Keep feed rollers clean by wiping them over with a cloth dipped in methylated spirits. This should be done once a week, especially when manifold and stencil cutting is done on a machine.

If wear has made the cylinder rough and uneven—full of pits, grooves, and ridges—a new cylinder is needed.

When corrections are made, the carriage should be moved to one side to prevent the rubbings falling into the mechanism of the typewriter.

Do not take the machine apart.

Do not change the adjustments.

Keep the machine covered when not in use.

(b) *Oiling.*—Never use any but typewriter oil.

Care should always be taken in oiling, as too much oil is as bad as too little. All surplus oil should be wiped off thoroughly, except at the exact spot where friction is liable.

Superfluous oil catches dust, and such accumulations retard the free action of the machine.

At intervals of about once a month the type-bar bearings should be oiled very slightly, a touch oiler being used for the purpose.

(c) *Ribbons.*—No ribbon should be replaced until it has been turned and fully used.

(d) When typing matter for reproduction by the hektograph and stencilling processes, the following rules are to be observed, viz. :—

(i) Well clean the type with a hard brush and spirit before commencing work, and during typing, if necessary.

(ii) *For hektograph work.*—When the type has been cleaned and a good ribbon is on the machine, satisfactory results should be obtained, especially if the jelly (i.e., the hektograph) has a good surface and has been standing for a few days.

(iii) *For stencil work.*—When the type has been cleaned a slight wipe over with a clean oily rag will prevent the wax from clogging the type. Choose a machine with the best type and use a backing sheet with the wax stencil. This will serve the purpose of a hard roller. If a silk sheet is placed immediately under the wax stencil before typing, it will still further improve the result.

(e) All users of typewriting machines should be made acquainted with these instructions.

(A.F.O. 1102/27.)

### **\*719.—Naval Officers and Ratings detached for Duty at R.A.F. Stations—Lodging, Provision and Victualling Allowances, etc.**

(N.P. (I) 505/27, N.P. (I) 501/28.—18.3.1927.)

Authority has been given to R.A.F. Accountant Officers to issue, without prior reference to the Naval Accountant Officers concerned, the following allowances to Naval officers (including those “attached” to the R.A.F.) who, whilst borne on ships’ books are detached for duty at R.A.F. stations, but remain in Naval payment:—

(i) Difference between the cost of R.A.F. messing and the regulated Naval messing contribution and

(ii) Lodging and provision allowances.

2. The Naval Accountant Officer concerned will be notified immediately by the R.A.F. Accountant Officer of all such payments, and the necessary steps should be taken to ensure that double payments are avoided.

3. Certificates as to the non-availability of Service accommodation and/or victualling will be forwarded by the R.A.F. Accountant Officer to the Air Ministry for transmission to the Admiralty with the claim for refund of the amounts so paid.

4. Naval officers (including those “attached” to the R.A.F.) detached for duty at R.A.F. stations, who, for private reasons, do not avail themselves of the Service messes, and Naval ratings serving at R.A.F. stations who are unable to secure Service messing, will be paid Naval Victualling Allowance by the R.A.F. Accountant Officer. The payments to the officers will be made monthly in arrear, and those to the ratings fortnightly in arrear.

5. The credits and relative debits will not appear on ship’s ledger, and the reclaim from Naval funds will not be effected locally, but will be a matter for adjustment between the Air Ministry and the Admiralty.

### **746.—Electrical Circuits—Re-grouping.**

*Ships to be taken in hand for Reconstruction or large Repairs.*

(G. 14597/26.—18.3.1927.)

When preparing lists of alterations and additions prior to a ship coming in hand for reconstruction or large repairs, Commanding Officers should give consideration to the desirability of including items for the re-grouping of electrical circuits on to important and unimportant breakers, if experience has indicated that this is necessary in order to effect more economical running of the dynamos. Full details of any such proposals should be given.

2. Dockyard officers, when adding circuits, should keep in mind the desirability of grouping important and unimportant circuits separately. If it is found that the old circuits can be re-grouped into important and unimportant circuits without great difficulty, and if this appears to be justifiable, having regard to additional weight and expense involved, proposals for such re-grouping should be made by the dockyard officers, and should be treated as an alteration and addition, and an estimate of cost, with details, should be forwarded to the Admiralty for approval.

3. Important and unimportant circuits may be taken as those required in action and those not required, respectively. Radiators and hot cupboards should, as far as possible, be grouped on separate circuits controlled by separate branch breakers.

### 756.—Ships disposed of by Sale—Stores to be supplied to Purchasers.

(N.S. 14973/26.—18.3.1927.)

When H.M. ships are prepared for sale, the following naval stores are, as a general rule, to be included in the sale of the ship, and either left on board when the ship is destored or earmarked for supply free of charge to the purchaser when the ship is removed :—

Anchor	...	...	...	1 No.
Chain cable	...	...	...	4 to 6 lengths, according to the class of ship, together with the necessary shackles, swivel pieces, slips, screws, etc.
*Lantern, bow, port	...	...	...	1 No.
*Lantern, bow, starboard	...	...	...	1 No.
*Lanterns, all-round, white	...	...	...	2 No.
*Lanterns, all-round, red	...	...	...	2 No.
Boats	...	...	...	Minimum of 1 No. Additional boat or boats to be provided according to class of ship and number of crew carried when vessel is removed ( <i>see also</i> paragraph 2).
Oars	...	...	...	Complete set for each boat.
Crutches	...	...	...	Complete set for each boat.
*Lantern, hand	...	...	...	1 No. for each boat.
Capstan bars	...	...	...	Number according to size of capstan.
*Binnacle	...	...	...	1 No.
*Compass	...	...	...	1 No.
*Compass, boat's	...	...	...	1 No. for each boat carried.
Coal	...	...	...	Any coal remaining in bunkers when preparation for sale is complete. When restrictions in the consumption of coal, or its supply to private individuals, are in force, special instructions will be issued.

\* These items are not to be supplied free of charge to purchasers of vessels which are broken up in the vicinity of the port. When forwarding sale particulars a notation is to be made against any such items included in the list of stores on board to be sold with the vessel.

2. No sea service pulling or sailing boats or floats of authorised descriptions other than the undermentioned are to be left on board or supplied to H.M. ships, etc., on the sale list when being prepared for sale, and a certificate that this condition has been met should be inserted on the statement accompanying the sale particulars form D.523 :—

Cutter gig, 20 ft.

Gig, special light, for destroyers, 24 ft.

Pinnace, sailing, 36 ft., unsuitable for conversion to pinnace with auxiliary motor.

Collapsible boat for destroyers, 20 ft.

3. When it is desirable that stores, additional to those detailed in the above list, should be included with the ship for sale, or when it is not possible to include in the sale all the stores in the list, attention should be drawn to the fact when forwarding the usual sale particulars.

4. In connection with the removal of ships by purchasers, the Board of Trade requires that certain gear shall be on board such ships before they may be taken to sea. The requirements of the Board of Trade vary according to the class of the ship and whether she is to proceed to sea under her own steam or is to be towed, and the responsibility for meeting these requirements rests with the purchasers alone. The

descriptions of the stores usually involved over and above such as are included in the list given in paragraph 1 are given in the following list :—

Lifebuoys ... ..	...	According to number of men on board.
Lifebelt ... ..	...	1 No. for each man on board.
Ship's bell or foghorn ... ..	...	1 No.
Balls, canvas, N.U.C. ... ..	...	2 No.
Breaker for boats ... ..	...	} 1 No. of each for each boat carried.
Bailer for boats ... ..	...	
Barrico ... ..	...	
Bucket, iron ... ..	...	
Boat hook with staff ... ..	...	
Box of flares ... ..	...	1 No.
Hatchet ... ..	...	1 No.
Sea anchor ... ..	...	1 No.
Fire hose ... ..	...	As necessary.

Also a small supply of candles, lubricating oil, an oil bag and oil, and sufficient rope for boats' falls.

5. Applications are from time to time made by purchasers of ships for the free supply of gear to comply with Board of Trade requirements. In connection with such applications in the future, all concerned are to be guided by the following principles:—

- (i) No free supplies should be made to purchasers beyond those items included in the list of stores for sale with the vessel (*see* paragraph 1 above).
- (ii) There is no obligation on the Crown to supply either on repayment or loan any stores required by the purchasers over and above those referred to at (i) above.
- (iii) Supplies on loan or repayment should be made only when the stores are available and to spare, and should be charged for as laid down in the regulations applicable to supplies to private individuals.

6. The foregoing instructions are for general guidance in deciding as to the stores which should remain or be placed on board, and are not intended to override any special instructions which it may be necessary to issue from time to time in regard to particular ships, and which may involve modifications of the above lists.

7. The remarks in the foregoing are not applicable to the sale of trawlers and drifters, which is still governed by the instructions laid down in A.F.O. 553/26.

(*A.F.Os. 553/26, 1214/27 and 1235/28.*)

## 757.—Condenser Tubes of American Manufacture.

(N.S. 3163/27.—18.3.1927.)

Stocks of condenser tubes of American manufacture, including those at Devonport which were specially heated, are to be used in future instead of tubes of English make for subsidiary vessels (*i.e.*, sloops, gunboats, mine-sweepers, patrol vessels, dépôt ships and fleet auxiliaries) and shore establishments, until stocks are exhausted.

2. The tubes should be specially examined before issue, and on fitting in vessels a report should be forwarded to Admiralty showing the results of examination, the date of fitting, and the position of the American tubes in the condenser.

3. The 12 ft. tubes at Hong Kong are to meet requirements of sloops and gunboats on the China Station, and are in addition to the approved reserve of condenser tubes.

## 768.—Private Motor Vehicles—Use within Naval Establishments.

(C. (III) 1296/26.—18.3.1927.)

A case has recently occurred in which the Admiralty became liable for the payment of hurt pay to a dockyard employee, in respect of an injury sustained by the man through collision with a privately owned motor car, which was being driven on dockyard premises at a time of general out-muster.

The workman was cycling home from work at the time of the accident, but as it occurred on Naval premises the Admiralty became liable for the payment of hurt pay to the man at the prescribed rate, and of any contingent payments of compensation that might arise thereafter. The owner of the motor car was held not to be to blame for the occurrence, and it was not possible, therefore, to reclaim from him the amount of hurt pay paid, or to be paid, to the workman in respect of the injuries sustained.

2. In view of the liability thus imposed upon the Admiralty in such circumstances, officers in charge of Naval establishments are to take such steps, as may be considered reasonable and expedient, to regulate the use of private motor vehicles within the areas under their control, with a view to reducing to a minimum the risk of injury to Admiralty employees (particularly at times of general in and out-muster), and damage to Admiralty property.

### **775.—Fleet Air Arm—Supply of Parachutes.**

(M./N.A.S. 3086/27.—25.3.1927.)

Attention is drawn to the fact that the standard Irving parachute is not to be worn when working over the sea.

### **\*781.—Warrant Officers (Married and Widower) whose Promotion entailed Pecuniary Loss—Special Rates of Pay.**

(N.P. (I) 710/27.—25.3.1927.)

Any warrant officer who, immediately before promotion, was in receipt of the benefit of marriage allowance either—

- (i) as a married man, or
- (ii) as a widower, with children eligible for an allowance,

and can show that his total emoluments (calculated in the manner prescribed in paragraph 3 below) as a rating on the day preceding his promotion exceeded his emoluments as a warrant officer, is to be paid at a special rate of pay determined in the manner prescribed in paragraph 4 below, not exceeding the maximum applicable to his rank on the current warrant officer's scale laid down in Appendix I, King's Regulations and Admiralty Instructions.

2. Warrant officers who, on promotion, are either unmarried or widowers without children, eligible for an allowance, are ineligible for the special rates of pay authorised by this Order.

3. The daily emoluments as a rating, on which the comparison between emoluments as a rating and as an officer is to be made for the purpose of this Order, are to be determined as follows:—

- (a) *Substantive Pay*.—Calculated on rating and seniority on the day preceding that of promotion to warrant rank.
- (b) *Non-substantive Pay*.—As payable on the day preceding that of promotion to warrant rank.
- (c) *Badge Pay*.—Calculated on badges held on day preceding that of promotion to warrant rank.
- (d) *Kit Upkeep Allowance*.—Calculated on a daily basis at the rate (if any) actually payable to the rating on the day preceding that of promotion to warrant rank.
- (e) *Marriage Allowance*.—Calculated at the rate actually in course of payment on the day preceding the date of promotion.

The allowance is in all cases to be calculated in respect of the wife and children (under 14), if any, living on the day preceding the date of promotion, and no allowance under this heading is to be included in the comparison of emoluments as officer and as rating in the case of any officer who was not married or a widower with a child or children (under 14) before his promotion.

*It should be noted that marriage allowance is not issuable in respect of children of 14 years of age or over.*

(f) *Allowances to be excluded.*—Allowances which are not paid continuously for qualifications, but intended as compensation for special duties, risks and circumstances, *e.g.*, hard lying money, submarine pay, lodging allowance, provision allowance, etc., are to be excluded from the comparison of daily total rates of pay, both as rating and as officer.

4. *Regulations respecting Special Rates of Pay as Warrant Officer.*

(a) The special rate of pay is in no case to exceed the maximum rate to which the officer would, in due course, become entitled as a warrant officer on the scale from time to time current. Subject to this maximum limit it is to be calculated at such sum as will make up a daily sum equal to the daily emoluments (calculated in the manner prescribed in paragraph 3 above) of the officer before his promotion, or when such daily sum is not a multiple of 2d., a sum equal to the next multiple of 2d. above.

(b) Allowances which depend upon the performance of special duties, *e.g.* :—

In lieu of a specialist;  
 Director Warrant Officer;  
 Command money;  
 Navigating allowance;  
 Machinery allowance;  
 Senior Engineer's allowance;  
 Store allowance;

may be paid concurrently with the special rate and will, therefore, not be included in the comparison of the emoluments as officer and as rating for the purpose of this Order.

(c) Allowances in respect of qualifications which are payable continuously with ordinary rates of full pay (*e.g.*, dagger allowance), are not to be paid concurrently with the special rate.

An officer in receipt of a special rate of pay under this Order who may hereafter qualify for such an allowance will be allowed to transfer to the normal rate of full pay according to rank and seniority, plus allowance for qualifications, if such transfer is to his advantage. Similarly, an officer already in receipt of dagger allowance may transfer to a special rate of pay (without dagger allowance) if, and for so long as, it is to his advantage to do so.

(d) An officer in receipt of a special rate of pay shall not receive any increment of pay until such time as under ordinary regulations he may become eligible by length of service as warrant officer for a higher rate on the normal scale.

(e) It is to be distinctly understood that, when an officer's special rate of pay has been determined in accordance with this Order it will in no case be varied on account of any change in his family or on account of any change that may be introduced thereafter in the emoluments of ratings.

5. Officers who consider that they are entitled to a re-adjustment of their rate of full pay as a result of these rules are to make application in the form prescribed below. No special rate is to be credited to any officer until the rate to be paid has been notified by the Accountant-General.

6. In cases of recent promotion, where the ledgers showing emoluments on the day preceding promotion are not already at the Admiralty, the Accountant Officer is to certify on the application form the correctness of the claim as regards pay, etc., as a rating.

APPLICATION FOR PAYMENT OF SPECIAL RATE OF PAY  
UNDER A.F.O. 781/27.

Name of officer..... Before promotion—  
Rank..... Rating.....  
Seniority..... Official No. ....

I hereby claim to be entitled to a special rate of pay under A.F.O. 781/27, in accordance with appended statement.

Signature.....  
Rank.....  
Date.....

COMPARISON OF DAILY PAY AND ALLOWANCES.

<i>As a Rating.</i>		<i>As a Warrant Officer on the date of promotion.</i>
	<i>s. d.</i>	<i>s. d.</i>
(a) Full pay of rating on day preceding promotion	- - - - -	Full pay of rank and dagger allowance
(b) Non-substantive pay	- - - - -	
(c) Badge pay	- - - - -	
(d) Kit upkeep allowance (at the rate (if any) in force on day preceding promotion)	-	
(e) Marriage allowance for wife and children living on the day preceding promotion (calculated at the rate actually in course of payment on the day preceding the date of promotion)	- - -	
	Total -	Total -

Special rate of pay claimed.....

ACCOUNTANT OFFICER'S CERTIFICATE.

*Strike out if inapplicable.* { The ledger showing the latest rates of pay as regards (a), (b), (c) and (d) has not yet been forwarded into office. The rates as shown above are correct, and I have examined the claim, which is, to the best of my knowledge, made in accordance with A.F.O. 781/27.

*Strike out if inapplicable.* { The pay and allowances as a rating cannot be checked in this ship. I have examined the claim, which is, to the best of my knowledge, made out in accordance with A.F.O. 781/27.

*Accounting Officer.*

Forwarded

*Commanding Officer.*

The Accountant-General of the Navy.

**792.—Breech Mechanisms—B.L. 4·7 in., I and I\*, and 4 in., VII, VIII, IX, IX\*\*\* and XI—Carriers—Fitting Locking Plate.**

(G. 19583/26.—25.3.1927.)

It has been found that the screw securing crank pinion in 4·7 in. Marks I-I\* and 4 in. Marks VII to XI, B.L. guns, is liable to ease back and thus cause difficulty in working the mechanism.

2. A locking plate is, therefore, to be fitted to the screw securing crank pinion of all carriers of above-mentioned guns, in accordance with Instructional Print N.O.D. 2154/1, copies of which will be sent to Naval armament depôts.

3. The work will be carried out by Naval armament depôt staff at the first opportunity.

### 793. —Breech Mechanisms —Excessive Wear in Hand-worked Guns.

*Battleships, Battle Cruisers, Cruisers and Destroyers.*

(G. 14037/25.—25.3.1927.)

The following extract from a report recently received from the Inspector of Naval Ordnance, Woolwich, with special reference to the breech mechanism of 6 in. Mark XII guns, is promulgated for general information:—

“ It is pointed out that the damage sustained by the threads of the breech opening can only have been produced by much violent slamming of the breech mechanism . . . . ”

“ . . . Reports which are being received from the A.I.N.O.s at depôts indicate that such a state of affairs is becoming by no means uncommon in the case of 6 in. Mark XII guns, particularly, and to some extent in the case of 4.7 in. Mark I guns; the combination of breech mechanism and breech bushes now afloat are, in fact, being worn out.”

2. In view of above remarks, it is considered that the excessive wear is probably due to:—

(a) The uneven distribution of training class drill amongst all the guns of the same type.

(b) Carrying out loading and high speed drill at guns with competent mechanism which involves heavy slamming of the breech, which should be done at the loading teacher.

3. It is not considered that the usual battery drill could possibly produce the effects observed, and it is not necessary or desirable to curtail this in any way.

4. The attention of all officers concerned is therefore called to the necessity of increased vigilance in preventing undue wear in breech mechanisms of hand-worked guns, in view of the expense involved by guns being rendered unserviceable before half the normal number of rounds or “ life ” have been expended.

### 799.—Testing Device for Tubes, V.S., Electric.

(G. 16754/26.—25.3.1927.)

Details of a design of a tube-testing device, which has been submitted by one of H.M. ships, are shown on E.F.O. 16/27.

2. Tube-testing devices of this type may be used for balancing gun tubes provided that this is not done below the upper deck or in the vicinity of any inflammable material.

3. The testing device should be constructed on board by ships' artificers; the necessary empty Q.F. cartridge cases, where these are not available on board, may be demanded for the purpose from Naval armament depôts.

### 810.—Stoves, Warming and Cooking.

(N.S. 10486/25.—25.3.1927.)

#### WARMING STOVES.

In cases where it has been impracticable to fit coal stoves and funnels of service patterns, oil stoves have been supplied to H.M. ships, auxiliary vessels, and shore establishments to supplement the heating arrangements already in use.



2. It is not proposed to extend the use of oil stoves in H.M. Naval Service, but, in exceptional cases where they are approved to be fitted, every precaution should be taken in their fitting and use, and in the arrangements made for storing the oil, in order to obviate all risks from fire.

3. As the use of oil stoves is dangerous to health, they should be fitted with funnels and hoods to lead off the fumes, and be placed in position where they are as safe as possible from being knocked over, drip pans being fitted underneath, and in ships the stove should be secured against any effect of movement of the vessel.

4. Oil stoves should not be fitted without Admiralty authority, and the demands should, in all cases, give full particulars of the length of funnelling and number of hoods required.

5. The stowage of inflammable liquids should be arranged in accordance with Article 1073 of the King's Regulations and Admiralty Instructions.

#### PARAFFIN COOKING STOVES.

1. It is approved to allow  $\frac{1}{2}$  gallon of methylated spirit per month to motor launches for use with paraffin cooking stoves, where these articles are fitted.

2. With a view to the prevention of fires, due to improper methods of using the spirit, the following instructions are issued for guidance when heating the paraffin burners with methylated spirit:—

First ascertain whether nipple of burner is clear, by inserting the cleaning needle provided, in orifice from which vapour issues.

The lighting of burner is accomplished by filling the cup surrounding burner bend with methylated spirit; light spirit and allow same to be almost consumed *before turning on paraffin supply*.

Burner *should always* be lighted in this manner, even although warm from previous use.

Paraffin should *not* be used for warming burners, as it destroys the burner.

3. A special can is provided, which supplies at each operation the exact quantity of spirit at each use for filling cup.

4. The following is a list of spare parts for conversion sets for cooking stoves in motor launches, which are stocked at Portsmouth. When existing sets become defective, any necessary spare parts are to be demanded from Portsmouth in order that the unserviceable sets may be made good on board:—

<i>Pattern.</i>	<i>Description.</i>
1252.	Flame rings.
1253.	Burners.
1254.	Nipples for burners.
1255.	Pressure gauges for oil containers.
1234.	Keys for burners.
1235.	Needles or prickers, cleaning.
	Paraffin containers (without gauges).
	Top bars or rails (without burners).
	Oven valves (without burners).
	Pressure connecting pipes.
	Spirit cups.
	Union nuts (in sets of two size).
	Spanners for union nuts.
	Funnels, tin.
	Cans, tin.
	Filling caps for containers.

### 815.—Ships' Magazine Logs—Inaccuracies, Irregularities and Omissions.

(G. 3514/27.—25.3.1927.)

The checking of ships' magazine logs is rendered difficult and involves additional clerical work, owing to the inaccuracies, irregularities, and omissions which occur.

2. The following are the principal errors which have been noted:—
- (a) Landing of cordite samples not recorded.
  - (b) Forms S.1429A, reporting results of tests, not rendered.
  - (c) Incorrect lot numbers of cordite quoted.
  - (d) Omission to land cordite samples for test.
  - (e) Incorrect date of receipt of cordite on board.
  - (f) Landing of H.E. and star shell for percentage inspection not recorded.
  - (g) Forms S.1146 (for H.E. and star shell) not rendered.
  - (h) Omission to land H.E. and star shell for examination and proof.
  - (i) Incorrect bunching of magazine keys.
  - (j) Drawing of magazine keys by unauthorised persons.
  - (k) Inspections of compartments containing explosives carried out by unauthorised persons.
  - (l) Omissions of sea and deck temperatures in Part II of the log, as required by Article 132 (a) of the Naval Magazine and Explosives Regulations.
  - (m) Indifferent keeping and writing up of records and certificates required by Article 82 of the Naval Magazine and Explosives Regulations.

3. The attention of all concerned is called to the above and to the necessity for accurate records in the magazine logs.

### 841.—Zone of Promotion to Paymaster Captain.

(C.W. 3172.—1.4.1927.)

The zone of promotion to Paymaster Captain for the next and future half-yearly selections has been altered to 8 years' seniority and over as Paymaster Commander on the date of selection.

### \*846.—Private Effects Landed at Malta—Customs Instructions.

(N.L. 622/27.—1.4.1927.)

The following instructions regarding the landing of private effects by Naval personnel in Malta are promulgated for information:—

1. *Furniture and Private Effects.*—No Customs duty is charged on furniture and private effects transferred from another part of the Empire, but furniture and household effects must have been used by the owner. Any new articles must be declared, and duty paid on them before disembarkation. It is not necessary for clothing to have been worn, provided that the amount of duty involved is small.

If the effects are landed, c/o The Superintending Naval Store Officer, they can either be passed through the Custom House or a Customs Officer will, by arrangement, attend in the Dockyard on payment of a fee of about 5s. A list of private effects received by the Superintending Naval Store Officer is passed by him to the Collector of Customs, and the bills of lading of store carriers are open to inspection by the Customs authorities.

2. *Private Effects brought from the United Kingdom in H.M. ships.*—The following instructions are to be observed by the consignees:—

- (a) Before the goods are landed, the consignees must apply to the Customs House for an "Entry Form," which must be filled in, in duplicate, to show the number of packages under shipment, with a brief description of their contents; (*i.e.*, "used personal effects" or, in the case of dutiable articles, "Dutiable Goods, viz. . . ."). Form No. 2 should be filled in for "dutiable" goods, and Form No. 4 for "free" goods.
- (b) All large packages must be landed for examination at Verandah No. 1 at Marina Pinto; but "cabin freight" may be taken straight to the Customs House for examination and clearance.
- (c) Naval and Dockyard officers should make their own arrangements for landing packages consigned to them, in accordance with the above instructions.
- (d) When the consignee is absent, or there is any doubt as to ownership, the packages are to be handed over to the Superintending Naval Store Officer and placed by the ship in such storehouse as he shall indicate.
- (e) Should the Commanding Officer of a ship accept packages for persons not in the Naval Service he is responsible for making arrangements with the consignee that the above instructions are observed.
- (f) In the event of no boat for landing goods being available, a Customs guard will be furnished, on application at the Customs House, at a charge of 3s. 4d.

3. *Motor Cars and Motor Cycles.*—As a special concession, the Customs authorities do not collect duty on *used* motor cars and cycles until the car or cycle has been in the island for more than two years, but they require that during this period the amount of the duty shall be deposited with the Customs, or a *local* bank guarantee given instead.

In all cases, application should be made to the Collector of Customs when it is desired to land a car or cycle under these conditions.

4. *Dutiable Articles.*—The following are the chief articles on which Customs duty is payable:—

Arms and ammunition ... ..	20 per cent. <i>ad valorem</i> .
Bicycles ... ..	15 " "
Fancy goods ... ..	20 " "
Stationery ... ..	10 " "
Motor vehicles ... ..	15 " "
Jewellery ... ..	20 " "
Furniture ... ..	20 " "
Photographic goods ... ..	15 " "
Pianos, gramophones ... ..	15 " "
Millinery ... ..	10 " "
Apparel ... ..	10 " "
Carpets ... ..	10 " "
Silk goods ... ..	10 " "
Hosiery ... ..	7½ " "
Wines ... ..	Varies.
Spirits ... ..	including scent, 15s. per imperial gallon, if not above proof.

**853.—Gun Mountings, Transferable—Illuminating Circuits.**

(G. 3682/27.—1.4.1927.)

In future, battery boxes will not be fitted to transferable gun mountings in ships where a 20-volt circuit is available for the firing and illuminating circuits.

2. Batteries and change-over switches are to be removed from the illuminating circuits of the transferable gun mountings in all destroyers and leaders and returned to the dockyards.

3. The change-over switches, also any batteries which are not in a serviceable condition, are to be brought to produce.

**861.—Electromegaphones—Voicepipe Attachment.**

(G. 2137/27.—1.4.1927.)

It has been found necessary in many cases to arrange for short lengths of voicepipes to be attached to, or used in conjunction with, the mouthpieces of electromegaphone transmitters. It is very desirable that this provision be restricted as much as possible, and that the length of voicepipe whenever fitted, be reduced to a minimum. In no case should such attachments exceed a few feet.

2. When voicepipe attachments to electromegaphone transmitters are necessary, a connector, as shown in the drawing (E.F.O. 17/27), is to be substituted for the transmitter mouthpiece. Special attention is drawn to the note on this drawing relating to the use of a short length of *flexible* voicepipe in every case. This provision is necessary in order that the voicepipe attachment may be easily uncoupled from the front of the electromegaphone transmitter, thus facilitating the opening of the front for inspection or repairs.

**866.—W/T—Heterodyne Units K.5, Pattern 6373C—Introduction; and Pattern 6373B—Modification.**

(N.S. 3744/27.—1.4.1927.)

Existing Heterodyne Units K5, Patterns 6373A and 6373B, cannot be regarded as accurate wavemeters, but it has been found that these instruments can be made accurate (to approximately 1 per cent.) by the addition of a grid leak unit provided that the range box in use is located accurately and rigidly.

2. Arrangements have therefore been made for all future purchases to include these modifications, and the instruments will be known as Pattern 6373c.

3. A sufficient number of grid leak units, etc., have been purchased to enable all existing instruments, Pattern 6373B, to be converted to Pattern 6373c, the work being done by ship's staff, with the assistance of dépôt ships in the case of destroyers and submarines.

4. These additional parts, etc., will be supplied complete with instructions for fitting, new wiring diagrams, etc., in a box. The box, complete, has been given Pattern 7486 and is to be referred to as "Stabiliser Unit for Heterodyne Unit K5, Pattern 6373B."

5. Ships and establishments carrying Heterodyne Units K5, Pattern 6373B, are to demand from the Superintending Naval Store Officer, Portsmouth, one stabiliser unit, Pattern 7486, for each Pattern 6373B carried, and are to convert the Pattern 6373B instruments as necessary, and any Pattern 6373B instruments which may be in hand for repair are to be similarly converted to Pattern 6373c. Demands are to quote this A.F.O. as authority. It is expected that supplies of Pattern 7486 will become available at Portsmouth about the middle of April, 1927, and demands should be forwarded accordingly.

6. It is expected that Heterodyne Units K5, Pattern 6373c, will become available from the makers about the beginning of June, 1927, and these will all be calibrated at H.M. Signal School before being sent to sea. These instruments will bear serial Nos. R.I. and above. One of these instruments will be supplied without demand to each of the following ships as they become available.

- (i) "Revenge."
  - (ii) "Warspite."
  - (iii) "Iron Duke."
  - (iv) "Barham."
  - (v) "Hawkins."
  - (vi) "Lowestoft."
  - (vii) "Curacoa."
  - (viii) "Coventry."
  - (ix) "Centaur."
  - (x) "Hood."
  - (xi) "Frobisher."
  - (xii) "Cardiff."
  - (xiii) "Effingham."
  - (xiv) "Calcutta."
  - (xv) "Dolphin"—Rear Admiral (S)—for Submarines.
  - (xvi) A/S School, Portland.
  - (xvii) "Marshal Soult"—Nore
  - (xviii) "Erebus"—Devonport
  - (xix) "Egmont"—Malta
  - (xx) "Dunedin."
- } For use of port W/T officers for  
check calibrations as requisite.

On receipt of the calibrated instrument, these ships are to return one of the instruments which has been modified on board. Care is to be taken that the modification is complete before the instrument is returned.

7. *Calibration of converted instruments.*—On receipt of the instrument calibrated in Signal School, the ships mentioned in paragraph 6 are to use it as a standard to check the calibration of all other modified instruments on board. Senior officers of squadrons are to arrange for the calibration of converted instruments in ships under their command to be checked in a similar manner as convenient. Detached ships having converted instruments should make arrangements for their calibration to be checked against that of one of the standard instruments mentioned in paragraph 6.

8. In future these Heterodyne Units K5, Pattern 6373c, are to be sent, when at Portsmouth, Malta or Hong Kong, for periodical check calibration in the same manner as wavemeter, Pattern 1492b.

9. On the first occasion of carrying out the check calibration referred to in paragraph 8, calibration books are to be supplied to all instruments which were issued without them (Serial Nos. 222 to 349 and 352 to 629). To meet this requirement, 50 books will be sent to Port W/T Officer, Hong Kong, and 100 to Port W/T Officer, Malta. Any further copies required should be obtained by calibrating authorities from H.M. Signal School, Portsmouth.

10. A number of Pattern 7489 resistance rods, 2½ in., 100,000 ohms, have been purchased as spares for stabiliser units for Heterodyne Units K5, and these will be supplied as follows:—

- Squadron Flagships
  - Flotilla Leaders
  - Submarine Depôt Ships
- } One to each.

Supplies are expected to be available at Portsmouth about the middle of April, 1927, and ships concerned should demand accordingly, quoting this A.F.O. as authority.

11. This Order does not affect Heterodyne Units K5, Pattern 6373A, and none of these instruments is to be altered pending further instructions.

(A.F.Os. 1832/28 and 1667/29.)

### 874.—New Articles—Additional Allowances or Allowances to Ships.

(N.S. 2090/27.—1.4.1927.)

Where additional allowances of stores, or allowances of new articles, to ships are promulgated by A.F.O., some divergence of practice appears to exist in regard to the forwarding of demand by ships to yards.

2. Ships are expected to forward demands for their requirements under such A.F.Os. to their storing yards at the earliest possible date, unless the introduction of the allowance is accompanied by a definite statement that the yard will supply without demand.

### 875.—Commercial Type, 6 by 24, Steel Wire Hawsers—Trials—REPORTS.

(N.S. 11658/25.—1.4.1927.)

It has been decided to extend the trials of commercial type, 6 by 24 construction steel wire ropes, in comparison with the 6 by 12 construction ropes now in general use for hawsers, and arrangements have been made for purchase of fitted steel wire hawsers as follows :—

<i>Description.</i>	<i>Denom. of Quantity.</i>	<i>Chat- ham.</i>	<i>Ports- mouth.</i>	<i>Devon- port.</i>	<i>Total.</i>
Steel wire hawsers fitted complete commercial type, 6 by 24 construction, 150 fms. in length—					
4 in. ... ..	No.	3	—	4	7
3 in. ... ..	„	4	4	4	12
2½ in. ... ..	„	5	5	5	15

2. The hawsers of 6 by 24 construction, 4 in., 3 in. and 2½ in., should be issued for trial to ships and services as necessary, in replacement of hawsers of 6 by 12 construction, of sizes 4½ in., 3½ in. and 2½ in., respectively, with which they compare as regards breaking strength and weight.

3. Reports should be forwarded by the Commanders-in-Chief and Admirals Superintendent concerned, six months and twelve months after these ropes have been put into service, stating—

- (a) Whether they are in all respects satisfactory.
- (b) What increase of life over the present ropes is estimated.
- (c) Whether they are recommended for general adoption in all sizes of hawsers in lieu of the present 6 by 12 construction.

### 913.—Workmen's Compensation Acts and Schemes—Applications for Commutation of Weekly Payments.

(C. (III). 2993.—1.4.1927.)

Where injured dockyard, etc., employees are in receipt of weekly payments of compensation under the Workmen's Compensation Acts or Schemes, and a condition of finality has been reached in their cases, *i.e.*, the degree of *permanent* incapacity resulting from the injury has definitely been ascertained, the Admiralty will be prepared favourably to consider applications by the men concerned for commutation of the weekly payments.

2. Any such applications which may be received locally should, therefore, be transmitted to the Admiralty for consideration, accompanied by reports as to the expectation of life and domestic circumstances of the injured person (except where these particulars have already been furnished only a short time previously), and a recommendation by the local officers as to the suitability of his proposals for the employment of a lump sum.

**915.—Light Shale Oil—Filling Plant at Sheerness.**

(N.S. Fuel 5631/26.—1.4.1927.)

A plant for filling light shale oil cans, Pattern 29A, has been provided at Sheerness in order to utilise a bulk stock of this oil which is available at that Yard.

2. The plant is expected to be ready early in April, and requirements of light shale oil, Pattern 29, for H.M. Dockyards, Sheerness, Chatham, Gibraltar and Malta will then be supplied from Sheerness.

3. As soon as Sheerness is ready to start distributing supplies (which fact should be notified to Chatham and also to Director of Stores), Chatham requirements should be demanded direct on Sheerness from time to time as necessary to maintain the authorised reserve. This instruction, however, does not apply to such *barrelled* supplies as are required by Chatham Torpedo Depot, which should be ordered direct by the torpedo depot from Messrs. The Scottish Oil Agency Limited, under the appropriate section of the standing contract.

4. Remaining home yards should continue to order supplies as required, under the standing contract with Messrs. Scottish Oil Agency Limited.

5. All cans filled at Sheerness will be sealed and marked "N.S. Sheerness," in order that they may be distinguished from those filled by Messrs. Scottish Oil Agency Limited.

6. All serviceable empty cases and cans from Chatham, Gibraltar and Malta are in future to be returned to Sheerness. The cans should be examined in detail at the sending Yards, and a certificate given on the face of the invoice forms (D.66) that "cans are serviceable for refilling."

**916.—Empty Containers—Return.***Home and Foreign Yards.*

(N.S. 2873/27.—1.4.1927.)

The rebate allowed by contractors for serviceable containers of the following descriptions renders their return to England by commercial freight an economic proposition :—

Acid jars in cases.  
Composition drums.

2. Only acid jars with the internal glazing intact should be returned, as contractors will not accept jars with defects in the glazing.

3. All composition drums returned should be serviceable and fit to be used again for composition. Drums are unfit for return to contractors with any of the following defects :—

Beaded edge to the mouth of drum damaged; drums punctured, badly dented or rusted; welded edge at top and bottom broken.

4. Care should be taken to ensure as far as possible that containers on which rebates are allowable are not damaged in use; when empty they should be carefully surveyed before return to England from foreign yards or to Deptford or contractors from home yards.

5. At yards abroad the following rates should be adopted as standard for all transactions in connection with the return of the containers referred to :—

Two serviceable acid jars in sound case, complete with whiting packing	... ..	7 0 each.
Serviceable composition drums (all makers)	... ..	6 0 ,,

6. Empty serviceable acid and composition containers should not be allowed to accumulate unduly, but should be reported for freight periodically when free freight is not available.

## 930.—Dartmouth Cadets—Syllabus of Training Afloat.

(C. W. 3488/27.—8.4.1927.)

The training of Naval cadets during their eight months' service at sea, prior to being rated Midshipmen, is to be carried out in accordance with the instructions contained in King's Regulations and Admiralty Instructions, Appendix XII, Part I, Section I, and the following syllabuses:—

### SEAMANSHIP.

*Rule of the Road.*—Colours and description of lights carried by all vessels. Thorough knowledge of the Regulations for Preventing Collisions at Sea under steam or sail by day or night or in fog.

*Signals.*—Colours and Primary meanings of all Flags and Pendants, Naval Code.

Signal Manual, 1920:—

Plates 1, 2, 3, 5 and 6, omitting double bow line and double quarter line.

Defs. 5, 6, 7, 10, 12, 23, 24, 26-28 incl.

34-37 „

40-44 „

48, omitting para. 4.

61, 65, 66, 71, 72, 99, 101 (paras. 8-18 incl.), 107, 114, 116.

Arts. 151-153 incl. (omitting paras. 3 and 4).

Arts. 211, 212, 213, 214, 215, 241, 296, 298.

Art. 299, paras. 1-6 incl.

Art. 300, paras. 1-5 „

Art. 324.

Simple resultant order problems dealing with above.

Chapter XX.

Such portions of the V/S Instructions, 1920, as are necessary for individual practical signalling.

*Anchors, Part II.*—Knowledge of mooring and unmooring. Laying out bower, stream or kedg anchor.

*Boats, Part II.*—Management under all reasonable conditions. Terms used in reference to the management of ships and boats under sail. Hoisting and lowering sea boats. Securing boats for sea. Use of boat ropes and disengaging apparatus. Names and fittings of all gear used in pinnace, cutter and gig, including structural fittings.

*Tackles, Derricks, Riggings, etc.*—Knowledge of tackles, blocks, hawsers. Rigging purchases and boats' falls at present generally in use in the Service. Terms generally used at sea (Chapter IX, Seamanship Manual). Rules for estimating strength of hemp and wire rope; also advantage gained by tackles ordinarily used in the Service. Knowledge of different rigs of sailing ships. Bends and hitches, as in Chapter III, Seamanship Manual. To rig rough sheers on board a ship to lift a capstan, gun-shield, or dismount a small gun; also rig a derrick for coaling purposes, etc.

*Management of boats under sail, steam and oars. Practical signalling, flashing, semaphore, Morse.*

*To carry out the practical duties of Midshipmen of the watch at sea and in harbour and the duties of Midshipmen of a Division.*

### TORPEDO INSTRUCTION.

General knowledge of Torpedo Department in a Capital Ship.

*Whitehead.*—General idea of modern torpedo.

Explanation of submerged tube, run out bar, and fire a water shot.

*Torpedo Control.*—Practical use of Director, Deflection Sight, Torpedo Control Disc, and Clear Range Indicator.

Elementary idea of system of control in heavy ships.

Best tactical position for firing torpedo.

Practice at torpedo attack table.



## PRACTICAL ELECTRICITY.

Cadets should not be required to make sketches, but should be able to explain simple drawings and trace how circuits are joined up.

(a) Requirements of service dynamos. Parallel running. Attend at switchboard when changing over dynamo.

(b) Ring main. System of distribution. Lighting circuits and fittings. Temporary lighting.

(c) Motors: Shunt and series. Behaviour of each type under varying loads, and purposes for which each type is used. Elementary speed regulations and reversal, working starters and controllers, magnetic brakes.

(d) Searchlights. How to burn, adjust, and control a Harrison searchlight. Controlling and working searchlights at night.

(e) Low voltage system. Switchboard and distribution of power. Gun circuits and night sight circuits on transferable mountings. General knowledge of grouping fire control instruments and their use, and method of working them. Practical use of power-worked telephones, and operator's duties at Exchange. Grouping of bells and buzzers.

## ENGINEERING.

\*General Arrangement of Main Propelling Machinery and Boilers as a whole.

Arrangement of Auxiliary and Outside Machinery considered as separate units, i.e. :—

Condensing Plant.  
Evaporating and Distilling Plant.  
Electric Light Machinery.  
Hydraulic Machinery.  
Capstan Engine and Gear.  
Steering Gear and Control.  
Magazine Cooling Plant.

\*Organisation of the E.R. Department—

(a) Personnel and their responsibilities.  
(b) Training, advancement and qualifications of E.R. ratings.  
(c) Stores organisation, other than accounting.  
(d) Office—Logs, Registers, History Sheets and Defect Lists.

\*Procedure of raising steam and shutting off with all necessary precautions.

\*Methods employed to economise fuel and water.

*Practical.*

Burning of Oil Fuel.  
Lighting up and connecting Boilers.  
Examination of Boilers when opened for cleaning.  
Starting and Stopping Auxiliary Machinery.  
Witnessing procedure of lighting up and getting under way.  
Manœuvring Engines at sea.  
Testing Magazine Flooding Arrangements.  
Lighting up and running Steamboat.  
Running Motor Boat.

Items marked \* to form the subjects of formal Lectures.

## SHIP CONSTRUCTION.

Materials used in construction, and where used. Outline section through Battleship. General description of plates and frames. Armour—its arrangement and attachment. Watertight bulkheads and doors. Ventilating arrangements. Pumping, flooding, and fire main arrangements.

## NAVIGATION.

1. Keeping the dead reckoning of a ship.
2. Calculating the ship's position by observations taken of the sun, stars (including Polaris), moon or planets.
3. Practical use of a single position line in conjunction with dead reckoning.

4. Fix by one position line and bearing of a distant object.
5. Fixing positions by all methods. Shaping courses and allowing for tides and currents.
6. Zone time of Sunrise and Sunset, theoretical and visible.
7. Duration of Twilight. Condition for absence of darkness all night.
8. Zone time of Moonrise or Moonset.

#### PILOTAGE.

1. Winds and currents in the North Atlantic. Law of storms and elementary weather forecasting.
2. Management and care of chronometers, stowage and safe distances from electrical appliances. To compare and take times accurately. Knowledge of rating chronometers by W/T, and enumeration of other methods.
3. General systems of lighting, buoyage, and fog-signals in use on the coast of the British Isles.
4. Practical use of charts and sailing directions, and of various books, tables, etc., supplied with the chart boxes.
5. Fixing positions by the Station pointer.
6. Knowledge of tidal laws. Elementary explanation of the causes of tides and the phases of the moon. Practical use of Admiralty Tide Tables and Tidal Constant Method.
7. Practical methods of finding the deviation.
8. The mooring board and Battenberg Course Indicator.
9. Principles of navigation in pilotage waters, use of leading marks, clearing marks, danger angles, and of lines of bearing to avoid dangers. To anchor a vessel in a pre-arranged position on a chart. Precautions when navigating in a fog, and method of utilising soundings.
10. Practical use and management of meteorological instruments, sounding machines, patent logs, and other navigating appliances, and the practical adjustment of the sextant.

#### GUNNERY INSTRUCTION.

No special course is laid down, but Cadets' gunnery training should be on progressive lines, with the ultimate object of imparting to them a good knowledge of the elementary principles of Naval Gunnery. On passing out they should have attained the following standard:—

*Gun Drill.*—To be able to drill and know the duty of any number at a 4 in. B.L. This to include the precautions to be taken as O.O.Q. during practice firing.

*Stripping.*—To have a fair knowledge of breech mechanism and the inspections to be made before firing. To have a general knowledge of the hand-worked guns and mountings in the training ship.

*Field Training and Musketry.*—To know squad drill, manual exercise, and to drill a squad without arms. To be able to handle and use a rifle or pistol efficiently and safely.

*Machine Gun.*—To be able to fire a Maxim or Lewis gun, and to carry out the "immediate action" procedure.

*Ammunition.*—To be taught the "Course of Ammunition for Boys."

*Fire Control.*—To know the elementary general methods employed in control of fire, including an elementary knowledge of the spotting rules. To be able to use a Dumaresq instrument and range clock. To be taught the elementary methods of time and range plot. To be able to use the Barr and Stroud and Sextant Rangefinders.

*Note.*—The use of the spotting table for consolidating the knowledge of the system and instruments taught in the syllabus is advocated, provided that it is clearly understood that only an elementary knowledge of spotting is required.

*General Gunnery and Organisation.*—To have the knowledge of the general principles of the quarter bill. General duties of a Midshipman of a turret.

*Sighting.*—To know the elementary principles of a hand-worked gun sight and their application in practice. *Sight-setting.*

*Firings.*—To fire aiming rifle and service from a 3 pdr. gun. During the firing opportunity to be taken to teach the "bracket" method of finding the target, as applied to a single gun in "local control."

Practical firing to be carried out as opportunity occurs.

### 931.—Secretaries' Course—Books used during Study.

(C.W. 3209/27.—8.4.1927.)

The following is a list of books, etc., in use at the Secretaries' Course. Applicants for the course will find it advantageous to make a preliminary study of some or all of them before joining.

If any assistance is required in obtaining any of the books, or in regard to preliminary study, it can be obtained from the Superintendent of the Secretaries' Course.

#### *Naval Law and C.M. Procedure.*

- |   |                           |
|---|---------------------------|
| Admiralty Memorandum on Naval C.M. Procedure (1922).  | } Supplied to H.M. ships. |
| Lectures on Naval Law and C.M. Procedure (1920), O.U. 5244.   |                           |
| Manual of Naval Law and C.M. Procedure (1912), subject to the alterations since 1912, as embodied in the above two books. |                           |

#### *Military Law.*

- |  |                                      |
|--|--------------------------------------|
| Manual of Military Law, Part I, Chapters I to V, and XIII. | } Supplied to certain flag officers. |
| <i>Air Force Law.</i>                                      |                                      |

#### *Air Force Law.*

- |  |                                      |
|--|--------------------------------------|
| Manual of Air Force Law, Part I, Chapters I to III | } Supplied to certain flag officers. |
| <i>Criminal Law and Evidence.</i>                  |                                      |

#### *Criminal Law and Evidence.*

- Outlines of Criminal Law (Kenny). Cambridge University Press.  
Chapter on Evidence in Manual of Air Force Law, or Manual of Military Law.

#### *Commercial Law.*

- Elements of Commercial Law (Disney). Macdonald & Evans.  
Carriage of Goods by Sea Act, 1924. Published by H.M. Stationery Office, Kingsway, W.C.2. Price, 3d.

#### *International Law.*

- The Law of Naval Warfare. J. A. Hall (1921 edition).  
International Law. W. E. Hall (Pearce Higgins).  
Manual of Military Law, Chapter XIV.  
Conference on Limitation of Armaments, Washington, 1921–1922. (Cmd. 1627. Published by the Stationery Office.)  
Commission of Jurists at the Hague, 1922–1923. (Cmd. 2201. Published by the Stationery Office.)  
The League of Nations (the Covenant explained). Published by League of Nations Union.

#### *Naval Prize Law.*

- Naval Prize Manual.

#### *Merchant Shipping Acts.*

- |   |  |
|---|--|
| Merchant Shipping Act, 1894.  | } To the extent laid down in syllabus for qualifying examination for Paymaster Lieutenant-Commander. |
| Merchant Shipping Act, 1906.  |  |
| Merchant Shipping W/T Act, 1919.  |  |
| Instructions relating to Naval Courts, 1919.  |  |
| Orders in Council quoted in the syllabus for the Paymaster Lieutenant-Commander in A.F.O. 334/30. |  |

(K.R. & A.I., Art. 354, and App. XII, Part 9, Section III.)

**932.—Officers, Royal Marines—Qualification for Promotion.**

(C.W. 3159/27.—8.4.1927.)

From 1st March, 1927, the qualifying course at a small arms school will no longer be required as a qualification for promotion to the rank of major.

2. From 1st March, 1929, Lieutenants, before promotion to Captain, will be required, in addition to passing the professional examination, to have undergone a course and obtained a satisfactory qualification from the rifle and light gun wings of a small arms school. Those who qualify for notation “(a)” or “(a\*)” in Land Service Artillery will be exempt from obtaining this certificate.

3. Officers not already qualified under this regulation will be detailed for a course before 1st March, 1929, provided the exigencies of the Service admit.

4. In the case of officers due for promotion on or after 1st March, 1929, who have had no opportunity of qualifying under this regulation, the question of promotion of each officer will be considered on its merits.

**938.—Allowances for Accommodation and Victualling Payable to Ratings serving on Shore Abroad—REPORT.**

(C. (II) 9432/26.—8.4.1927.)

The following revised arrangements with regard to the payment of provision and lodging allowances are to apply in future to all ratings serving in shore billets on foreign stations at places where service victualling, or service accommodation, or both, are not available, and the ordinary rates of provision and lodging allowances are inadequate. As soon as these revised arrangements are in force, payment of Colonial Allowance to the ratings concerned is to be discontinued.

**I. RATINGS PROVIDED WITH SERVICE ACCOMMODATION, BUT NOT SERVICE VICTUALLING.**

2. If the Commander-in-Chief on the station is satisfied that the ordinary rate of provision allowance is insufficient to cover the cost of providing the men with the normal Service standard of messing, he is to submit for Admiralty approval proposals for payment of special rates of provision allowance based on the actual cost of providing this standard of messing (so far as this is practicable) at the particular places at which the men are stationed. Details of the current local prices of the principal articles of diet, and of any factors bearing on the cost to the men of arranging their own messing, are to accompany the proposals, and it is the intention that the approved rates shall be reviewed annually in the light of current local conditions and prices.

**II. RATINGS WHO CANNOT BE PROVIDED WITH SERVICE ACCOMMODATION, BUT FOR WHOM SERVICE VICTUALLING IS AVAILABLE.**

3. If the Commander-in-Chief is satisfied that suitable accommodation cannot be obtained by ratings at a cost within the amount of the ordinary lodging allowance payable, he is to authorise such accommodation to be provided (preferably at sailors' homes or similar institutions) on the most economical terms possible, and to be paid for direct from Naval funds.

4. Any reasonable travelling expenses necessarily incurred by ratings in proceeding between the place where their accommodation has been arranged and their place of duty may be refunded, but the necessity for such travelling should be avoided whenever possible by the selection of accommodation in the vicinity of the place of duty.

5. All payments in respect of accommodation should be made by the local Naval accountant officer, and receipts from the person from whom the accommodation is rented should be attached in support of the cash account voucher showing the payments of rent.

III. RATINGS WHO CANNOT BE PROVIDED WITH EITHER SERVICE ACCOMMODATION OR SERVICE VICTUALLING.

6. If the Commander-in-Chief is satisfied that suitable accommodation and food cannot be obtained by ratings at a cost within the amount of the lodging and provision allowances payable to them (taking into account the special rate of provision allowance, if any, authorised under Section I of this Order) he is to arrange for accommodation and food to be provided for the men under conditions similar to those detailed in Section II above.

7. Whenever arrangements have been made for ratings to be provided with accommodation or accommodation and food, as a direct charge to Naval funds, the Senior Naval Officer is to inform the Accountant Officer on whose books the men are borne for pay, in order that any compensatory allowances in course of issue may be withdrawn.

8. The action taken under paragraphs 3-7 of this Order should be reported to the Admiralty by Commanders-in-Chief for covering approval, the reports to contain the following particulars:—

(i) The nature and cost of any accommodation and food provided for ratings. The statement of cost should include details of the numbers of ratings concerned, and of the amounts to be refunded in respect of travelling expenses between lodgings and place of duty.

(ii) The date from which the revised arrangements have been brought into effect.

9. This Order does not affect the payment of Colonial Allowance to the ratings serving at St. Helena, or the issue of subsistence allowance.

(A.F.O. 1143/29.)

**939.—Telephones installed for Official Purposes in Private Residences.**

(C. (II) 1800.—8.4.1927.)

The prior approval of the Admiralty is invariably to be obtained for all installations of telephones necessary for official purposes in the private residences of Naval or dockyard officers. In future, no application for a telephone on a contributory basis will be considered if action has been taken with the Post Office for the installation before such application is made.

2. If an officer for whose duties a telephone is essential, moves into a house in which an instrument is already installed, he should report this fact in making application for the installation to come under the terms of A.F.O. 782/25. He should not, however, sign any agreement with the Post Office, but should explain to that department that application has been made to the Admiralty for the service to be regarded as official.

3. The Post Office accounts in respect of telephones installed for official purposes in private residences should *not* be paid locally by the occupants, as arrangements have been made with the Post Office for all such accounts to be preferred upon the Accountant-General of the Navy, who will direct recovery of the appropriate contributions from the officers concerned. Clause (f) of A.F.O. 782/25 is therefore cancelled.

(A.F.O. 782/25.)

**948.—Cartridges, S.A., Ball, .303 in., Mark VII, Kynoch, of Post-war Manufacture up to 8.4.1926—Early Expenditure.**

(G. 17264/26.—8.4.1927.)

Cartridges, S.A., ball, .303 in., Mark VII, Kynoch, of post-war manufacture up to 8.4.26, are more liable to split under adverse storage conditions than cartridges of other makes.

2. S.A.A., .303 in., of Kynoch's manufacture between the dates mentioned, in store and on board ships, is to be earmarked for early expenditure.

3. Quantities available should be shown separately in statements of stock for 31st March, 1927.

### 949.—Fuze, Safety, No. 9—Care and Maintenance—Method of Application of Jeffery's Marine Glue No. 7.

(G. 19198/26.—8.4.1927.)

The method of sealing the ends of fuze, safety, No. 9, Marks III and III\*, with Jeffery's marine glue No. 7 having been further investigated, the following method, which has been found to provide a satisfactory sealing and to withstand warm storage, is to be adopted when sealing or re-sealing of the fuze is carried out at Naval armament depôts and on board H.M. ships:—

- (a) The paraformaldehyde mixture is to be removed from the ends of the fuze.
- (b) The ends of the fuze are then to be immersed, to a depth of about half an inch, in a bath of molten Jeffery's marine glue No. 7. The temperature of the bath of glue is to be raised to, and maintained at, about 120° C.
- (c) The ends of the fuze are to be allowed to remain immersed for at least thirty seconds.
- (d) The marine glue coating is to be allowed to harden before the fuze is repacked.

2. It is necessary, in order to obtain the best results, that these instructions should be carefully complied with as there is the possibility of cracking, and poor adhesion, of the glue if the paraformaldehyde mixture is not removed and if the immersion is maintained for less than thirty seconds.

(A.F.O. 1718/27.)

### 953.—Portable Electric Hand-Lamps and Apparatus with Flexible Cables.

*All Ships.*

(G. 13206/26.—8.4.1927.)

Attention is called to the danger of using electric hand-lamps, or other portable electrical apparatus, when the flexible cable is in a defective condition.

Especial care is to be observed that the flexible cables of portable hand-lamps, fitted for use in magazines and shell rooms, are examined before being used. If the slightest sign of damage is apparent, they are not to be taken into those compartments.

2. Care is to be taken that the plug connections of the portable fittings are properly shipped in their sockets and secured before switching on. Where screw collars are fitted for this purpose the collar should be screwed hard home on the socket.

3. Portable hand-lamps in use in magazines and shell rooms are to be tested electrically every six months, and a notation made to this effect on page xiv or xv of Part I of the Magazine Log S.285b.

4. A new type of 3-core canvas reinforced cab tyre sheathed cable, Pattern 9622, having greater mechanical strength than existing patterns, will be introduced for use with portable electric hand-lamps.

5. As the flexible cables of hand-lamps become low in insulation, or defective, they are to be renewed with Pattern 9622 cable, the lamp fittings being modified in the manner shown on Drawing D.E.E. 3986 R/I (E.F.O. 18/27), the principle of earthing the Pattern 406 plug shown thereon being extended to any other types of plugs in use.

6. Until stocks of Pattern 9622 cable are available, Pattern 6483 is to be used in lieu, and the latter may continue to be used until stocks of this pattern are exhausted, except in ships where portable hand-lamps are used in magazines and shell rooms.

7. In those cases where it is found impossible to earth the type of plugs at present fitted, they are to be replaced, where required to be watertight, by Pattern 7917 switch-socket or Pattern 7919 socket and Pattern 7920 plugs; and for non-watertight services with Pattern 8104 switch-socket and Pattern 8105 plug.

8. The same principle is to be applied to other portable apparatus, as the leads become defective.

**965.—High Speed Cinema Camera.**

(N.S. 5627/25.—8.4.1927.)

A Gaumont Debrie ultra rapid high speed camera has been provided for the use of the Admiralty Home Services generally.

2. This camera will be held in the custody of H.M.S. "Excellent" (R.N. Photographic School), and will be added to the establishment of Naval stores for the photographic school for record purposes.

3. Admiralty Services at home requiring the use of the camera should forward a requisition, stating the period for which the camera will be required, direct to H.M.S. "Excellent." The requisition, which should be made as far as possible in advance of the date by which the camera is required, should also state the quantity of film necessary to be supplied with the camera. The camera will not be sent abroad.

4. The operating of the camera by other than photographic school photographers will be at the discretion of the Captain, H.M.S. "Excellent," but, in general, it is considered that the photographers borne at the Admiralty, dockyards and home ports, should be capable of working the camera. Where no photographer is borne (such as at outports), or where the experiment or trial is such that a photographer fully conversant with the camera is essential, the requisition for the use of the camera should be accompanied by a request for an operator also.

5. Exposed films should be forwarded to H.M.S. "Excellent" for R.N. Photographic School, Tipnor, where the work of developing and printing will be undertaken. Any quantity of film supplied with the camera which has not been used should be returned to H.M.S. "Excellent."

6. The Service concerned will be informed by H.M.S. "Excellent" when the films are ready, and instructions as to their disposal will be asked for. If desired, arrangements may be made for the films to be viewed on a screen at the photographic school or at War Office (for Admiralty departments).

7. Where practicable, the camera should be transported by road, but when this is not possible, by passenger train, due regard being paid to any existing traffic regulations in regard to the transport of films, etc.

**966.—Storing of Patrol Minesweeping and Fishery Protection Flotillas.**

(N.S. 3890/27.—8.4.1927.)

The vessels of the Patrol Minesweeping and Fishery Protection Flotillas under the orders of the Captain A/P are based as follows, and allocated for storing purposes to the yards shown:—

*Vessels at present Allocated to this Service.*

Base.	Types.	Names.	Storing Yards.
Portland ...	Fishery Protection Cruiser ...	"Harebell"	} Portland.
" ...	Twin Screw Minesweeper ...	"Pangbourne"	
" ...	" " " ...	"Albury"	
" ...	" " " ...	"Dunoon"	
" ...	" " " ...	"Sutton"	
" ...	" " " ...	"Tiverton"	
" ...	" " " ...	"Dundalk"	
" ...	" " " ...	"Selkirk"	
" ...	Fishery Protection Gunboat ...	"Boyne"	
" ...	" " " ...	"Cherwell"	
Fleetwood ...	" " " ...	"Doon"	} Devonport.
Falmouth ...	" " " ...	"Dart"	
" ...	" " " ...	"Colne"	
Aberdeen ...	" " " ...	"Spey"	
Lowestoft ...	" " Cruiser ...	"Godetia"	} Sheerness.
" ...	" " Gunboat ...	"Kennet"	
" ...	" " " ...	"Garry"	
Grimsby ...	" " " ...	"Liffey"	
Spare Ship	" " " ...	"Dee"	

Vessels should store in accordance with the establishment of Naval Stores approved for the particular type of vessels, and should complete to the period therein laid down.

2. Vessels should also complete with stores at manning ports when giving leave, at refitting ports when refitting, and, when temporarily transferred to other dockyards or bases, from the dockyards to which attached or storing yards concerned.

### **\*993.—Brevet Promotion, Royal Marines.**

(C.W. 3190.—14.4.1927.)

An officer of the Royal Marines who has received a Brevet-Colonelcy or Brevet-Lieutenant-Colonelcy and who is subsequently promoted to Colonel, may count seniority on the Colonels' list from the date of his Brevet-Colonelcy or four years from the date of his Brevet-Lieutenant-Colonelcy, whichever is the more advantageous to him, but his seniority in corps rank will remain unaffected.

The emoluments of officers are not affected by this Order.

### **\*994.—Lieutenant-Colonels, R.M.—Supplementary Half Pay List.**

(C.W. 3122.—14.4.1927.)

The establishment of Lieutenant-Colonels, R.M., will be reduced from 12 to 9.

2. In order to prevent the promotion of officers junior to that rank being retarded, as a consequence of this reduction, it has been decided as a temporary measure to establish a Supplementary Half Pay List for Lieutenant-Colonels, R.M., under the following conditions:—

- (i) Lieutenant-Colonels to be placed on this List after four years' service in that rank, or on completing the term of a staff appointment after four years' service in the rank of Lieutenant-Colonel.
- (ii) Officers on the Supplementary Half Pay List to remain eligible for selection for Staff appointments, or for promotion to Colonel 2nd Commandment.
- (iii) The number of officers on the Supplementary Half Pay List at any one time to be limited to five and the List to be abolished in 1931 or when cleared by promotions, if earlier.

The foregoing arrangements will take effect from the 14th October, 1927.

### **1000.—Specialist Medical Officers—REPORT.**

(C.W. 3568/27.—14.4.1927.)

In order that the census of Medical Officers in respect of their experience and suitability for appointment as Specialist Medical Officers may be kept up to date, the relevant parts of previous instructions are re-issued hereunder. Attention is drawn to the necessity of Surgeon Lieutenants rendering the report when transferred to the Permanent Service.



2. Medical Officers, R.N., are eligible to specialise in the following subjects :—

- Medicine.
- Surgery.
- Hygiene (Naval Health Officers).
- Ophthalmology.
- Anaesthetics.
- Venereal diseases.
- Diseases of ear, nose and throat.
- Bacteriology.
- Radiology and electro-therapeutics.
- Physical training.
- †Anti-gas.
- †Medical care of aircraft personnel.

† These appointments do not carry specialist allowance. Special courses are arranged for Officers selected for these appointments.

3. Each Medical Officer, R.N. (except Surgeon Lieutenants for short service), is to forward through the usual Service channels a statement in the form shown in the appendix to this Order, if this has not already been done. Surgeon Lieutenants for short service are to render the statement on transfer to the Permanent Service. The remarks of the Senior Medical Officer, Squadron or Fleet Medical Officer or Medical Officer in charge of establishment should be inserted where applicable, and the forms forwarded to the Medical Director-General of the Navy, Queen Anne's Chambers, London, S.W.1. A separate form should be used for each Officer.

4. It should be understood that, although individual preferences will be studied as much as possible, various factors will enter into the selection of Medical Officers for specialist training and appointments, and that in some instances some time may elapse before Medical Officers will be given specialist training and employment. Until the full institution of the Specialist Courses the usual three months' Post-Graduate Courses will be continued in operation.

APPENDIX.

*Specialist Medical Officers—Application.*

Name.....\*

Rank ..... Seniority .....

Where serving .....

Subjects to be taken from A.F.O. 1000/27. { Specialist subjects in which Officer has had experience (in order of extent of knowledge).....  
 { Subjects in which Officer desires to specialise (in order of preference) .....

Additional subjects not enumerated in A.F.O. 1000/27 in which Officer has had experience .....

Signature of Officer.....

Remarks of Senior Medical Officer as to suitability of Officer to specialise, and which subjects he is recommended to be (a) employed in, (b) trained in.  
 .....

Signature .....  
 (Senior Medical Officer.)  
 H.M.S. ....

Remarks of Medical Officer in Charge or Fleet Medical Officer.....  
 .....

Signature .....  
 H.M.S. ....  
 Station .....

## 1023.—Rope, Steel Wire—Method of Splicing.

(D. 4250/27.—14.4.1927.)

As the result of comparative trials carried out at Portsmouth Yard, it has been decided to modify the Admiralty method of making eye splices in steel wire ropes.

2. The method of splicing and number of tucks as set out in detail hereafter, should be followed generally in the splicing of steel wire ropes.

3. This method of splicing has been adopted for steel wire hawsers (fitted complete) and will be incorporated in the Book of Boats' Slings, which is at present under revision.

4. *Number of Tucks.*—For ropes under  $4\frac{1}{2}$  in., the splices are to be tucked three times with the full size of the strand, a fourth time with the strand reduced to two-thirds, and a fifth time reduced to one-third.

For ropes of  $4\frac{1}{2}$  in. and above, the splices are to be tucked four times with the full size of the strand, a fifth time with the strand reduced to two-thirds, and a sixth time reduced to one-third.

5. *Method of Tucking.*—The splices of the wire are to be made against the lay of the rope.

The centre core of the rope is to be removed on opening out the strands for tucking.

The cores of the strands, if of hemp or jute, are to be removed after the first tuck has been made. If these cores are of wire, however, the strands are to be unlaid before the second tuck is made, but the cores are not to be removed.

*1st Tuck.*—The right-hand strand is to be taken and tucked under the strand directly beneath it. The next three strands are then to be tucked under successive strands.

The sixth or left-hand strand is to be tucked under the next two strands, and the first tuck is to be completed by tucking the fifth strand in the same lay, but under one strand only.

Each strand is to be hove well home when tucked and, after the tuck is completed, beaten down and a good whipping put on to prevent back spring of wires during the process of making the next tuck.

*2nd Tuck.*—Each strand to be tucked over one and under one.

*3rd Tuck.*—Repeat as for 2nd tuck.

*4th Tuck.*—Ropes  $4\frac{1}{2}$  in. and above—repeat as for 3rd tuck. Ropes under  $4\frac{1}{2}$  in.—one-third of each strand is to be turned back and stopped down until the tucking of the whole splice is finished. The remaining two-thirds of each strand is then to be tucked as before.

*5th Tuck.*—Ropes of  $4\frac{1}{2}$  in. and above—to be as the 4th tuck for ropes under  $4\frac{1}{2}$  in.

Ropes under  $4\frac{1}{2}$  in.—another one-third of each strand is to be turned back and stopped down, and then the remaining one-third tucked as before.

*6th Tuck.*—Ropes  $4\frac{1}{2}$  in. and above—to be as the 5th tuck for ropes under  $4\frac{1}{2}$  in.

6. *Parcelling, Servicing, etc.*—On completion of tucking, the rope is to be stretched and the ends of all wires, including those turned back and stopped down, are to be broken off short in the nip of the lay of the rope by twisting.

Thimbles are to be tightly seized in with appropriate seizing of steel wire line or strand.

Splices are to be parcelled as necessary with canvas (generally Merchant Navy No. 6), hessen or calico well saturated with Stockholm tar and served with tarred spunyarn.

**1065.** *Issued Confidentially.***1070.—Torpedo Tubes, T.R. I and D.R. IV, Fitted with Powder Impulse—Renewal of Access Door and Access Door Fittings.***Ships concerned and Dockyards.*

(G. 5043.—22.4.1927.)

In all T.R. I torpedo tubes fitted with powder impulse, it has been decided to replace the existing hinged door by modified doors which provide separate access to the various access holes for adjusting settings on existing torpedoes.

2. Modified hinge brackets are to be fitted to the access doors for depth, charging and stop valves, and sighting plug, as shown in E.F.O. 132/28. The hinge brackets are to be fitted by the dockyards concerned in vessels not yet fitted with the modified access doors, and by ships' staffs in vessels which have already been fitted.

3. The new fittings and modified parts should be obtained from Devonport Dockyard together with the necessary instructions for information in fitting.

4. Ships fitted with the old type access doors on T.R. I tubes are to include an item in the list of approved alterations and additions accordingly.

5. No action is being taken in the case of D.R. IV tubes fitted with the same old type of access door, but the access door fastenings of the lever clamp type on these tubes are to be replaced by the screw ring nut type fastenings, when they become defective, and dockyard assistance is necessary for their repair or renewal. This substitution is to be regarded as a defect.

6. Failures of discharge are frequently attributable to these doors being insecurely fastened. The following points should therefore be borne in mind:—

- (a) The hooks of these doors forming the hinge are to be periodically examined and if they show signs of weakness or other defects, the door should be dealt with in a pink defect list and a report forwarded. The tube affected is *not* to be fired until it has been examined by a dockyard.
- (b) At each refit application should be made for the examination of all hook hinges by the dockyard.
- (c) On each occasion of replacing an access door, a very close examination should be made that all hooks are properly engaged, and that the door is in no way on a slew when being screwed up. The two middle clamps should always be screwed up first.

**1079.—Cylinders, Tin, No. 198F for Packing No. 198 Fuzes.**

(G. 302/27.—22.4.1927.)

First supplies of Fuzes, Time, No. 198, available for distribution will be issued to H.M. ships and Armament Supply Depôts in tin cylinders, No. 198F, the fuze being packed in the cylinder base uppermost, to facilitate withdrawal of the fuze, a method of packing which should continue so long as cylinders of this pattern are in supply.

2. As this design of cylinder is not satisfactory, issues will be restricted as much as possible, and the cylinders will be replaced by others of improved design as early as practicable.

3. On receipt of cylinders to new design at Armament Supply Depôts, stocks of fuzes in No. 198r cylinders are to be repacked, and any fuzes in No. 198r cylinders on board H.M. ships should be withdrawn at the first convenient opportunity, and replaced by other fuzes in the new cylinders.

### **1080.—W/T—Office Lobbies—Light-excluding Scuttle Ventilators—REPORT.**

*Destroyers.*

(S.D./G. 13685/26.—22.4.1927.)

Approval has been given in principle to provide for the fitting of light-excluding scuttle ventilators to the W/T office lobbies in all destroyers in running flotillas and of any destroyers in reserve on being brought forward for service in running flotillas.

The following procedure is to be carried out by ships concerned:—

- (a) An item "To improve ventilation of W/T office lobbies" is to be included in the next list of alterations and additions.
- (b) A report is to be furnished stating the numbers and positions of fixed and hinged scuttles in the lobby of the W/T office, if a lobby is fitted. The report should also state if the ship's present allowance of light-excluding scuttles is sufficient to allow of two scuttles being utilised for the lobby and if not, the number of additional scuttles required.

A copy of the report is to be forwarded to the dockyard concerned with the next list of alterations and additions.

When the above reports are received, dockyards concerned are to estimate in each case for the work required to enable two standard light-excluding scuttles to be fitted, the necessary conversion from fixed to hinged scuttle being made where necessary.

### **1102.—Typewriters, Duplicators, Printing Presses and other Office Machinery—Accounting.**

(N.S. 2997/27.—22.4.1927.)

All typewriters, duplicators, copying apparatus, printing presses and office machinery in H.M. ships, etc., fitted for central storekeeping, are in future to be accounted for in the Central Store Account, and dealt with in a similar manner to permanent stores on loan. The transfer of these machines from the Books of Reference Account or other accounts in which they appear at present is to be effected forthwith, forms S.549 being used for the purpose.

2. In H.M. ships, etc., *not* fitted for central storekeeping, the machines in question will continue to be accounted for as at present, but the instructions contained in paragraphs 3 to 7 inclusive are to be rigidly observed.

3. To facilitate tracing the disposal of typewriters, duplicators, and other office machinery, care is to be taken that the factory numbers of the machines are correctly recorded in the relative Account. The make, size, and factory number of *each* machine is to be quoted invariably in demands for the exchange of defective machines, for the supply of ribbons or other accessories and in correspondence relating to them.

4. In all instances of transfer of these articles from one ship or service to another, a copy of the transfer voucher (Form S.549), showing the full description, size and factory number of the particular machine should be forwarded to the Superintendent, R.N. Store Depôt, West India Docks, London, E.14, by the supplying ship at the time the transfer is effected.

5. The following is a list, not necessarily exhaustive, of items of office machinery covered by these instructions :—

Typewriters.  
 Duplicators. (State make, size, and whether flat or rotary.)  
 Rotary press copying machines.  
 Motabradors (envelope openers).  
 Envelope closing and franking machines.  
 Electric copiers.  
 Gammeters.  
 Roneotype machines.  
 Dictaphones.  
 Roneophones.  
 Printing presses.  
 Lithographic presses and machines.  
 Linotypes.  
 Wire stitching machines.  
 Guillotines.  
 Addressographs.  
 Photostats.  
 Calculating machines.  
 Adding machines.

These items should be added to the "List of Important or Valuable Articles to be verified on change of Accountant Officers" detailed in Clause 3, Article 96, of the "Instructions for Guidance of Officers and others in matters relating to Central Storekeeping in H.M. Ships and Establishments so fitted".

6. In H.M. ships about to pay off, the following instructions are to be followed :—

- (a) *Ships paying off into Dockyard control for refit at Home Yards.*—All office machinery, except as at (e) below, should be returned outright to the R.N. Store Depôt, Royal Victoria Yard, Deptford, S.E.8, through the Naval Store Officer, whether Naval stores are removed or not.
- (b) *Ships paying off for refit at Foreign Yards.*—All office machinery, except as at (e) below, should be lodged with the Naval Store Officer for custody only, whether Naval stores are removed or not.
- (c) *Ships paying off into reserve (whether at Home or Abroad), if not commissioned as Parent Ships in reserve.*—All office machinery, except as at (e) below, should be returned to the Naval Store Officer of the yard at which the vessel pays off.
- (d) *Parent Ships in reserve paying off and being replaced by other vessels.*—Admiralty authority is to be sought for the transfer of any typewriters, duplicators, etc., to the relief.
- (e) Admiralty instructions are to be sought in regard to the disposal of printing presses, type, guillotines, wire stitching machines, and other heavy articles.

7. Naval Store Officers, on the receipt of office machinery from ships paying off into reserve are, at Home Yards, to return it outright to the R.N. Store Depôt, Royal Victoria Yard, Deptford, London, S.E.8; at Yards Abroad, Admiralty instructions are to be sought as to its disposal, any local recommendations on the matter being forwarded at the same time.

8. All typewriters, etc., surplus to requirements or to the number allowed by establishment, are to be returned *without delay* to the R.N. Store Depôt, Deptford, through the Naval Store Officer of the nearest dockyard, when practicable.

9. In no circumstances should typewriters, etc., be laid aside and overlooked, as they are liable to be stolen or to become rusty and defective, and thus rendered useless for purposes of reissue.

10. Instructions for the repair, transport, care and use of typewriters are contained in A.F.O. 694/27.

(A.F.O. 694/27.)

### 1133.—Gun Fire Control Instruments fitted in H.M. Ships— Returns of Particulars.

(G. 16834/26.—29.4.1927.)

It has now been decided that the torpedo and searchlight portions of the returns are no longer required.

2. The forms adopted for the purpose of reporting concisely the various details of the gun fire control instruments fitted in H.M. ships are, however, to be continued.

3. The forms are to be prepared in the first instance by the shipbuilders in the case of a vessel built by contract, and by the dockyard officers in the case of a vessel built, or re-constructed, at a Royal dockyard. The statement should be prepared in conjunction with the ship's officers and signed by the Commanding Officer and the dockyard officers or Admiralty Ship Overseer.

4. The Naval Store Officer should be associated with the report.

5. A statement, in manuscript, should also be rendered of the instruments approved to be supplied but not received, quoting the authority for supply.

6. The forms are to be prepared and rendered subsequently by ship's officers on recommissioning, but not oftener than once in two years, as ordered by the Admiralty.

7. The forms will be issued by the Admiralty as occasion arises, and are to be rendered in duplicate, one other copy being retained in the ship.

(A.F.O. 1475/29.)

### 1134.—O.B.L. 6 in., Marks XII and XIIA—Percussion Firing Gear—REPORT.

(G. 16423/24.—29.4.1927.)

An improved form of percussion firing gear is to be fitted to the above-mentioned guns. The gear is on order and will be distributed to Naval Armament Depôts when available.

The work of fitting will be carried out at Naval armament depôts where the necessary facilities exist and copies of drawings N.O.D. 2123/42 and N.O.D. 2123/43 will be distributed shortly to depôts concerned.

Guns in battleships should be fitted first.

The gear embodies a catch retaining breech screw closed. A certain amount of fitting with subsequent hardening will be required to the bracket, intermediate firing lever, and the plate, safety. The extent of the hardening is shown on N.O.D. 2123/43. A small modification to lock, percussion, "P.B.," is also required to be carried out, as shown on Instructional Print N.O.D. 2123/42.

Intermediate demands should be rendered for the parts required. The old pattern gear when no longer required will be brought to produce.

A report should be forwarded to the Admiralty (C.S.A.S.) by Naval Armament Depôts carrying out the work, when the new pattern gear has been fitted.

(A.F.O. 2532/29.)

### 1136.—Rangefinders—Lenses, Astigmatic.

*Ships, Depôts and Gunnery Schools.*

(G. 3512/27.—29.4.1927.)

In connection with the supply of lenses for correcting astigmatism in rangefinders, the following summary of existing orders is circulated for information and compliance :—

The use of astigmatic lenses is compulsory for all rangefinders whose astigmatism needs a cylinder of more than  $\cdot 25 +$  or  $-$ .

Individual gunlayers and trainers will not be supplied with these lenses.

In view of the disadvantages in fitting astigmatic lenses to present types of director telescopes, director layers and trainers will not be supplied with these lenses.

Rangefinders on board all ships are to be examined for astigmatism by a Medical Officer of a Naval Hospital, R.N. Depôt, or hospital ship, on the first convenient opportunity, where this examination has not already been carried out.

Demands should be forwarded by the ships and establishments concerned to the Naval Store Officers at the respective storing ports, and these demands should be accompanied by a list showing the names and ratings of the rangefinders concerned and the degree of correction required for each man, and whether the lens should be  $+$  or  $-$ .

Each lens will be fitted in a cell, and supplied in a sheet metal box, so that the name of the individual rangefinder to whom it is issued can be engraved thereon.

The lenses are to be marked to ensure their being shipped at the correct angle.

The marking of the lenses and engraving on the metal box should be carried out by the Ordnance Artificer staffs at the R.N. Barracks and Gunnery Schools at Chatham, Portsmouth and Devonport.

The lenses will be issued by the respective Naval Store Officers to the Senior Medical Officers at the Depôts and Gunnery Schools, who will subsequently arrange for supply to individual ratings.

Each rangefinder should keep his own lens, but it will not become the personal property of the rangefinder. The date of issue of the lens should be noted on each man's gunnery history sheet at the time of issue, or, if the supply has already been made, the fact should be noted on the gunnery history sheets of the men concerned.

Instruction in the use of the lenses should be given by a Medical Officer.

In use, the lenses will fit into adaptors on the eyepieces of the rangefinder. Details of the adaptors, with the rangefinders for which they are suitable, are shown in the sketch (E.F.O. 33/27).

Existing rangefinders in ships are to be fitted with these adaptors by ships' artificers.

## 1142.—Keep Plates to the Bolts Securing the Rolled Girders, etc.—Fitting.

*H.M. Submarines.*

(D. 3914/27.—29.4.1927.)

A case has occurred in one of H.M. submarines where the standard practice of fitting keep plates to the heads of the bolts securing the rolled girders to the pad pieces and also to the transverse stools had been departed from, and spot welding the bolts substituted therefor.

In future, the standard practice is to be adhered to, *i.e.*, keep plates are to be fitted.

## 1162.—Women Tracers—New Conditions of Service, etc.

(C.E. 1858/27.—29.4.1927.)

The following revised scheme relative to the method of recruitment, conditions of service and rates of pay of Women Tracers employed by the Admiralty at Headquarters and Outstations is promulgated for information and general guidance.

### WOMEN TRACERS SERVING AT HEADQUARTERS.

*Recruitment.*—Recruitment will be from Tracers serving at H.M. Dockyards and Establishments, who may desire to be considered as candidates, and from amongst candidates from outside firms between the ages of 19 and 35 years obtained through the Employment Exchange, etc.

The normal means of selection of outside candidates will continue to be by a practical test set by the Department where vacancies exist. Vacancies will be notified to the Outports and the claims of eligible Women Tracers serving at the Outports who desire to submit themselves as candidates for appointment to Headquarters, will be considered with those of candidates from outside the Service, and judged on their merits accordingly.

The qualifications of candidates for vacancies at Headquarters will be tested practically, the test being set by the Department in which the vacancy arises. The candidate's application must be supported by acceptable testimonials (in the case of Outport candidates, by the recommendation of the Head of their Department). Any candidate serving at the Outports who is selected for service at Headquarters under this procedure will be regarded as transferred in the interests of the Service.

*Rates of Pay.*—There will be two general grades, viz :—Leading Tracers and Tracers. The former will be an established grade, and will be remunerated by basic pay plus Civil Service Bonus, and the latter will be an unestablished grade, and will be paid inclusive rates as at present. The inclusive rates will be subject to review in the event of any substantial variation in the cost of living figure.

*Leading Tracers.*—32s. a week, rising by annual increments of 2s. a week to 38s. a week, plus bonus on the Civil Service scale.

*Tracers.*—40s. a week rising by annual increments of 2s. a week to 53s. a week, inclusive. Qualified candidates may, subject to Admiralty approval, be entered at a higher point in the scale than the minimum, according to experience and ability, with normal progression on the incremental scale from that point.

Advancement to Leading Tracer will be by selection.



*Hours of Attendance.*—42 hours a week (with a half holiday on Saturday, subject to work permitting), including a daily luncheon interval of 45 minutes.

*Leave.*

*Leading Tracers.*—18 days per annum, rising to 21 days per annum, after 5 years' service in a grade with a leave entitlement of 18 days per annum.

*Tracers.*—18 days per annum.

*Sick Leave.*—Leading Tracers and Learners should be added to Section A of Appendix I of Home Dockyard Regulations, 1925 (Tracers are already included), and sick leave privileges will then be automatically governed by Section B of Appendix I of the Regulations.

*Pension.*—Women Tracers who become established as Leading Tracers will be allowed to count half their previous unestablished time for pension purposes.

WOMEN TRACERS SERVING AT THE OUTPORTS.

*Recruitment.*—Recruitment will be in two sections, viz :—(1) recruitment of a certain number of Learners, not less than 15 years of age, who will develop into Probationary Tracers and finally into Trained Tracers (the period of service as Learner to be three years), (2) recruitment of trained Women Tracers as necessary to fill casual vacancies other than those filled by the normal advancement of Learners. The age for recruitment into this section to be 19 to 35 years as at Headquarters.

Women Tracers will be eligible for transfer to Headquarters under the conditions laid down for recruitment at Headquarters.

It is anticipated there should be sufficient suitable candidates from local sources to supply the needs of the Outports. Local Officers will consult with local Technical Institutions, and arrange to advise them of all vacancies in the Learner grade. Selection will be made locally by means of an educational and technical test carried out in accordance with the following syllabuses :—

SYLLABUS FOR TRACERS.

Age Limits at Date of Examination.	Subjects of Examination.		Marks and Time allowed for each Subject.		Maximum Marks.		
	Educational.	Practical.	Time.	Marks.	Educational.	Practical.	Total.
<i>Years.</i> 19-35	Handwriting and Orthography.	—	30 min.	50	50		
		Tracing in ink on linen (including printing).	1 hour	100	}	250	} 300
		Finished tracing on linen from a rough pencil sketch (including printing).	1 hour	100			
		Writing up in ink on linen a specification or schedule for materials (including printing).	30 min.	50			

## SYLLABUS FOR TRACER LEARNERS.

Age Limits at Date of Examina- tion.	Subjects of Examination.		Marks and Time allowed for each Subject.		Maximum Marks.		
	Educational.	Practical.	Time.	Marks.	Edu- cat- ional.	Prac- tical.	Total.
Years. 15 to 17	Handwriting and Orthography. Arithmetic (up to vulgar and decimal fractions, ex- cluding recur- ring decimals and simple problems).	—	30 min.	50	} 150		} 250
		—	1 hour	100			
		Tracing in pencil on tracing paper, with a view to ascer- taining the degree of famil- iarity of the candidate with the use of set squares and compasses. The drawing given to be selected to show neat- ness in the intersection of lines, and at points of con- tact of the curves, etc., which have to be traced (in- cluding print- ing).	1 hour	100	100		

The educational paper is to be set by the Dockyard Schoolmaster, and the examination is to be conducted and supervised by that officer. No extra payment will be made for these duties.

The holding of examinations will depend on vacancies arising, and will be at the discretion of the Admiral Superintendent of the Dockyard. Yard officers are to report prospective vacancies to him, so that if possible, one examination may suffice to fill vacancies in all departments, and the number of examinations may be reduced to a minimum.

Recruitment will be regulated to ensure so far as is practicable, not only that recruits are secured whenever required, but also that Learners are not kept unduly long in that grade awaiting vacancies for Tracer after they have completed their period of probation. Casual vacancies which arise unexpectedly may, however, be filled if necessary by the direct entry of Trained Tracers.

Learners will normally serve for a period of 3 years as such. At the end of this period Learners will be subjected to a test of proficiency, and if successful

will be eligible for appointment in vacancies as Trained Tracers, being borne in the meantime as Probationers. Proficient Probationers will be eligible to receive the maximum rate of pay for the Learner grade.

It is anticipated that Learners who are retained for the full period of 3 years training will, in the ordinary course, qualify to become Trained Tracers. In order to minimise the risk of rejection after so long a period of training, local officers should, in the interests of the Department and of the Learner, watch for any failure to develop in a satisfactory manner, and release, after a period of not more than 2 years, any Learner who may not come up to the required standard.

The normal period of probationary service between the grades of Learner and Tracer will be about six months. It may in some cases, however, be necessary to extend the period to 12 months depending upon (i) whether the Learner is fit to become a Woman Tracer, and (ii) the existence of vacancies for Trained Tracers. Whenever it becomes apparent that a vacancy is not likely to exist at the end of the probationary period, the facts should be reported to the Admiralty, in order that the position may be specially considered.

*Rates of Pay.*—Three grades will be borne at the Outports, viz :—Leading Tracers, Tracers and Learners or Probationers.

The grade of Leading Tracer will be an established grade, and will be remunerated by basic pay plus Civil Service Bonus. The remaining grades will be unestablished, and will be paid inclusive rates. The inclusive rates will be subject to review in the event of any substantial variation in the cost of living figure.

*Leading Tracers.*—28s. a week, rising by annual increments of 2s. a week to 33s., plus bonus on the Civil Service scale.

\**Tracers.*—35s. a week, rising by annual increments of 2s. a week to 48s. a week, inclusive.

*Learners, etc.*—15s. a week, rising to 20s. a week with extensions up to 25s. a week in special cases, inclusive.

\* Qualified candidates may, subject to Admiralty approval, be entered at a point in the scale above the minimum rate according to experience and ability in the case of Trained Tracers from outside, with normal progression on the incremental scale from that point.

*Hours of Attendance.*—The number of hours of attendance will be the same as for Draughtsmen serving at the Outports.

#### *Leave.*

*Leading Tracers.*—18 days per annum, rising to 21 days per annum after 5 years' service in a grade with a leave entitlement of 18 days per annum.

*Tracers.*—14 days per annum.

*Learners, etc.*—12 days per annum.

*Sick Leave.*—Leading Tracers and Learners should be added to Section A of Appendix I of Home Dockyard Regulations, 1925 (Tracers are already included), and Sick Leave privileges will then be automatically governed by Section B of Appendix I of the Regulations.

*Pension.*—Women Tracers who become established as Leading Tracers will be allowed to count half their previous unestablished time for pension purposes. The question of counting "Learner or Probationer" service for pension is reserved for the present.

*General.*—The foregoing scheme will be given effect as from the 1st March, 1927, but any appointment as Leading Tracer will only take effect from the date of Civil Service Certificate. Tracers at the Outports who are not in receipt of Charge Pay should be assimilated forthwith to the new scale for Tracers, provided that they are fully qualified. Those in receipt of Charge Pay should retain their existing emoluments until further orders.

Tracers who are appointed to posts as Tracers in the new complements and who have been in receipt of the old maximum for one year or more will be granted an immediate increment on the new scale, provided that the maximum of the new scale is not exceeded.

Advancement to the grade of Leading Tracer both at the Admiralty, and at the Outports will be by selection.

In future Women Tracers will be comprised within Staff Classes, whose interests are represented through the Admiralty Administrative Whitley Council.

## \*1173.—Oil Pollution of Navigable Waters.

(M. 841/27.—6.5.1927.)

The recommendations of the International Conference held at Washington in 1926 in connection with oil pollution of navigable waters have been accepted in principle by H.M. Government, and the main recommendation that oil should not be discharged within 50 miles of a coast is being voluntarily adopted by British shipowners.

Pending conclusion of the Convention and definition of the areas to which it will apply, H.M. ships and Royal Fleet Auxiliaries should comply, subject to the exigencies of H.M. Service, with the provisions of Article II within 50 miles of any coast.

The "Draft of Convention" is printed below.

### DRAFT OF CONVENTION.

The Governments of  
desiring to take action by common accord to prevent pollution of navigable waters by oil or oily mixtures discharged from vessels, have resolved to conclude a Convention for this purpose, and have appointed as their Plenipotentiaries :

Who, having communicated to each other their respective full powers, found to be in good and due form, have agreed as follows :—

#### I.

The respective Governments may establish areas in waters adjacent to their coasts within which discharge from the vessels specified in Article III of oil or oily mixtures as defined in Article II shall be prohibited, in accord with the following principles :—

- (a) In the case of coasts bordering the open sea, such areas shall not extend more than 50 nautical miles from the coast, except that, if such extent is in particular instances found insufficient because of peculiar configuration of the coast line or other special conditions, such areas may be extended to a width not exceeding 150 nautical miles.
- (b) In case the Government of any country desires to prescribe an area any part of which may be within 150 nautical miles of the coast of another country, that Government shall inform the Government of such other country before the area is prescribed.
- (c) Due notice of the establishment of any area or areas, and of any change thereof, shall be given to the Governments of maritime states, in the form of charts or otherwise, by the central agency mentioned in Article VII.

#### II.

The discharges which may be prohibited in any area prescribed pursuant to Article I are (a) crude, fuel or diesel oil, or (b) any mixture containing more than .05 of one per cent. of such oil, or having a content of such oil sufficient to form a film on the surface of the sea visible to the naked eye in daylight in clear weather.

#### III.

The vessels which may be affected pursuant to the provisions of Article I are all sea-going vessels other than war vessels, carrying crude, fuel or diesel oil, in bulk as cargo or as fuel for boilers or engines. Special provisions may be adopted to meet the case of small vessels, of limited bunker capacity, but such vessels shall be required to take all reasonable precautions to prevent oil pollution.

#### IV.

The respective Governments agree to take the necessary measures to ensure that vessels classed as war vessels shall take every possible precaution to prevent oil pollution.

## V.

Each Government will require vessels of the class specified in Article III, flying international flag, when within any area prescribed pursuant to Article I, to refrain from discharging oil or oily mixtures as defined in Article II.

## VI.

The respective Governments agree—

- (a) That no penalty or disability of any kind whatever in the matter of tonnage measurement or payment of dues be incurred by any vessel by reason only of the fitting of any device or apparatus for separating oil from water.
- (b) That dues based on tonnage shall not be charged in respect of any space rendered unavailable for cargo by the installation of any device or apparatus for separating oil from water.
- (c) That the term "device or apparatus for separating oil from water" as used in paragraph (a) and (b) of this Article, shall include any tank or tanks, of reasonable size, used exclusively for receiving waste oil recovered from the device or apparatus, and also the piping and fittings necessary for its operation.

## VII.

The Government of \_\_\_\_\_ is invited to establish a central agency for the purpose of receiving, co-ordinating and circulating to the Governments of maritime states information relating to the system of areas established under the terms of this Convention, the experience with that system, and other data pertaining to the problem of oil pollution of navigable waters, and means for dealing with that problem.

In the event of this invitation being accepted the other contracting Governments undertake to forward to the central agency the data specified in paragraph (c) of Article I hereof and also all other information which they consider appropriate for the purposes of this Article.

## VIII.

The Government of the United States will invite the Governments of maritime states other than the signatories to adhere to the present Convention. Such adherence shall be notified to the Government of the United States and by the latter to all the other Governments signatories to the Convention.

## IX.

The present Convention shall take effect as soon as the ratifications of five of the Governments represented at the Washington Conference of June, 1926, shall have been notified to the Government of the United States. It may be denounced by any Government on notification to the Government of the United States, to take effect one year from the date upon which such notification shall have been made.

(*A.F.Os. 718/23 and 6/28.*)

### 1192. *Issued Confidentially.*

### 1196.—Rangefinders (Barr & Stroud)—List of Spare Parts and Accessories.

(G. 5906/27.—6.5.1927.)

Drawings giving a list and details of all spare parts and accessories for Messrs. Barr & Stroud's rangefinders carried on board H.M. ships are being supplied to dockyards at home.

2. Prints of those drawings will be issued from Portsmouth to yards abroad for guidance in dealing with ships based on the yards, as opportunity offers.

3. Each ship will be supplied by her refitting yard at the first opportunity with a list of spare parts and accessories for each rangefinder carried. The list is to be kept in the spare part box accompanying the rangefinder.

4. Ships are to demand these lists from their refitting yard stating on the demand the type and base length of the rangefinders and mountings carried.

5. Meanwhile, when spares are demanded, the type and registered number of the rangefinder should be stated on the demand.

6. Yards not having sufficient prints in hand to deal with any individual ship are to demand the necessary prints from Portsmouth.

### 1197.—*Issued Confidentially.*

### 1214.—**Binnacles—Accounting Procedure.**

(N.S. 19467/25.—6.5.1927.)

In order to simplify accounting procedure, binnacles are to be dealt with as "Sea Stores" and not as "Fixtures" when fitted in H.M. ships and vessels. Arrangements are, therefore, to be made for the record hitherto kept on the Fixture List to be transferred to the Ship's Naval Store Account in all vessels in commission or in reserve. For vessels paid off into dockyard control, including those earmarked for disposal, the transfer from the Fixture Lists to the Naval Store Account or Store Charge List should be arranged by the dockyard officers concerned.

2. The following remarks respecting the removal of binnacles fitted on board should be noted for general guidance:—

(a) When a vessel pays off and is passed into dockyard control, the binnacles on board are not to be removed except when they require repair.

(b) Repairs are to be carried out by the dockyards if the work is within their capacity. If the repairs cannot be effected in the dockyards the binnacles should be forwarded to the Compass Observatory for the purpose. Binnacles repaired in the yard should be earmarked for return to the same vessel.

(c) Binnacles should be returned to the Compass Observatory, Slough, when needing repair as indicated at (b) and also when they are removed from vessels paid off for disposal. In the latter case, one binnacle and compass should be laid apart or left on board for use in the vessel when she is removed from the port, *vide* A.F.O. 756/27.

(d) The technical work involved in fitting, removing or replacing a binnacle will be carried out as hitherto. In order that the technical officers may be prepared to undertake this work when required, the Naval Store Officer should notify the Dockyard Department concerned on each occasion when a binnacle is about to be issued. If the binnacle is supplied direct from Compass Observatory, Slough, for a particular vessel, and the fitting is to be done by the dockyard, the Deputy Naval Store Officer at Slough should advise the Naval Store Officer of the yard concerned accordingly so that necessary action may be taken.

3. Whenever compasses, binnacles or other compass gear are forwarded to the Compass Observatory for survey, the necessary requisition on Form S.331 is to be sent to the Deputy Naval Store Officer at the same time as the stores, so as to enable that officer to arrange for the technical survey to be carried out at the Observatory. As it is essential that the Observatory Surveying Officers should have ample room in which to insert their remarks, the spaces reserved for the surveying report on Forms S.331 should not be utilized by the Dockyard Officers prior to the Forms being sent to Slough. Any information which the Dockyard Officers may desire to represent to the Surveying Staff of the Compass Observatory in regard to the compass

gear shown in a requisition for survey should be communicated by a separate reference sheet. The practice adopted at some yards of completing the surveying certificate printed at the foot of the Form S.331 and inserting in the space allocated for the use of the Surveying Officers directions for the articles to be sent to Slough causes inconvenience at the Compass Observatory.

(A.F.O. 756/27.)

### 1267.—Compass Equipments, Gyro and Magnetic—Examination and Test in Ships under Construction and undergoing large Repairs.

(D. 5345/25.—6.5.1927.)

#### *Gyro Compass.*

A date is to be included in the programme of trials, which should be at least a week before the date of swinging, when the gyro-compass, together with all navigational repeaters will be ready for test; if possible, this date and the days following should not clash with the electrical trials.

#### *Magnetic Compass.*

At least one week before the commencement of the trials, arrangements are to be made for the magnetic compass equipment of the vessel to be inspected, in place, by one of the Navigating Officers on the staff of the Captain of the Dockyard, and any defects made good in time for the trials.

### 1270.—Naval Stores—Procedure for Supply to War Office Departments.

(N.S. 5172/27.—6.5.1927.)

The procedure to be followed when Naval stores are required by Army services has been under consideration, and the following arrangements, which have been agreed to by the Admiralty and War Office, are to be adopted:—

- (a) *Provision.*—In order to enable provision to be made to meet War Office requirements, estimated quantities of Naval stores expected to be drawn during a financial year will be furnished to the Admiralty annually, six months in advance of the beginning of each financial year. The War Office will indicate on these forecasts if requirements are wanted from any particular dockyard. These lists will be prepared in duplicate, of which one copy will be returned to the War Department showing the dockyard whence supplies will be made.
- (b) *Demanding.*—Demands will be prepared by the Assistant Director of Ordnance Stores, Provision, Pimlico, and, if approximately in accordance with the forecast, will be sent to the dockyards as indicated below. If the demands differ considerably from the forecast they will be forwarded through the War Office to the Admiralty unless the total value of the Naval stores is under £100.

For Naval stores other than  
wireless stores and compass

gear	...	...	...	...	Nearest dockyard.
Wireless stores	...	...	...	...	Portsmouth.
Compasses and gear	...	...	...	...	Admiralty Compass Observatory, Ditton Park, Langley, Bucks.

Any casual requirements not included in the forecasts are to be met in so far as the quantities can be spared from Admiralty stocks.

(c) *Preparation of demands.*—The demands will be prepared on Admiralty Forms D.623. Four copies of each demand (three of which may be carbon copies) will be furnished when stores are required. These copies will be utilised as follows:—

3 No. for use at the supplying dockyard and 1 No. as an invoice.

The consignee will give an acknowledgment for receipt of the stores on the special dockyard Form sent with the invoice for that purpose. The transfer of particulars shown on dockyard invoice to War Office Forms will be carried out at the receiving establishments. Separate demand Forms are to be used for stores under each stock item as shown in the Naval Rate Book. The nomenclature given in the Naval Rate Book will be used when demanding stores.

(d) *Inspection and responsibility.*—As all Naval stores are subjected to a technical examination by Admiralty Officers before acceptance, any further technical survey required by the War Office will be arranged by that department. Care should, however, be taken that stores supplied are up to the standard of acceptance for Naval Service. New articles should, as a general rule, be supplied.

(e) *Consigning Stores.*—The consignees are to be advised of the despatch of all consignments on the usual Admiralty Forms (D.80 for rail, D.79 for water conveyance), and each package is to contain a list of the contents (Admiralty Form D.71). The cost of carriage is to be charged to the War Office. Invoices (D.623) are to be forwarded as soon as possible after the stores have been issued or despatched to the Military Authorities.

### 1277.—*Issued Confidentially.*

### \*1286.—Roster Positions of Naval Ratings—Information Regarding.

(N. 1522.—13.5.1927.)

While Their Lordships do not wish entirely to prohibit applications being made to the depôt for information as to the position of individual ratings on the Port Division Advancement Roster, They desire that Commanding Officers should not forward such requests without some special reason, nor unless the men concerned are in all respects qualified for advancement, and have actually been recommended on Form S.507 while in their present ships. It should be explained to men making such applications that information so obtained cannot be entirely reliable or up-to-date, and that positions on the roster are bound to fluctuate to a certain extent, owing to the working of the rules for the accelerated advancement of specially recommended men.

### 1304.—Cell Containers for Submarine Batteries.

(D. 5404/27.—13.5.1927.)

A case has occurred in which it was found that new cell containers, on being tested after delivery from the contractors, were found to be defective, porosity of the material being indicated.

2. This defect will sometimes appear after the containers have left the contractors' works, in spite of having passed the specified tests, and is not necessarily due to rough handling.

3. Porosity in new containers should be carefully watched for, and all cases of such defects reported.

4. When repaired containers are being installed in H.M. submarines, every precaution should be taken to ensure that the containers are thoroughly efficient in every way for service.



5. Each new, second-hand, and repaired container should be tested by water pressure after being drawn from store and before being installed in the vessel. In the case of second-hand repaired containers the flash test also should be applied.

6. The covers should be sealed to the containers in a satisfactory manner before the cells are installed in a submarine.

7. All submarine cell containers ordered to be transferred to other yards are in future to be tested immediately before despatch.

The following method of packing for despatch is to be adopted:—

Two containers only are to be placed in a case, sufficient space being allowed all round for 3 in. of packing (straw or similar material), and battens secured in the centre of the case to keep the articles apart.

The outside of the case should be stencilled, "Cell containers—handle carefully."

(A.F.O. 1842/28.)

### 1315.—Special Mineral Lubricating Oil—Tests before Acceptance and Use of Glass Bottles for Samples.

(N.S. Fuel 2778/27.—13.5.1927.)

The acceptance of consignments of special mineral lubricating oil is dependent on the reports of tests of samples by the Admiralty Chemist and Haslar Oil Fuel Experimental Works, whether such samples are taken at contractors' works or on delivery of bulk consignments at the yards.

2. The examining officers should indicate in their reports whether or not the samples conform to the specification and are in agreement with the contract samples.

3. Admiralty decision is to be sought before deliveries of bulk are accepted or rejected, in cases where an adverse opinion is expressed on either of the above points, in the report of test of a delivery sample.

4. To avoid risk of contamination, samples are invariably to be drawn in glass stoppered bottles, which must be scrupulously clean.

### 1328.—O.U. 6137—Electrical Equipment in H.M. Ships—Corrections—REPORTS.

(S. 5655/26.—13.5.1927.)

All corrections to the above book reported by H.M. ships and dockyards have been embodied therein, and the book will shortly be issued.

The responsibility for keeping O.U. 6137 correct to date will devolve as follows:—

(a) *Ships in Commission and in Reserve.*—Any additions and alterations carried out by the ship's staff, which affect the record shown in O.U. 6137 relative to the ship, are to be reported immediately to the Admiralty, full particulars being rendered in the form laid down in the book.

A dated certificate is to accompany the report to the effect that the items concerned have been checked in every instance with the makers' nameplates on the actual equipment fitted in the ship.

Arrangements are being made for every ship to be supplied with the portion of O.U. 6137 relevant to the ship, to be retained as the ship's record under the charge of the torpedo officer, and this copy is to be corrected by the ship's officers at the time the ship's report of any alterations and additions is made. The copy is to be taken on charge in the torpedo gunner's fixture list.

(b) *Ships undergoing Annual Refit.*—(i) The dockyard officers concerned will be responsible for correcting the ship's copy of O.U. 6137. The dockyard officers are also to report to the Admiralty, in the prescribed form, and immediately after the completion of the ship, all alterations and additions made so far as O.U. 6137 is affected. An item to cover any corrections and amendments to O.U. 6137 is to be included in the list of alterations and additions.

(ii) A certificate similar to that called for in the penultimate paragraph of (a) above is to be attached to the report.

(iii) On completion of the refit of a ship, if no alterations or additions have been made to the equipment shown in the book, a nil return is to be rendered.

(iv) The work of the dockyards in these instances is to be strictly limited to such modifications as may be necessary, consequent on alterations and additions carried out by dockyard labour during the refit.

(c) *Ships Built by Contract.*—A clause is being included in the ship specifications to the following effect:—

Forms for the list of electrical equipment in H.M. ships may be obtained by the shipbuilders on application to the overseer. Special attention is to be given to ensure that accurate records of the gear, apparatus, etc., actually fitted in the ship are filled in on the forms by the shipbuilders. The forms are to be filled in, in duplicate, and forwarded to the Admiralty through the overseer, who, in conjunction with the District Electrical Engineer, is to verify their contents from the gear "as fitted."

The duplicate copy of the form will be forwarded to the Commanding Officer of the ship from the Admiralty, and is to be taken on charge by the torpedo officer.

(d) *Ships Building in Dockyards.*—The yard officers of the dockyard concerned are to prepare the information required for O.U. 6137, in duplicate, concurrently with the preparation of "as fitted" drawings of the electrical circuits. The original is to be forwarded to the Admiralty, and the duplicate issued to the torpedo officer of the ship. The report is to be accompanied by a dated certificate similar to that called for in paragraph (a) above.

(e) *Ships undergoing Reconstruction or Large Repairs.*—A similar procedure to that detailed in paragraph (b), (i), (ii) and (iii) above for ships undergoing annual refit is to be followed.

*General.*—(1) It has been decided to omit all reference to breakers and contactors.

(2) *Load in amperes.*—The information supplied under this heading is to be revised in future reports dealing with this item; one figure only is required and is to conform to the following formula:—

The figure to be inserted is to be obtained from the "as fitted" book of breaker diagrams for the ship, *i.e.*, the total possible H.P. load in amperes, omitting alternative supplies to the same motor, and supplies to capstans, boat-hoists and deck winches. This information is not required from submarines.

(3) *Typographical errors.*—As the value of O.U. 6137 depends entirely on the accuracy of the information contained therein, all errors are to be reported to the Admiralty as they are discovered.

(4) *Publication of Addenda and Errata.*—Arrangements will be made for the periodic issue in Admiralty Fleet Orders of lists of addenda and errata affecting the contents of O.U. 6137.

(5) Confusion has arisen in many instances between Messrs. Newton Brothers and Messrs. Newtons, Ltd. Reports should state whether Newton (Derby) or Newtons (Taunton) is intended where reference is made to these firms.

(6) Particular care is to be taken with regard to the completion of the columns headed "spare gear," and differentiation is to be made between the small sets for motor gear, etc., and the controller and starter spares.

(7) The particulars of the motors in submarines and in ships having two or more different electrical pressures of supply, should show the electrical pressure at which the motor is operated.

(8) Wherever the designed steam pressure of a generating set differs from the working conditions, a statement, in addition to the maker's nameplate particulars, is to be incorporated in the returns to the effect that owing to the designed steam pressure of the generating plant differing from that of the ship's pressure, which is to be stated, the revised output particulars are . . . (insert details).

Where reducing valves are fitted a statement to this effect is to be made in the steam pressure column of O.U. 6137 relative to the generating set.

O.U. 6137 is to show both sets of particulars.

In any future allocation of steam sets to ships having a lower steam pressure than the nameplate pressure of the set, an additional nameplate is to be fitted to the generator, stating the revised particulars consequent on the reduction of the steam pressure.

(9) Reports are to show the actual number and description of winding of field coil spares. The following abbreviations are to be used:—

For Shunt	...	...	...	...	...	...	...	Sh.
For Compound	...	...	...	...	...	...	...	Comp.
For Series	...	...	...	...	...	...	...	Se.
For Interpole	...	...	...	...	...	...	...	Int.

(10) When ships are taken in hand for large repairs, the ship's copy of the report (Part O.U. 6137) is to be seen by the Dockyard Officers and its whereabouts put on record. In the event of the report not being available, an immediate report to this effect is to be forwarded to the Admiralty through the Administrative Authority.

These directions are to come into effect forthwith, and will be embodied in O.U. 6137.

(A.F.Os. 2133/27 and 1009/28.)

### 1338.—Electrical Supply of H.M. Ships—Unauthorised Interference.

*H.M. Dockyards.*

(D. 5971/27.—13.5.1927.)

Dockyard workmen, except duly authorised persons of the Electrical Engineer's Department, are strictly prohibited from interfering in any way with the electric circuits of ships in commission, building, or under repair. Any contravention of this Order will be regarded as an offence against dockyard regulations, and will be dealt with accordingly.

### 1353.—Instructional Films—Circulating Film Library.

(N. 1599/27.—20.5.1927.)

A small circulating library of instructional films on professional subjects exists at the R.N. Photographic School, Tipnor, and a list of films available for circulation is appended to this Order.

2. Ships and Establishments possessing facilities for showing Service films may apply to the Officer-in-Charge, R.N. Photographic School, Tipnor, for the loan of films from the library. It is important that films, when received, should be exhibited and returned to Tipnor without delay.

3. Each individual film in the circulating library will be given a history sheet which will be kept in the box containing the film; on each occasion the film is used a responsible officer is to log the date in the history sheet and, in the column provided for the purpose, any remarks he may wish to make as to the utility of the film, suggestions for improving it, condition of the film, etc.

4. Applications from a foreign station should be made by the Commander-in-Chief only, who, on receipt of a film, will arrange for its use on the station as he thinks necessary and for its early return to Tipnor.

5. Two copies of every film in the catalogue will be provided, but both copies of any one film are not to be on loan at the same time to foreign stations other than the Mediterranean, *i.e.*, at least one copy of each film will always be available for the Home and Mediterranean Stations.

6. Confidential films will be so marked in the catalogue and must not be passed from one holder to another without being accompanied by supply and receipt notes and, if sent by post, must be registered.

7. The following procedure is to be observed in connection with proposals for including additional films in the Film Library.

8. Films will not be included in the Library merely because they are of interest. They must have a definite instructional value and there must be a reasonable expectation that they will yield results commensurate with the cost involved and not obtainable by the magic lantern or other economical means.

9. A proposal for the manufacture of instructional films to illustrate a professional subject is first to receive the approval of the local Commander-in-Chief or Senior Naval Officer. It will then be transmitted to the Commander-in-Chief, Portsmouth, who will ascertain whether the requirements cannot be met from films already in the R.N. Photographic School or in the Specialist Schools.

10. The Commander-in-Chief, Portsmouth, if he considers that the proposed film would be a useful addition to the Film Library, will then forward the proposal to the Admiralty together with the following information:—

- (a) Particulars in the usual form for inclusion in the Film Library Catalogue.
- (b) Whether the film should be regarded as confidential.
- (c) Sufficient descriptive notes to indicate in more detail the nature of the proposed film.
- (d) Length of proposed film.
- (e) Establishment in which it is recommended the film should be produced.
- (f) Cost of making one negative and two positive copies.

Manufacture of the films proposed should not be taken in hand without prior Admiralty approval.

11. All films manufactured in H.M. ships and establishments with Service material and facilities remain the property of the Crown.

#### APPENDIX.

##### CATALOGUE OF SERVICE FILMS ON PROFESSIONAL SUBJECTS.

*These films are not to be shown to anyone not belonging to H.M. Service. Those marked "confidential" are not to be shown to persons in H.M. Service below commissioned rank except as indicated in the right-hand column.*

Catalogue No.	Description of Film.	Suitable for Exhibition to
1	Torpedo Exercise D.B.2—Atlantic Fleet Destroyer Attack. ( <i>Confidential</i> ) Film taken June, 1921.	Officers.
2	Torpedo Exercise F.J.1 ( <i>Confidential</i> )	} Represent typical modern conditions of attack, including use of smoke screens.
3	Torpedo Exercise G.F. ( <i>Confidential</i> )	
4	Torpedo Exercise G.P.1 ( <i>Confidential</i> )	

*Note.*—Films Nos. 1 to 4 will be circulated together as a single group.

<i>Catalogue No.</i>	<i>Description of Film.</i>	<i>Suitable for Exhibition to</i>
5	Torpedo Attack : Exercise. B.Y.I ... .. (Film taken April, 1922.)	Officers.
6	Exercise Torpedo Attack, on H.M.S. " Hood " ... .. (Film taken August, 1921.)	Officers.
7	Torpedo Attack : Exercise B.W.I ... .. (Film taken October, 1921.)	Officers.
8	Torpedo Attack : Exercise B.W.II ... .. (Film taken November, 1921.)	Officers.
9	Torpedo Attack : Exercise E.P.II ... .. (Film taken February, 1923.)	Officers.

*Note.*—Films Nos. 5 to 9 will be circulated together as a single group.

10	Exercise H.H.—Shows fire from battleships, battle cruisers, cruisers and destroyers. ( <i>Confidential.</i> )	Officers and higher gunnery ratings.
11	Appearance of different classes of ships—Designed to emphasize the value of good knowledge of, when estimating inclination.	Officers and higher gunnery ratings.
12	Minesweeping—Formations and clearing of areas	Officers.
13	Mining ... ..	Officers.
14	Submarine " L.52 "—Submarine on surface, diving and rapid firing ; periscope feather ... ..	Officers and men.
15	Magazine Rounds—Shows points to be observed during inspection of magazines, etc. ... ..	Officers and men.
16	Boxing—Shows methods of attack and defence and fouls ... ..	Officers and men.

### \*1354.—Loans from Ship's Fund.

(N.L. 1049/27.—20.5.1927.)

Loans from the ship's fund to individuals should be permitted in very exceptional circumstances only, and, if granted, should as a general rule be repaid while the person benefited by the loan is serving in the ship in which the loan is made.

2. Where the loan is not repayable in a lump sum, recovery may be effected by instalments through the allotment system, if considered desirable, and in such event the borrower should declare a monthly allotment in favour of the Honorary Treasurer of the ship's fund. On receipt of such declaration, the Accountant-General will authorise the Accountant Officer of the ship to pay to himself, as Honorary Treasurer of the ship's fund, the allotment as and when payment matures.

3. In the event of the transfer of the borrower to another ship before the debt is liquidated, the allotment should be reported for continuance of charge through the medium of the Transfer List (S.45).

4. The Accountant Officer of the first ship should retain, and continue to act upon, the authority for payment until the loan is fully repaid, when the authority should be returned to the Accountant-General with a report showing the date of the last payment made thereunder.

5. The transactions should be shown in the Public Cash Account and ship's fund account as necessary.

(*K.R. and A.I., Art. 630 (4).*)

1357. }  
1365. } *Issued Confidentially.*

**1371.—H.M. Ships—Preparation for Sale—Steering Wheels.**

(S./D. 4493/27.—20.5.1927.)

The steering wheels of ships taken in hand for preparation for sale are not to be removed, unless definite instructions have been received from the Admiralty that the wheels are required for the Imperial War Museum.

**1372.—Fire, Torpedo, and Searchlight Control Gear—Method of Accounting.**

(N.S. 582/27.—20.5.1927.)

In connection with the revision of the Establishment of Naval Stores for Gunnery and Torpedo Purposes, the question of the method of accounting for equipment and spares for fire, torpedo, and searchlight control has been under review, and the following decision as to the articles to be dealt with as "Sea Stores," and those to be accounted for as "Fixtures," has been made.

*Sea Stores (Torpedo).*

Spare electrical instruments and spare parts for fire, torpedo, and searchlight control (Vickers, Barr and Stroud, Evershed, Graham and miscellaneous types), and for warning telephone equipment and electro-megaphone communications.

Torpedo attack tables and range-keeping instruments for.

Binoculars and open sights for torpedo and searchlight control.

Telescopes for torpedo deflection sights.

Clear range indicators, Mark IV.

Torpedo deflection sights, up to and including Mark IV.

Periscopes for Type "B" sights.

*Sea Stores (Gunnery).*

Equipment and spares of the following:—

Range clocks and range transmitting clocks; range correctors; range-taker testers; Dumaresq rate of change instruments; rate officers' discs; deflection ready reckoners; inclinometers and slide rules; periscopes, Barr and Stroud, Type C.L.1; discs, P.I.L., range and bearing; discs, bridge convergence; calculators, P.I.L.; dials, adding, datum angle; fall of shot indicators; spotting tables; fuse indicators; fuse predictors; vertical and lateral deflection calculators; Osborne pointer accelerating gear; rangefinders under 9 ft., and mountings for; periscopes for rangefinders (all sizes); desiccators for rangefinders; binoculars for use with look-outs, and with Evershed gun control transmitters; stereo telescopes.

*Fixtures (Torpedo).*

Ships' equipment of electrical instruments for fire, torpedo, and searchlight control (Vickers, Barr and Stroud, Evershed, Graham and miscellaneous types)—except those items of "Sea Stores" detailed above—and of warning telephone and electro-megaphone communications.

Clear range indicators, Mark VII and later types.

Type "B" sights.

Gyro angle receivers.

*Fixtures (Gunnery).*

Deflection calculators, complete with Dumaresq.

Mountings for inclinometers.

Visual range dials.

Instruments, aid-to-spotter.

Instruments, aid-to-rate.

Dreyer's tables.

Admiralty fire control tables.

Fire control clocks (not range clocks).

Fall of shot contact boxes.

Director training receivers (where fitted for use with aid-to-spotter, and in conjunction with gyro directional training gear).

Rangefinders, 9 ft. and over, and mountings for.

Electric heightfinders.

2. In ships where any of the items shown above as "Sea Stores" are at present accounted for on the Fixture List, Forms S.197 are to be raised on board to abate the items from the Fixture List. A corresponding voucher S.549 should also be prepared to enable the items to be taken on charge in the pertinent Naval Store Account. Where items shown above as "Fixtures" are at present on charge as "Sea Stores," Forms S.549 are to be raised to clear the Store Account, and Forms S.197 prepared to enable the articles to be added to the appropriate Fixture List. This Order is to be quoted as authority on all vouchers raised.

(A.F.O. 202/29.)

### 1379.—Incandescent Lamps—Frosting.

(G. 19435/26.—20.5.1927.)

As a result of comparative trials carried out recently it has been decided to purchase and supply "Lustreless" glass frosting powder made by Messrs. General Electric Co., in lieu of the "etching powder" made by Messrs. Edison Swan Electric Co., Ltd.

2. It has been found that the proportions for mixing, given in the makers' instructions, can be improved upon and the amended instructions given below should be followed when using this powder:—

- (i) Mix 3 lbs. of powder with 12 ozs. of hot water in a lead lined, wooden or vulcanite receptacle. The mixture should have the consistency of thick cream. A wooden stick should be employed for mixing. Should air bubbles arise, the mixture must be left for 24 hours, when they will have disappeared.
- (ii) Before frosting, the lamps must be thoroughly cleaned, the lamps being handled by means of the lamp cap.
- (iii) Dip lamps for 4 to 5 minutes. If a large number are to be frosted they can be dipped and withdrawn immediately but must be hung up for 4 to 5 minutes to allow the substance to act before it is washed off.
- (iv) After the necessary period of 4 to 5 minutes wash thoroughly in cold water.

3. The fluid may be used any number of times without adding more powder; but if left standing for any length of time it should be stirred before use. There is no evaporation. The fluid does not injure the skin or clothes.

4. It is important that the powder should be kept dry and not exposed to damp or moist atmosphere.

### 1397.—Packing Material for Stores shipped to New Zealand.

(N.S. 4199/27.—20.5.1927.)

Straw, hay and chaff are not to be used for packing stores for shipment to New Zealand.

2. In regard to stores of which representative packages only are opened on delivery from contractors, all packages intended for New Zealand are to be opened up and repacked in material other than those specified in paragraph 1 above when necessary.

3. Arrangements have been made for the insertion of a short clause on forms of tender and acceptance in connection with Admiralty purchases on behalf of the New Zealand Government drawing contractors' attention to the regulation in regard to packing material.

4. Should local orders require to be placed for the Government of New Zealand, the contractor is to be informed that the stores are not to be packed in straw, hay or chaff, and requested to certify on the invoice accordingly.

(A.F.O. 2327/28.)

**\*1406.—Ireland—Restrictions on Leave.**

(M. 1535/27.—27.5.1927.)

Leave to Southern Ireland may not be granted to officers and other ranks of the Royal Marines except on the distinct understanding that the recipient proceeds at his own risk and in plain clothes.

2. This restriction, which does not apply to officers and ratings of the Royal Navy, is necessary in order to place the Royal Marines on the same basis as the Army with regard to leave in Southern Ireland.

**1428.—Nickel Iron Type Battery for use in "Oldham" Hewer Type Lanterns—Introduction.**

(N.S. 2331/27.—27.5.1927.)

It has been decided to introduce a new type of hand lamp battery in H. M. ships to replace Patterns 4590 and 8116 lead accumulators, in order that one standard type of portable hand lamp battery for general services, magazines, shell rooms, etc., in H.M. ships may be in use.

2. As the result of trials, the nickel iron alkaline type of battery has been approved for this service, and a two-cell battery, Pattern 8117, suitable for the "Hewer" type Oldham's miners' lantern, has been adopted for all new construction and for existing ships on completion after large refits, the latter arrangement of turnover from lead batteries to nickel iron being adopted in order that one type shall be used in each ship and to provide an economical method for introducing these new batteries.

3. As these batteries, Pattern 8117, are not fitted with screw terminal connections, it will be necessary to provide a charging rack for fitting cells into when placing them on charge; drawing No. D.T.M.171/26 indicates the type of rack to be fitted in conjunction with the existing hand lamp charging board for this purpose. This rack is to be provided and fitted in place in the battery charging room adjacent to the existing charging board during the refit, and an item included in the Alteration and Addition list prepared prior to the refit in the usual manner. Copies of this drawing and of the specification can be obtained on application to the Admiralty (D.T.M. Department). As the charging boards for hand lamp, etc., batteries in new construction have been designed to accommodate these batteries, the charging rack will not be required for these vessels.

4. The electrolyte required for the nickel iron battery is a 25 per cent. solution of potassium hydrate, and the following allowances per annum have been approved.

	<i>Gallons.</i>
Battleships ... ..	2
Battle Cruisers ... ..	2
Aircraft Carriers ... ..	2
Cruisers ... ..	1
Depôt Ships ... ..	1
Minelayer ("Adventure") ... ..	1
Flotilla Leaders ... ..	1
Destroyers ... ..	1
Sloops ... ..	1
Minesweepers ... ..	1
Submarines ... ..	1
Gunboats ... ..	1

5. Pattern Number 8115 has been assigned to the Oldham "Hewer" type lantern, and stocks at the dockyards should be taken on charge accordingly. The bulb at present used with the lantern is also suitable when the lantern is fitted with the nickel iron battery. When further provision becomes necessary, requirements will be purchased to a new specification, and the new bulb will be known as Pattern number 8119. Stocks at the dockyards should be taken on charge as "like Pattern 8119."



6. Necessary provision should be made by home dockyards in the Review Demands, Subhead F.2, for requirements of the new type battery, Pattern 8117, and in Subhead E.7, for the electrolyte. Supplementary Demands on Form D.273 should be forwarded by foreign yards if this Order is not received in time to admit of requirements being included in Annual Demands for 1928. As the Oldham lantern, Pattern 8115, fitted with the nickel iron battery, Pattern 8117, will become the standard lantern for magazines, shell rooms, etc., in H.M. ships, a decrease in requirements of magazine lantern, Pattern 4690, and accumulators, Pattern 4590, also the present lead battery, Pattern 8116, may be looked for, and provision should be made accordingly.

7. The following instructions for the care and maintenance of nickel iron batteries, Pattern 8117, are promulgated for information and guidance. These instructions should be incorporated in the Secondary Battery Handbook, 1925 :—

- (a) If the battery is to be stored it should be cleaned of all packing material and terminals greased.
- (b) No special initial charge is necessary, but the battery should be given a small charge at normal rate until a voltage of 1.8 per cell or 3.6 per battery is shown with the charging current switched on. It is most important that the screw stopper to each cell be unscrewed before charging to enable gas to escape, and it must not be replaced until 24 hours after the end of the charge. If, however, it is desired to use the battery immediately after charge it should be discharged for 20 minutes at the normal rate, and the stoppers can then be replaced and battery put into use.
- (c) As a general rule the batteries should be charged at the normal rate, which is 2 amperes for 7 hours, and the temperature must not exceed 140° F. during charge. If a cell begins to froth or boil on charge the rate should be reduced. If it continues at the reduced rate there is indication of some impurity in the electrolyte, and whilst it continues the excess should be removed from the top of the cell.
- (d) Voltages should be read at intervals during charge to ascertain that the battery is behaving properly. Any battery whose voltage refuses to come up on charge should be defected.
- (e) Special electrolyte, which is a 25 per cent. solution of potassium hydrate, is provided for this type of battery. On no account should this be used for lead batteries nor sulphuric acid used for these batteries, and every precaution should be taken to keep these two electrolytes separate.

Batteries should be "topped up" with distilled water only and new alkali must only be used when putting a battery into commission or after repair.

During all operations with the electrolyte the greatest cleanliness is essential, and as exposure to the air is harmful the containers for same should be normally kept sealed. Care should be exercised when handling the electrolyte (as with sulphuric acid), and a solution of boric acid kept available to neutralise any electrolyte spilt on the skin or clothes.

The specific gravity of the electrolyte does not alter during charge and discharge in a similar manner to the lead cell, and in order to ascertain that a battery requires recharging its voltage should be taken during discharge at the normal rate, and if found to be below 1 volt per cell, the battery should be returned to the battery room for re-charge.

- (f) Although these batteries are not damaged when totally discharged, care should be taken to have the battery recharged when the candle power given by the lamp is no longer efficient and cells should not be allowed to stand idle in this condition. A battery should be always fully charged before being taken out of service for a lengthy period.
- (g) Care should be taken that the battery is put on charge with the correct polarity + to + and - to - in the charging rack.

- (h) In general, all batteries should be kept as clean as possible, the exterior should be wiped perfectly dry except for a slight film of grease on the terminals before placing in the lanterns. Spring plunger connections should work freely in their sockets. Avoid any spilling of electrolyte in the battery room, and use only glass or iron receptacles for working same. With efficient care and precautions, these batteries will give continuous service throughout a commission with minimum maintenance.

(A.F.Os. 2060/28 and 3019/29.)

#### 1441.—Maps and Plans of Works, etc.—Care and Custody.

(M. 01005/26.—27.5.1927.)

It has been decided that, in order to prevent Admiralty Maps and Plans of Works, etc., from falling into improper hands, all such documents which are not definitely available for public information are to be marked "For official use only."

2. All plans, maps, etc., marked "For official use" received from the Admiralty are to be taken on charge by the department concerned and a record is to be kept of issue and final disposal of all copies so received.

3. All plans, maps, etc., which come under the category of "Official use" documents prepared and duplicated locally are to be so marked. They are to be accounted for as indicated above.

4. Care should be taken to ensure that copies of plans, etc., are withdrawn from holders as soon as the necessity for their retention disappears.

5. Maps, plans or working drawings, issued to anyone outside H.M. Service in connection with contracts or as a part of some instructions or information, are not to contain any details beyond the minimum which is appropriate and necessary for the purpose for which they are prepared.

6. Further instructions will be given as to the marking of similar plans, etc., which are of such a nature as to be considered secret; in the meantime the existing regulations with regard to the care and custody of secret plans and documents are to be observed.

7. A separate Admiralty Fleet Order will be issued regarding the issue and custody of Admiralty charts which are not available for public information.

8. This Order is not intended to apply to official drawings relating to design and construction of H.M. ships, and the existing regulations in force for safeguarding such drawings are to be observed.

#### 1450.—Smoke Floats, Type F—Periodical Examination and Re-conditioning.

(N.S. 5486/27.—27.5.1927.)

The following procedure in regard to the examination and re-conditioning of Type F smoke floats at Dockyards has been approved:—

- (i) Stock of floats should be examined every six months.
- (ii) Examinations will be carried out by Assistant Inspectors of Naval Ordnance at Home Yards, Malta, Gibraltar and Hong Kong, by the Officer in charge of Armament Supply at Bermuda, by the Deputy Assistant Director of Ordnance Services, Ceylon, at Colombo for Trincomali, and by Inspecting Ordnance Officers at other Yards abroad.
- (iii) Requisitions should be forwarded by the Naval Store Officer when the floats are due for inspection.
- (iv) 0.25 per cent. of floats should be burnt for proof after the periodical examination.

##### *Re-conditioning.*

1. *Deterioration.*—This may take place rapidly if a leak occurs in the container containing the mixture, owing to the evaporation of the carbon tetrachloride or the effect of the atmosphere on other constituents of the filling. In order to maintain smoke floats in an efficient state it is necessary

that the filling should be kept in a proper condition of moisture, and whilst this can be ascertained by an examination through the igniter hole, a check should also be made at each periodical inspection of any loss of weight since original filling, or previous re-conditioning, and this should be made good by the addition of carbon tetrachloride.

2. *Emptying*.—The cup or lid in top of the cylinder containing the mixture will be removed and the mixture emptied into a suitable large tray. If the mixture is perfectly dry and formed into lumps, it is not suitable for re-conditioning. The buoyancy chamber should be examined, and if found to contain water, it should be emptied out. Should any local heating or smoke be observed during the process of re-conditioning, the whole contents of the float are to be rejected and dumped.

3. *Mixing*.—Sufficient carbon tetrachloride should be added to bring the mixture to the consistency of builders' mortar, not too thin. It has been found that about  $1\frac{1}{4}$  gallons of carbon tetrachloride will give satisfactory results. If a mechanical mixer is available, this should be used; if not, the composition must be well mixed by hand (spade). In the building where the chemicals are handled ventilation should be low down, a fan being used if available. After the composition has been replaced in the container, additional carbon tetrachloride is to be added so that there is a layer of the liquid up to one inch deep on the top of the composition.

4. *Soldering*.—The whole of the top having been thoroughly cleared from all traces of composition and corrosion, the lid should be riveted in position and joint between container and cylinder resoldered. Care is to be taken that no melted solder gets into the mixture and that there is no possibility of a thin film of mixture being subjected to heat transmitted from the soldering iron. Tin disc seals should be soldered in position in place of zinc discs removed if so fitted. Resin or resin oil, not killed acid, is to be used as a flux for soldering. At no stage of the operation is killed acid (zinc chloride) to be used in any circumstances whatever. Whenever soldering the lid of the container is necessary, the lid is to be first removed, and the composition covered with carbon tetrachloride as ordered in paragraph 3.

5. *Testing*.—After all soldering has been completed, the cylinder should be tested with air pressure (about 20 lb. per square inch for at least five minutes) for any leakage. If satisfactory the primer hole should be closed after application of a freshly made mixture of one part of glycerine and two parts of precipitated chalk to screw threads. The complete float is to be weighed and the weight stencilled on, so that a ready method is available for detecting loss of carbon tetrachloride.

6. *Painting*.—The lid of the container and the joints, after being thoroughly cleaned, are given two coats of copal varnish. The whole of the float is then to be painted red.

7. *Marking*.—Each float should be stencilled in white letters with the following.—

- (a) Serial No. (new number to be allocated if the old one is not decipherable).
- (b) Initial of Dockyard.
- (c) "This end up" on lid.
- (d) Date of re-conditioning.
- (e) Not to be stored between decks.
- (f) Weight.
- (g) "Mark", i.e., Mk. I, III or IV.

8. *Proof*.—After re-conditioning, 0.5 per cent. of the floats should be tested for smoke density and duration of burning. The mixture should burn *not less than 8 minutes* as an indication of the serviceability of floats under test. This time will probably be reduced in a strong wind and floats should therefore be tested as far as possible in calm weather or light winds.

9. *Handling*.—Attention is called to the necessity for careful handling in dealing with the present Type F smoke floats. These floats are of light construction to ensure adequate buoyancy, and rough handling during transport and storage should be avoided, as otherwise leaks may be started at the joint of the lid of the container which will impair the effectiveness of the mixture.

*Carbon Tetrachloride.*

10. The carbon tetrachloride should be a clear anhydrous liquid with a density between 1.59 and 1.61 at 15° C. On distillation 96 per cent. of the liquid should boil off between 75° and 79° C. The carbon tetrachloride is not to contain more than 1 per cent. of carbon disulphide. When shaken with sulphuric acid and allowed to stand, there should be little or no brown colouration, and not more than 2 per cent. of the liquid should be absorbed. The carbon tetrachloride should be free from other than traces of acidity.

11. Surveys of igniters for smoke floats that may become necessary anywhere will be carried out by the same officers as those laid down for survey of the smoke floats.

(A.F.O. 2627/27.)

1454. } Issued Confidentially.  
1456. }

**1461.—Passages—Return Tickets.**

(C. (II) 3447/27.—3.6.1927.)

The following arrangements regarding the use of return tickets for passages booked on P. and O., British India, and Orient S.N. Companies' Steamers, which have received the concurrence of the Steamship Companies concerned, are promulgated for guidance:—

In view of the considerable saving effected by booking return tickets, attention is called to the necessity of so doing when it is definitely known that the passenger will be making a return voyage between the same ports within the period of the availability of the ticket. In cases where doubt exists, but where there is a reasonable assumption that the passenger will return within this period, the passage should also be booked on a return basis. If the return portion is not used, no loss will be incurred by Government, as arrangements have been made to obtain a refund of the difference between the cost of a "return" and a "single" ticket.

As the whole cost of a return ticket is payable on production of evidence that the passenger has actually embarked on or completed the first half of the journey, it will be necessary for the following procedure to be carried out in order that the payment may be justified and records completed or the necessary recovery made if the return journey has not been completed.

**A.—PASSAGES COMMENCING IN U.K.**

(i) The Director of Sea Transport will arrange with the Steamship Company to issue to the passenger the outward portion only of his ticket and to forward the return portion to their agent at the port of destination. Before embarking the passenger will be furnished by the Director of Sea Transport with a letter authorising the issue of the return portion. When it becomes necessary to arrange for the return journey the passenger will present this letter to the Superintending Transport Officer who will then arrange with the local agent of the Steamship Company for the issue to the passenger of the return portion for use on a particular sailing, and will notify the Director of Sea Transport of the arrangement on Form S.215.

(ii) When the return portion of a ticket has not been used within the prescribed period the passenger will forward to the Director of Sea Transport the letter of authority referred to at (i) when the necessary adjustment will be made with the Company.

**B.—PASSAGES COMMENCING AT PORTS ABROAD WHERE PAYMENT IS MADE IN LONDON.**

(i) In cases where payment is made in London, the corresponding procedure will apply, i.e., the Superintending Transport Officer will arrange with the Steamship Company to issue to the passenger the outward portion only of his ticket and to forward the return portion to the P. & O. Steam

Navigation Company, Cockspur Street, London, in the case of passages by P. & O. or British India S.N. Companies' Steamers, or to the Orient Steam Navigation Company, 5, Fenchurch Avenue, London, E.C., in the case of passages by Orient S.N. Company's Steamers. Before embarking the passenger will be furnished by the Superintending Transport Officer with a letter authorising the issue of the return portion. When it becomes necessary to arrange for the return journey the passenger will present this letter to the Director of Sea Transport who will then arrange with the Steamship Company concerned for the issue to the passenger of the return portion for use on a particular sailing and will notify the Superintending Transport Officer.

B (ii) as in A (ii).

C.—PASSAGES BETWEEN PORTS ABROAD WHERE PAYMENT IS MADE LOCALLY.

The requisitioning authority will ascertain the period of availability of return tickets and in arranging return passages will assume the responsibility taken by the Director of Sea Transport in (A) above and will make any necessary financial adjustment with the *Company's agent*, merely reporting on Form S.215 the details of the return of the passenger.

D.—PASSAGES BETWEEN PORTS ABROAD WHERE PAYMENT IS MADE IN LONDON.

The Superintending Transport Officer requisitioning the passage will notify the Director of Sea Transport on Form 215 when a return ticket is taken and on return of the passenger will notify the fact to the Director of Sea Transport. When the return half is not used the Superintending Transport Officer will obtain from the passenger the letter of authority and forward it to the Director of Sea Transport for the necessary adjustment.

**1465.—Warning Against Venereal Disease—Abolition of Form S.1327.**

(N. 1811/27.—3.6.1927.)

It has been decided not to reprint Form S.1327, "Warning Against Venereal Disease," but a notice in similar terms, amended to suit local conditions and the particular ship or establishment, should be drafted by the Medical Officer concerned. These notices should be printed or typed, and framed, in all ships and establishments, and should then be fixed permanently to the bulkheads of all Petty Officers' and men's heads, and of ablution chambers.

Form S.1327 was printed on stiff cardboard, size 6 in. by 9 in., and was worded as follows:—

WARNING.

All Venereal Diseases are rife and virulent in Seaport Towns.

Men who, in spite of every warning, indulge in promiscuous intercourse, can minimise the risk of contracting these diseases, which entail endless suffering and misery, by following carefully the instructions which are posted in the Ablution Chamber.

*These precautionary measures must be taken immediately* after exposure to infection, and the instructions carried out carefully.

DELAY IS DANGEROUS. .

**1471.—Breech Mechanisms—Cables for Breech Screw Contacts.**

(G. 1561/27.—3.6.1927.)

The brass plugs, terminal (split spills) of cables leading from breech contacts to locks are to be replaced by plugs made of hard drawn phosphor bronze, as it is found that, owing to lack of springiness in the existing plugs, the connection engaging with the breech contact is often defective.

2. In view of possible bad effects from the corrosion of the phosphor bronze in contact with brass, when in a salt atmosphere, some of the first plugs so fitted should be subjected to periodical examination at Armament Depôts with a view to determining whether the corrosion has an appreciable adverse effect.

3. Drawings to guide this modification are under preparation, but in the meantime the work is to be carried out to cables on board ships by ship's staff or Naval armament fitters, and cables in store at Depôts are to be modified before issue, selected samples of existing plugs being worked to in all cases.

### **1526.—Electric Cable—Descriptions on Demands.**

(N.S. 17196/26.—3.6.1927.)

In order to minimise the chance of errors, the figure "0" is in future to be inserted in front of the decimal point, when demands are forwarded from yards for electric cable, or other Naval stores, with decimal dimensions less than unity.

### **1527.—Registered Letters and Parcels for R.F.As.—Custody.**

*All Dockyards, Victualling Yards and Naval Armament Depôts.*

(N.S./N.L. 847/27.—3.6.1927.)

Where it is customary for *private* registered mail (letters and parcels), addressed to officers and others serving in Royal Fleet Auxiliaries to be delivered in a dockyard by the Postal Authorities, arrangements are to be made for such postal matter to be kept in a suitable cupboard fitted with a special lock having two keys, until it can be distributed to the addressees.

2. A responsible person attached to the Office should have charge of mail of this description and the cupboard with one key should be placed in his custody for the purpose. The second key should be retained in the Office Safe or Confidential Chest for use in an emergency.

3. When registered private mail (letters and parcels) are handed over to the addressees, receipts are to be obtained in a separate book to be kept for that purpose.

4. If this duty be assigned to the Head Messenger, the special cupboard should be used to accommodate any articles, parcels, letters or important documents which may be received in Office before the arrival of the staff in the mornings.

5. Confidential Chests and Money Chests of service patterns are not to be used for this purpose.

### **1540.—Guns, Sub-calibre, Q.F., 2 pdr. B.L., 4 in., IX-IX\*\*\* and 4.7 in. I and I\*, Low Angle—Breech Block—Hardening.**

(G. 7781/27.—10.6.1927.)

The surfaces engaging heel of extractors in blocks, breech guns, sub-calibre, Q.F., 2 pdr., low angle, B.L. 4 in., IX-IX\*\*\* and 4.7 in. I and I\*, are to be hardened. The work will be carried out in ordnance factories only.

2. Unmodified breech blocks (component and spare) in store should be sent to Woolwich, and when sufficient have been modified and returned, steps should be taken to exchange unmodified breech blocks in H.M. ships, for modified ones from stock at R.N. Armament Depôts.

### 1548.—Certification of Instalments due to Contractors under Admiralty Contracts.

(C. (I) 127/27.—10.6.1927.)

In some cases it is necessary to provide in Admiralty contracts (in lieu of a specified scheme of percentage instalments), for the periodical payment of instalments based on certificates to be given by Admiralty officers as to the value of the work done and materials accumulated. Certifying officers when furnishing certificates with a view to interim payments being made under such contracts should be very careful to leave a sufficient margin to cover all contingencies between the date of the certificate and the date of final acceptance in accordance with the conditions of the contract. The certificates for the purpose of interim payments should be in terms of the percentage of the contract which has been completed.

### 1552.—Scrap Metal Arisings—Storage.

(N.S./N.L. 770/27.—10.6.1927.)

Arisings of scrap metal of a non-ferrous character, e.g., copper, bronze, etc., which accumulate in shops and other working places in Fleet Shore Establishments are to be kept in locked bins or other lockable receptacles until they can be returned to the Store Accounting Officers. A responsible rating, whose rank is not to be less than that of a Petty Officer, should have charge of the keys for each shop or working place, and arrangements should be made for such scrap metal to be collected from the benches, etc., and deposited within the bins or receptacles at the close of each working day, if more frequent clearances are not possible. No metal scrap should be allowed to remain lying around unnecessarily.

2. Metal scrap required for working is not to be drawn from stock in quantities greater than are necessary for the work actually in hand.

3. Any surplus metal arisings in Fleet Shore Establishments should be returned to the nearest dockyard and not be allowed to accumulate.

### 1559.—*Issued Confidentially.*

### 1561.—Tool Chests and Baggage of Dockyard Workmen on Passage—Conveyance.

(C. (II) 3688/27.—10.6.1927.)

Dockyard workmen taking passage to or from an establishment abroad are to be instructed to take their tool chests, if any, and baggage with them in the ship in which they take passage.

2. When a tool chest is to be taken, the words "and tool chest" should be added, after the scale of baggage allowed, on the passage requisition sent to the Steamship Company.

### 1580.—*Issued Confidentially.*

## 1582.—Magazines and Shell Rooms—Spraying Pipes over Cases in Magazine.

*New Construction.*

(G.04497/26.—17.6.1927.)

For new construction provision is to be made to fit spraying arrangements in the magazines, and these arrangements are generally to be on the lines of those shown on the diagrammatic sketches, E.F.O. 54/27.

2. The arrangements shown on sketch E.F.O. 54/27 (1) are to be followed generally in magazines heavier than 8 in. or where block stowage has been approved. In other magazines the arrangements shown on sketch E.F.O. 54/27 (2) are to be worked to.

3. The fire main service is to be extended to lead inside each magazine except warhead and dry guncotton magazines. The pipe to be led over the cases in the magazine and provided with holes or roses for spraying the cases. Roses are to be made of copper and easily detachable.

4. The branch from the fire main is to have a S.D.V. locked open at its junction with the fire main. A S.D.V. for spraying pipes is to be fitted on this branch inside the magazine and is to be worked by means of rod gearing from the magazine, the handing room, and a W.T. locker or flooding cabinet, a handwheel being fitted at each of these positions. Arrangements are to be fitted for locking the rod gearing as indicated on the sketches. Where no handing room is fitted, the corresponding working position should be just outside the exit to the magazine. A coupling in the rod gearing is to be fitted close to each of the lower working positions, so that in the event of the upper portion of the gearing becoming damaged in action it can be disconnected in order to maintain the working of the system from either of the lower positions. The cotter securing the coupling should normally be fitted with a padlock, but in action the padlock should be removed and replaced by a pin to ensure the cotter being readily removable if required.

A S.D.V. locked closed, fitted with No. 3 hose connection and worked locally, is also to be fitted in the magazine for use without the spray if necessary. The lead of pipe to this valve is to be taken off the supply pipe from the firemain before it reaches the spraying valve.

5. With the view of detecting any leakage in the spraying valve, a drainhole with saveall attached, is to be fitted at the lowest point of the spraying pipe between the spraying valve and the sprayers.

No alteration or addition to present existing practice is to be made, without specific Admiralty authority, in cases in which extra cost would be involved.

## 1590.—Coating of Bottom of H.M. Ships when Recommissioning.

*H.M. Ships serving on Stations Abroad.*

(D. 8774/27.—17.6.1927.)

When H.M. ships serving on stations abroad are under orders to return to England for recommissioning, the question as to whether they are to be docked for coating of bottom on arrival at the home port is to be raised shortly before the ships are due to return.

2. The report should state the date of the last docking.

## 1592.—Titanium Tetrachloride for Smoke Production—Properties and Precautions.

(N.S. 1268/27.—17.6.1927.)

*General.*—In general the precautions and methods to be used in handling titanium tetrachloride which is used for smoke production are similar to those laid down for chlorosulphonic Acid (A.F.O. 1154/26.)

2. *Properties.*—(a) Titanium tetrachloride ( $TiCl_4$ ) is a colourless liquid (the commercial liquid is sometimes yellow) which fumes strongly in the air. It boils at  $138^\circ C$ , freezes to a solid at  $-23^\circ C$  and has a specific gravity of 1.76.



(b) The fumes given off in the air consist mainly of hydrochloric acid due to the decomposition of the liquid by the moisture in the air. These fumes attack the respiratory system causing coughing. In contact with the atmosphere or small amounts of water, titanium tetrachloride forms a pale yellow crust thus giving a sure indication where pipes, containers, etc., are suspected of being leaky.

(c) The pure liquid is not corrosive to a marked extent, but the commercial liquid usually employed is very corrosive on account of the hydrochloric acid it contains. Most metals, therefore, and especially soldered joints will be readily attacked by the commercial liquid. The material being supplied under Admiralty contract is not chemically pure and must, therefore, be regarded as coming within the category of commercial liquid.

3. *Medical.*—The action of titanium tetrachloride on the skin is as follows :—

- (a) It immediately causes stinging, but a burn does not as a rule develop. The first aid treatment for a splash on the skin is to wash the liquid off at once with plenty of water. The initial stinging is clear evidence of its presence on the skin and is a sufficient indication calling for its removal.
- (b) With regard to a splash in the eyes, however, the more delicate structures of the eye are *immediately* damaged by its presence. Splashes in the eye should therefore be *prevented* by the use of goggles. Should the eye be contaminated, very sharp stinging is at once felt and the eye should be held open and freely and thoroughly washed with water. It is of the first importance that treatment should be immediate. If this treatment is undertaken at once and thoroughly, the eye may escape serious injury, but if not, deep and extensive ulceration may result. After application of the first aid treatment outlined above the patient should report as soon as possible to a medical officer.

4. *Handling.*—(a) Care must be exercised in all operations involving the handling, of the liquid since the fumes though not acutely poisonous can have very unpleasant results if breathed in quantity. All apparatus, funnels, jugs, etc., must be absolutely dry before use and well washed with water after use. The drums should not be subjected to any risk of damage likely to impair their air tightness, and they should not be opened until the material is actually required for use.

(b) A small quantity of water reaching the liquid may cause it to form a solid mass capable of blocking pipes or cocks completely. This may necessitate the dismantling of the whole apparatus for cleaning. Carbon tetrachloride, if available, can be used to wash out any titanium tetrachloride remaining in apparatus.

(c) Goggles must be worn, particularly by personnel opening containers. Clothing, boots, etc., splashed by the liquid should be well washed with water as soon as possible.

5. *Storage.*—(a) The precautions laid down for chlorosulphonic acid apply equally to titanium tetrachloride. Special storage in dockyards and shore establishments is not essential but the drums containing titanium tetrachloride should be stowed in a cool, dry place. The bungs of the storage containers should be removed with care by personnel wearing goggles, in view of the fact that pressure may develop during storage and cause a spray of liquid to be ejected as the bung is unscrewed.

(b) The commercial liquid has been found to contain a certain amount of sludge which is liable to block small piping or cocks. The drums therefore should be allowed to stand for some time before the liquid is drawn off.

(c) Leakage will be detected easily by fuming or a yellowish crust formed at the point of contact of the liquid with the atmosphere. Faulty containers should be emptied as soon as possible.

(A.F.O. 1154/26.)

### 1617.—Sales—Exclusion of Representatives of Messrs. Geo. Turner & Sons, Plymouth.

(N.S. 6938/27.—17.6.1927.)

It has been decided that neither Ernest Edmond Turner, George Turner, nor any other representative of the firm of Messrs. Geo. Turner & Sons, Marine Store Dealers of North Quay, Plymouth, shall be allowed to enter Naval Establishments for the purpose of purchasing Government stores.

**1638.—Evershed System for Control of 3 in. and 4 in. H.A. Guns  
—Errors introduced in the Control when H.A. Guns are  
Trained through Blank Arcs shown on Diagrams.**

(G. 8186/27.—24.6.1927.)

A case has recently occurred where errors have been introduced in the control of the individual guns due to the gun being trained through the blank arc. The cause of this error is the difference in gear ratio of the Evershed drive and training shaft of the H.A. mountings.

These are as follows :—

- |                     |   |   |
|---------------------|---|---|
| 3 in. H.A. mounting | { | Gear ratio of drive for Evershed receiver, 7·125 to 1.<br>Gear ratio of drive for mounting, 7·166 to 1. |
| 4 in. H.A. mounting | { | Gear ratio of drive for Evershed receiver, 13·8 to 1.<br>Gear ratio of drive for mounting, 13·822 to 1. |

2. These differences in ratio will introduce an error of about  $2\frac{1}{2}$  deg. in the control, if the centre line guns are trained through the blank arc from one broadside to the other.

3. Attention is therefore drawn to this fact and steps should be taken by all ships affected to ensure that the guns are always trained from one broadside to the other through the central reading of the Evershed receivers.

**1641.—Breech Mechanisms, Q.F., 4·7 in., V\* and 12 pdr.—  
Modification to Percussion Strikers.**

(G. 1390/26.—24.6.1927.)

The modification referred to in A.F.O. 2685/26 should be carried out as opportunity offers, to Q.F., 4·7 in., Mark V\*, breech mechanisms in store.

(A.F.O. 2685/26.) \*

**1642.—Breech Mechanisms—Guns, Sub-calibre, Q.F., 6 pdr.,  
E.M.F. Gear—Modification.**

(G. 13228/26.—24.6.1927.)

Electro mechanical firing gear, Q.F., 6 pdr., sub-calibre guns, should be modified in accordance with Instructional Print N.O.D. 2149/6, copies of which will be distributed to Naval Armament Depôts. The modification consists of fitting bracket body with stop for trigger spindle.

2. The work will be carried out by Naval Armament Depôt staff at the first opportunity, the necessary stores being made locally at depôts as required.

**1652.—Breakers and Contactors.**

(G. 18640/26.—24.6.1927.)

Operating coils for branch and supply breakers and contactors of Messrs. Whipp and Bourne's manufacture are allowed to ships as "sea stores," and defective coils should not, therefore, be dealt with on a Defect List. Any operating coils required in replacement can be obtained in the usual manner.

These coils should only be re-wound by the manufacturers.

2. When new coils are fitted to breakers or contactors in vessels in commission, the date of fitting should be recorded. Should the coil fail within

twelve months of date of fitting, a label giving the following particulars is to be attached thereto, in order that investigations may be made:—

- Name of vessel.
- Date of fitting.
- Particulars and position of breaker or contactor.
- Temperature of environment.
- Date of failure.
- Estimated number of hours the breaker or contactor has been "on."

(A.F.O. 2356/29.)

### 1653.—De Laval Turbo Electric Generators—Instructions for Care and Maintenance.

*H.M. Ships concerned and all refitting Yards.*

(D. 5406/27.—24.6.1927.)

Due to accidents occurring in certain vessels, the following instructions and precautions are to be observed in connection with the maintenance of Turbo Electric Generators of De Laval type in H.M. vessels:—

- (a) The life of a flexible shaft is to be regarded, for the present, as three years when running under normal steaming conditions in a ship in active commission. On completion of the three years' life each shaft is to be replaced by a new shaft and the old shaft is to be scrapped.
- (b) Each pair of shafts is to be given a distinguishing mark and a record kept of the number of days' steaming, and also the number of running hours.
- (c) Each working shaft and rotor wheel is to be removed and replaced by a spare at the annual refit. The wheels and shafting removed are to be thoroughly examined and the rotor wheels accurately balanced, either with the blading already fitted, if this is satisfactory for further service, or, if rebladed during the refit, before being used for further service.
- (d) An emergency shut-off valve is to be fitted in the steam pipe to all turbo generators in the ships concerned. This valve to be capable of being worked locally and from a position adjacent to the escape.

2. It is considered possible that a fracture of a portion of the rim may be caused by the extension of minute cracks formed in the rim during reblading.

The need for great care in reblading De Laval wheels is of the utmost importance in view of the heavy dynamic stresses to which these wheels are subjected when running.

The method adopted by the makers for removing blades, blading and balancing the rotor wheels, is as follows:—

*Removal of Worn Buckets.*—The pinion and tail end shafts are removed and wheel is laid flat on a circular cast-iron block (*see Sketch E.F.O. 74/24*). A short spindle is fitted to underside of wheel to act as an axis to rotate wheel while lying on the slab and bring the blades in turn to the position of slot (A), so that they can be driven out clear. Section of drift used is also shown.

*Blading.*—The method of blading varies according to the size of the wheel. Generally, groups of five blades are driven in, then one is omitted for a key blade, and so on around the circumference, until the wheel is completed in this manner. In wheels of small diameter the number of blades in a group can be increased to about nine.

Each blade forming the group is driven in tight with a light hammer and hammered over or riveted on the sides. Heavy riveting is not required and is liable to distort the rim of wheel. The key blades are now fitted; these are selected and are slightly wider across the top flat (A). This ensures, when being driven in, that the faces A1, A2 of the blades in the adjacent groups to the key blades are forced hard together.

After completing blading, the wheel is placed in the lathe and a smoothing cut is taken over each side of the root portion of the blades where riveted, removing any surplus metal, also the periphery of the blades is skimmed during this operation; this removes the slight irregularities between adjoining blades.

*Static Balancing.*—For static balancing of rotor wheels the method is to fit two short trunnion shafts to rotor wheel and then test the whole on straight edges about  $\frac{3}{8}$  in. wide.

The wheel is tested for balance by first trying it in several positions along the straight edges. If any slight correction of balance is required, weight is removed by filing the outside diameter of the blades (c) at the heavy positions. If, however, the weight to be corrected is considered too much to remove from the blade periphery, it is filed from portion D of the wheel rim.

Compensating weights are never fitted.

If the wheel is accurately balanced, a piece of wire,  $\frac{3}{32}$  in. diameter by  $\frac{1}{2}$  in. long, inserted between the blades, should be sufficient to overcome the inertia of wheel when at rest.

Both before and after reblading the rim should be carefully examined for the presence of cracks, and rebladed wheels are to be subjected to a 20 per cent. over-speed test. During this test the wheel should be run in a special casing which is connected to an air pump, so that it is run in a vacuum.

Overseers' stamps or other marks of identification should not be made on any part of the disc or rim. The stresses in the vicinity of the boss are lower than in the disc or rim, and any necessary marks of identification are to be made on the facing of the boss adjoining the shaft coupling.

3. Attention is called to the fact that the turbine tail end bearing is set higher than the line of the pinion bearings, and the turbine casing is tilted downwards in the direction of the gearing so as to bring the disc and nozzle ring into parallel planes when the shaft is flexed due to the weight of the wheel. This shaft inclination, which was originally 36 minutes has been reduced to about 21 minutes in all 200 K.W. De Laval machines, in order to reduce the stress to which the shaft is subjected at the point at which fractures have occurred in previous machines and referred to in paragraph 1.

If the housing carrying the swivel bearing be removed when fitting a new bucket wheel, great care should be exercised in replacing the housing to ensure that it takes up the correct position. If wrongly adjusted the alignment of the swivel bearing will be thrown out.

4. Examinations of De Laval rotor wheels and spindles are to be carried out by ship's staff at frequent intervals, and by dockyard staff during the refit period. The wheel and spindle is to be removed from the turbine for thorough inspection, and in no case should the period between examinations be allowed to exceed six months. This examination should be added to the list on page 302 of the Engineering Manual, 1923.

At these periodical examinations special attention should be paid to the adjustment and alignment of the turbine and pinion bearings, the condition of the wheel, blading and rotor spindle, and the adjustment of the governor mechanism.

## 1658.—Painting of H.M. Ships.

(N.S. 5681/27.—24.6.1927.)

It has been decided that the weather work of all ships, including flotilla leaders and destroyers on the respective stations, are to be painted (except as regards those surfaces for which enamel is allowed), the colours obtained by mixing paint materials according to the formulas shown below for each station.

2. As regards the enamelled surfaces, new pattern enamels, viz. :—

Patt. 11. Enamel, proprietary grey :—For ships in Home Waters and upper works of Ships on Foreign Stations with white hulls.

Patt. 12. Enamel, proprietary grey :—For ships on Foreign Stations except those with white hulls,

are being introduced and supplies will shortly be available. The service enamel at present provided is to be tinted to match the colours of the paints produced by these formulas pending supply of the new pattern enamels.

3. In order to obtain uniformity and economy in painting H.M. ships, these formulas should be strictly adhered to. The ready mixed paint supplied from the dockyards for issue to flotilla leaders and destroyers will be mixed to these formulas and they are to be applied without the admixture of any other ingredients whatever, except such linseed oil and turpentine as may be necessary for thinning.

		A.		
I.—Home Stations.	Patt. 409	White lead	...	38½ lb.
	104	Zinc, white	...	38½ ,,
	8	Egyptian blue	...	1½ ,,
	110c	Black	...	3½ ,,
	689	Dryers	...	7 ,,
	—	Linseed, raw	...	10 pts.
	—	Linseed, boiled	...	10 ,,
	78	Turpentine	...	1 ,,
		B.		
II.—Mediterranean, Red Sea (sloops as in III).	Patt. 409	White lead	...	20 lb.
The America and West Indies.	104	Zinc, white	...	60 ,,
Africa (sloops as in III).	8	Egyptian blue	...	6 oz.
Australia.	110c	Black	...	8 ,,
New Zealand.	689	Dryers	...	6 lb.
	—	Linseed, raw	...	15 pts.
	78	Turpentine	...	7 ,,
		C.		
III.—China.	Patt. 409	White lead	...	20 lb.
East Indies.	104	Zinc, white	...	60 ,,
Sloops on Mediterranean and Africa Stations.	8	Egyptian blue	...	½ oz.
	689	Dryers	...	6 lb.
	—	Linseed, raw	...	15 pts.
Ships to be painted with white hulls, grey upper works, funnels, masts and boats.	78	Turpentine	...	7 ,,
		<i>Grey as for "A."</i>		
<i>Note.—Ready mixed paint to formula "A" will be known as Patt. 507B.</i>				
"	"	"	"	"
"	"	"	"	"
"	"	"	"	"
		" B "	"	"
		" C "	"	"
				507C.
				537A.

### 1671.—Typewriter Key-Tops—Inflammable Nature.

(Sta. 5830/27.—24.6.1927.)

An Empire typewriter has recently been damaged by fire owing to the attempted repair of a broken key top by means of a lighted match and sealing wax.

2. Attention is directed to the inflammable nature of the material of which the key tops of Empire typewriters are made.

3. Due care should be exercised in the handling of Government office machinery. Individuals responsible for damage, caused by improper handling, etc., may be held liable for the cost of subsequent repairs or replacement.

### 1680.—Main Electric Cables of H.M. Ships.

(D. 7281/27.—24.6.1927.)

When furnishing reports in accordance with paragraph 4 of Admiralty letter of the 29th May, 1926, D. 4821/26, the Dockyard Officers should state the estimated further life of all main electric cables. If less than two years, details of the defects and reasons of deterioration are to be given, stating whether it is considered they can be made good at an ordinary refit.

### 1684.—Values inserted in Estimates in respect of Contract Issues (Vote 8/III.)

*H.M. Dockyards.*

(D. 82/27.—24.6.1927.)

Professional Officers at the Dockyards should consult the local Expense Accounts Department as to the values to be inserted in estimates of cost in respect of issues of contract articles (Vote 8/III) prior to the submission of the fair estimate for signature and transmission.

### 1686.—Aircraft—Marking.

(M. 02943/26.—1.7.1927.)

All R.A.F. machines, with the exception of those belonging to the Fleet Air Arm, have their numbers painted in large black figures on the under surface of the lower planes.

The number is also painted in smaller figures on the rudder.

(A.F.O. 1785/27.)

### \*1696.—Supply Branch—Examinations and Advancement.

(N.—1.7.1927.)

*Eligibility for Examination.*—The rules regarding eligibility for examination for higher rating in the Supply Branch in King's Regulations and Admiralty Instructions, Appendix XVII, Part I, Nos. 117 and 118, are intended to represent the normal practice only and do not apply to those supply ratings who were transferred from the victualling and other branches under the transfer scheme instituted when the supply branch was established.

2. Ratings who passed one side of the examination only before 1st January, 1927, may take the other part at any subsequent time subject (except for men transferred from the victualling and other branches under the 1922 scheme) to the rules referred to in paragraph 1.

3. All ratings who passed neither side of the examination before 1st January, 1927, must take the whole examination at one time.

4. *Marking of Papers when Examination is taken in Two Parts.*—When either part of the examination is taken separately the marking of papers will be as follows:—

*First Part* (Arithmetic and either Victualling or Naval Stores).

Maximum ... .. 500

Required to pass—

For Supply C.P.O. ... .. 400, with not less than 75 per cent. in each subject.

For Supply P.O. ... .. 320, with not less than 60 per cent. in each subject.

*Second Part* (Victualling or Naval Stores).

Maximum ... .. 400

Required to pass—

For Supply C.P.O. ... .. 320, with not less than 75 per cent. in each subject.

For Supply P.O. ... .. 256, with not less than 60 per cent. in each subject.

5. *Ratings passed for Warrant Supply Officer.*—Supply ratings who have passed professionally for Warrant Supply Officer are not to be required to pass in Arithmetic; in such cases the number of marks required to pass is to be adjusted proportionally.

6. *Leading Supply Assistants "Transferred."*—*Passing for Supply C.P.O.*—Leading Supply Assistants who were transferred to the supply branch under the 1922 transfer scheme and who, in the examination for Supply Petty Officer, obtain a sufficient total of marks and percentage in each subject to qualify them for Supply Chief Petty Officer, are to be regarded as having passed for the latter rating.

7. *Interchange of Duties.*—Attention is drawn to the fact that a periodical interchange of duties between supply ratings is necessary to the satisfactory evolution of the Supply Branch scheme and is especially important for those ratings who were transferred from the victualling and other branches. Such interchange of duties must depend on local conditions, but should be effected to the utmost extent compatible, in the judgment of the officers concerned, with the proper carrying out of the work of the Supply Branch.

8. The extent to which interchange of duties in the Supply Branch has been carried out should be scrutinised from time to time and such scrutiny should also be a feature of that part of the inspection of H.M. ships which relates to accountant duties.

### **1705.—Torpedoes 21 in.—Modification to Body Screws.**

(G. 4424/27.—1.7.1927.)

From recent examinations of submarine bow torpedo tubes, it is clear that the collars of the body screws securing the head to the air vessel in many cases protrude above the full diameter of the torpedo, thus scoring the gas check rings when the torpedo is loaded and fired.

2. Existing body screws are manufactured with a maximum diameter on the chamfered collar of 0.52 in., but after being screwed hard up a few times this diameter is appreciably increased.

3. Although no information has been received with regard to scoring of close fit tubes or gas check rings of A.W. tubes it is probable that this takes place in general.

4. Steps are to be taken to alter the chamfer on the collar of existing 21 in. body screws from 0.52 in.—0.45 in. to 0.49 in.—0.45 in. diameters, as shown in diagram E.F.O. 67/27.

5. Difficulty is sometimes experienced in screwing these body screws right home. In these cases, a tap should be passed through the screwed hole in the head, but on no account is a torpedo to be fired with the body screw not screwed on to its seat.

### **1708.—Breech Mechanisms—Fitting of Automatic Extractors to Q.F. 2 pdr. Sub-calibre Guns, Q.F. 4 in., V and V\*, and Q.F. 4.7 in., VIII.**

(G. 19388/26.—1.7.1927.)

Automatic extractors will be fitted to Q.F. 2 pdr. sub-calibre guns, H.A., Mark III, Q.F. 4 in., V & V\* and A. V & V\*, and L.A., Mark II, and H.A., Mark III, Q.F. 4.7 in. Mark VIII guns.

2. The work will be carried out at Naval Armament Depôts, and Instructional Prints N.O.D. 2146/44 and N.O.D. 2162/46, for guidance in fitting the extractors, will be distributed shortly.

3. The necessary stores are on order, and an Intermediate Demand should be forwarded by Naval Armament Depôts for the quantities required.

(A.F.O. 2178/27.)

## 1718.—Fuze Safety No. 9—Care and Maintenance—Inclusion of a Paraformaldehyde Tablet in Cylinders and Sealing of Cylinders—REPORTS.

(G./N.O. 3150/24.—1.7.1927.)

The following further action is to be taken for the preservation of Fuze Safety No. 9, Mark III and III\* :—

- (a) One tablet consisting of 5 grains of paraformaldehyde is to be inserted in each cylinder.
- (b) Cylinders are to be sealed ; the sealing being carried out as follows :—

On board H.M. ships—by means of tape bands secured with shellac varnish or R.D. No. 1 cement.

In R.N. Armament Depôts—by soldering or, in the case of cylinders deficient of soldering strips, by means of tape bands secured with shellac varnish or R.D. No. 1 cement. (This cancels previous instructions relative to the non-sealing of cylinders).

2. Supplies of the 5-grain tablets of paraformaldehyde will be distributed to Naval Armament Depôts from Priddy's Hard. H.M. ships are to demand the tablets required from the Naval Armament Depôt at their storing ports, or from the nearest Naval Armament Depôt. The shellac varnish or R.D. No. 1 cement should be drawn from the allowance of miscellaneous magazine stores supplied to the gunner.

3. Action as in paragraph 1 is additional to the action ordered in A.F.O. 949/27, and it is considered that the application of these measures will prove satisfactory in eliminating defects. Inspections of bulk stock should therefore be carried out at the normal periods. In the event, however, of defects being observed when opening cylinders for use, overhaul, etc., H.M. ships and Naval Armament Depôts are to report specially to the Admiralty (C.S.A.S.) furnishing detailed particulars of such defects.

4. Cylinders should not be sealed as in paragraph 1 (b), until the paraformaldehyde tablet is inserted, and as paraformaldehyde is a volatile substance, the tablets should be inserted in the cylinders of fuze on board H.M. ships as soon as obtained from Naval Armament Depôts. Provided that the dusting with the paraformaldehyde mixture and treatment of the ends of the fuze with Jeffery's marine glue has been carried out, the sealed cylinders of fuze should then be regarded as having been dealt with in accordance with the instructions issued in connection with the preservation of the fuze, and the special marking "P.T.G." on the labels of cylinders, should be omitted.

(A.F.O. 949/27.)

## 1778.—Educational and Medical Facilities Abroad—REPORT.

(P.L. 1435/27.—1.7.1927.)

Officers in charge of all stations abroad are to report annually, on 31st March, any changes in the educational or medical facilities at those stations which should be brought to the notice of officers or workmen on appointment from England for service abroad.

## 1785.—Civil Aircraft—Marking.

(M. 01404/27.—8.7.1927.)

Nationality marks on civil aircraft are represented by capital letters in Roman character and registration marks are groups of four capital letters, also in Roman character, each group of which will contain at least one vowel. The letter Y is treated as a vowel for this purpose.



2. The nationality and registration marks are painted in black on a white ground; and in the case of civil aircraft, other than state or commercial, the registration mark will be underlined with a black line.

The nationality mark of each State named below applies to the aircraft of its dominions, colonies, protectorates, dependencies or of countries over which it is the mandatory State.

Country.	Nationality Mark.	Registration Mark.
British Empire ... ..	G	All combinations are made in accordance with paragraph 1 of this order.
France ... ..	F	
Italy ... ..	I	
Japan ... ..	J	
United States of America	N	All combinations made with B as first letter.
Abyssinia ... ..	A	
Hedjaz ... ..	A	" " H "
Nicaragua ... ..	A	" " N "
Albania ... ..	B	" " A "
Bulgaria ... ..	B	" " B "
Chile ... ..	B	" " C "
Latvia ... ..	B	" " L "
Bolivia ... ..	C	" " B "
Cuba ... ..	C	" " C "
Switzerland ... ..	C	" " H "
Portugal ... ..	C	" " P "
Rumania ... ..	C	" " R "
Uruguay ... ..	C	" " U "
Estonia ... ..	E	" " A "
Equador ... ..	E	" " E "
Haiti ... ..	H	" " H "
Hungary ... ..	H	" " M "
Netherlands ... ..	H	" " N "
Siam ... ..	H	" " S "
Costa Rica ... ..	K	" " C "
Finland ... ..	K	" " S "
Czecho-Slovakia ... ..	L	" " B "
Guatemala ... ..	L	" " G "
Liberia ... ..	L	" " L "
Luxemburg ... ..	L	" " U "
Spain ... ..	M	" " A, B, C, D, E, F, G, H, I, J, K, L, M or N as first letter.
Monaco ... ..	M	" " O as first letter.
Belgium ... ..	O	" " B "
Peru ... ..	O	" " P "
Brazil ... ..	P	" " B "
Persia ... ..	P	" " I "
Poland ... ..	P	" " P "
Argentina ... ..	R	" " A "
Sweden ... ..	S	" " A "
Greece ... ..	S	" " G "
Panama ... ..	S	" " P "
Denmark ... ..	T	" " D "
China ... ..	X	" " C "
Honduras ... ..	X	" " H "
Serbia-Croatia-Slavonia ... ..	X	" " S "
Afghanistan ... ..	Y	" " A "
Danzig-Free City ... ..	Y	" " M "
Salvador ... ..	Y	" " S "
Dominica-Republic ... ..	Z	" " D "
Lithuania ... ..	Z	" " L "

See A.F.O. 1686/27 for marking of R.A.F. machines.

(A.F.O. 1686/27.)

**\*1794.—National Association for Employment of Regular Sailors, Soldiers, and Airmen—Nomination of Men for Employment as Civilians in Royal Naval and Royal Marine Establishments.**

(N.1231/27.—8.7.1927.)

With reference to General Request No. 58 put forward through the Welfare Conference, 1926, it has been decided that all Pensioners and time-expired men employed as civilians in Royal Naval and Royal Marine Establishments (*i.e.*, other than H.M. Dockyards and other Civil Establishments), Harbour Ships, and Ships of the Reserve Fleet, are to be engaged in future through the above Association, vacancies being notified to the Local Secretary. As regards vacancies in R.F.A., vessels on Fleet attendance or harbour duties, application should, in the first instance, be made to the National Association before any other steps are taken to fill the vacancies.

2. All rosters of candidates for employment which are at present kept in such Ships or Establishments are to be transferred forthwith to the local branch of the National Association. Care should be taken that the particulars furnished include the dates of registration of all men at present on the roster.

3. The selection of men for employment from among candidates put forward by the National Association rests entirely with the Commanding Officer of the Ship or Establishment concerned, and the master in case of R.F.A. vessels, etc. The Local Secretary will in all cases submit sufficient names to enable a selection to be made, and will send men for interview on request by the Commanding Officer.

**1828.—Petroleum Spirit, No. 3, to be used for M.T. Purposes—REPORT.**

(N.S.M.T. 313/27.—8.7.1927.)

Petroleum spirit, No. 3, which is already being used at certain establishments, is to be brought into general use for motor transport purposes.

2. If after trial, it is not found suitable for vehicles of any particular description, *e.g.*, ambulances, the fact should be reported to the Admiralty.

**1868.—***Issued Confidentially.*

**1875.—Government Stores—Conveyance of Explosives and other Dangerous Goods by Rail.**

(C.P. 32249/26.—15.7.1927.)

The "special warrant," which is required by the railway companies when explosives or other dangerous goods are to be conveyed in contravention of their regulations or bye-laws may in future be issued and signed locally, as and when required, by the undermentioned officers, or officers authorised to sign on their behalf :—

Director of Stores.

Superintending Naval Store Officers, and Naval Store Officers at Home Yards.

Superintendent, R.N. Store Depôt, West India Docks.

Chief Superintendent of Armament Supply.

Chief Inspector of Naval Ordnance.

Superintendent, R.N. Cordite Factory, Holton Heath.

Naval Armament Supply Officer, Woolwich.

Senior Armament Supply Officer, Priddy's Hard.

Armament Supply Officer, Bull Point.

Senior Armament Supply Officer, Lodge Hill.

Senior Armament Supply Officer, Crombie.

Mining Engineer Officer, Wrabness.

2. Care should be exercised that the correct group number is shown on labels and documents.

3. A supply of the form of "Special Warrant" (in duplicate) will shortly be available, and Establishments concerned should demand a sufficient number of these forms (say 6 or 10), to comprise a small stock, from the R.N. Store Depôt West India Docks, quoting this Order.

## 1876.—Government Stores—Indemnity and Warrant for Escorts Travelling by Merchandise or Special Trains with Non-dangerous Goods.

(C.P. 32249/26.—15.7.1927.)

As from 1st June, 1927, the procedure in respect of the consignment of non-dangerous goods by merchandise or special trains under escort will be as follows :—

A general indemnity which has already been given to the railway companies by the Admiralty will be implemented, on the occasion of each consignment, by the issue of a “*Special Warrant*.”

2. This procedure is similar to that now in force for explosives or other dangerous goods conveyed in contravention of the Railway Companies Bye-laws.

3. The “*Special Warrants*” may be issued and signed locally, as and when required, by the undermentioned officers, or officers authorised to sign on their behalf :—

Chief Superintendent of Armament Supply.

Chief Inspector of Naval Ordnance.

Superintendent, R.N. Cordite Factory, Holton Heath.

Naval Armament Supply Officer, Woolwich.

Senior Armament Supply Officer, Priddy's Hard.

Armament Supply Officer, Bull Point.

Senior Armament Supply Officer, Lodge Hill.

Senior Armament Supply Officer, Crombie.

Mining Engineer Officer, Wrabness.

Director of Stores.

Superintending Naval Store Officers, and Naval Store Officers at Home Yards.

Superintendent, R.N. Store Depôt, West India Docks.

Officer-in-Charge, R.N. Motor Transport Depôt, Albany Street.

Deputy Naval Store Officer, Admiralty Compass Observatory, Slough.

Director of Victualling.

Superintendents: Royal Victoria Yard, Deptford, Royal Clarence Yard, Gosport, Royal William Yard, Plymouth.

4. A supply of the form of “*Special Warrant*” (in duplicate), will shortly be available, and Establishments concerned should demand a sufficient number of these forms (say 6 or 10), to comprise a small stock, from the R.N. Store Depôt, West India Docks, quoting this Order.

## \*1883.—Drinking Water for H.M. Ships.

(N.S. Fuel 1512/27.—15.7.1927.)

The attention of all concerned is drawn to the necessity of ensuring that the drinking water for H.M. ships and vessels is absolutely pure. Every precaution is to be taken to protect the water from contamination during filling in storage and in the process of issuing, and also the tanks during cleaning and coating.

2. The following rules are promulgated for general information and observance :—

(i) All hoses, filling, stand and sounding pipes used for drinking water should be fitted with a cap attached to the hose or pipe with a chain, except as shown in paragraph (viii). All vent hole pipes should be gooseneck shaped and situated in the open air, clear of air escapes from fuel oil tanks or other possible sources of contamination.

(ii) On all piers or wharves where there are drinking water stand pipes for supplying tank vessels, and where hoses are kept, a bench or long table should be fixed close to the stand pipe for the coiling and uncoiling of hoses; the hoses after use should be triced up to drain and then coiled in a suitable place off the ground.

(iii) Manholes for access to drinking water tanks should not be situated in a sleeping or messing compartment if such an arrangement can be avoided, and they should in no case be flush with the deck.

(iv) All openings to drinking water tanks should be as distant as possible from the latrines.

(v) The process of supplying drinking water from stand pipes on shore to tank vessels should be under the supervision of a Naval Medical Officer, who should draw up a few simple rules for the guidance of the man in charge of the stand pipes, and for the Masters of the tank vessels, with a view to the protection of the water from

pollution. These rules should be posted near the stand pipe and in prominent positions in the tank vessels. Similarly, the process of receiving water from a tank vessel into one of H.M. ships should always be under the supervision of the Medical Officer of that ship or her parent ship, who should sterilise the water as recommended below.

(vi) While the drinking water tanks of any of H.M. ships are being filled with water from the shore, the water (however pure its source) should be subjected to chlorine sterilisation by the introduction of chloride of lime (stabilised), which should be demanded from the Storing Yard or Base in the usual manner as "Naval Stores"; it is considered that about  $1\frac{1}{2}$  lbs. of chloride of lime will be sufficient for each ship. For all practical purposes 30 grains of chloride of lime are required to be added to 100 gallons of water; the addition should be made during the filling of the tank, and the water will be ready for drinking an hour afterwards. Effective sterilisation can be assumed if the water reacts to the following test 30 minutes after the chloride of lime has been added. A small quantity is drawn from the tank into a clean test tube and to this is added a few drops of freshly prepared starch solution and a crystal of potassium iodide. The whole is stirred with a clean glass rod; a faint blue colour should be produced immediately.

(vii) The necessity for the exercise of cleanliness on the part of the crew and throughout the ship cannot be over-estimated. Every care is to be taken that pollution of the water does not take place either through man-holes, pipe systems, or by other means. Special attention is to be paid to sanitation, and the latrines are to be kept in good order. Pipes, pumps, or tanks, set apart for drinking water should be clearly marked and labelled as such, and should not be used for any other purposes.

(viii) The hoses and watering plant are to be maintained in a perfectly clean condition, and the hoses are to be triced up to drain before being coiled up, in a suitable place off the deck. The canvas hoses used for drinking water are to be kept separate from other hoses in ships, and the couplings are to be painted Egyptian blue to denote that they are for drinking water only. The caps provided for filling pipes, sounding pipes, and hoses are to be kept in place. In order, however, to obviate the expense of making any new caps and plugs that may be required for hoses fitted with Admiralty pattern screw connections used for drinking water, such hoses after being triced up for drying are to be made up on the bight and the ends coupled together.

(ix) In the case of water carriers, before any compartment is used for drinking water, the plating and frames are to be scraped bare, the space thoroughly cleaned out, and coated with two coats of cement wash and one of lime wash. In the case of large water carriers, each tank should be cleaned out once in six months, and in small vessels at least once in every three months. Application for any necessary assistance to enable the above instructions to be complied with should be made to the Senior Naval Officer.

In other vessels the fresh water storage tanks are to be lined with rosbonite, bituros or other approved material. The Commanding Officer is to have the surfaces of these spaces examined, as opportunity offers, and any defects discovered in the coating are to be made good as soon as possible.

To ensure that tanks and spaces used for drinking water are adequately cleaned, and in order to prevent infection, the following instructions are to be observed:—

- (a) The work of cleaning, disinfecting, and of cement-washing the tanks is to be carried out to the satisfaction of a Naval Medical Officer.
- (b) All men detailed for work in drinking water tanks should, prior to starting work be carefully inspected by the Medical Officer concerned, and he should reject as unfit for the work anyone who has had dysentery or typhoid; is suffering from venereal or skin diseases, or diarrhoea, or is subject to otorrhoea or pyorrhoea. The Medical Officer should also take observation of the general bodily cleanliness of the men, and forbid those lacking in this respect from working in the drinking water tanks. All men who have to enter the tanks should be supplied with a clean canvas suit or a suit of overalls, and be made to wear a pair of gymnasium shoes or rubber sea boots, and on no account be allowed to enter the tank in their ordinary footwear.

During the intervals for meals, etc., the clothing used in the tanks should be removed, and kept in a clean place until resumed.

For this purpose suitable transportable chests should be provided, and the change of clothing should take place as near as possible to the tank in which the men are to work.

- (c) The work is to be done by suitable ratings, wherever possible, rather than by Contractor's men.
- (d) Too frequent cleaning is to be avoided, and the question whether cleaning has become necessary should be referred for decision to the Medical Officer, who should examine the tanks periodically when they are empty.
- (x) Before supplies of drinking water are taken from any source on shore, it should be ascertained whether a chemical and bacteriological analysis has been made, and if a report satisfactory to the Medical Officer is not forthcoming, he should take steps to have the necessary analyses made.
- (xi) When proceeding light from port to port, only such compartments should be filled with sea water as may be necessary for the safe navigation of the ship, and the tanks so utilised should be thoroughly cleaned, rinsed out with fresh drinking water, and lime-washed before being again used for drinking water.
- (xii) Water which may overflow from the testing tank on board a distilling ship should not be diverted into the drinking water supply tanks, but should flow into boiler water tanks.

### 1886.—Ships' Ledgers—Completion and Rendering.

(N.P. (II) 1426.—15.7.1927.)

With reference to King's Regulations and Admiralty Instructions, Article 1700, the period of time allowed for completing the ledgers of the following ships and establishments is to be as follows:—

	<i>Ship or Establishment.</i>	<i>No. of Weeks Allowed.</i>
"Ambrose"	... Submarine Depôt Ship ... ..	4
"Ark Royal"	... Central Reserve of Minesweepers ...	4
"Carysfort"	... Parent Ship, Devonport Reserve ...	4
"Castor" ...	... Parent Ship, Nore Reserve ... ..	4
"Columbine"	... Port Edgar Base ... ..	6
"Cylops" ...	... Submarine Depôt Ship ... ..	4
"Cormorant"	... Depôt Ship, Gibraltar ... ..	4
"Dartmouth"	... Parent Ship, Portsmouth Reserve ...	4
"Defiance"	... Torpedo School, Devonport ... ..	4
"Dolphin" ...	... Fort Blockhouse, Gosport ... ..	4
"Egmont" ...	... Depôt Ship, Malta ... ..	4
"Egmont II"	... Mediterranean Destroyer Flotillas ...	6
"Excellent"	... Gunnery School, Portsmouth ... ..	4
"Fisgard" ...	... Depôt for Training Artificer Apprentices Portsmouth.	4
"Ganges" ...	... Boys' Training Establishment ... ..	4
"Impregnable"	... Boys' Training Establishment ... ..	4
"Maidstone"	... Submarine Depôt Ship ... ..	4
	( " Lucia " on relief).	
"Osprey" ...	... Anti-Submarine School, Portland ...	4
"Pembroke"	... R.N. Barracks, Chatham ... ..	6
"President"	... Royal Victoria Yard, Deptford ... ..	4
"President II"	... Central Pay Office, Naval Reserves ...	4
"St. Vincent"	... Boys' Training Establishment ... ..	4
"Sandhurst"	... Destroyer Depôt Ship, Mediterranean ...	4
"Tamar" ...	... Depôt Ship, Hong Kong ... ..	4
"Tamar II"	... China Destroyer Flotillas ... ..	6
"Titania" ...	... Submarine Depôt Ship ... ..	4
"Vernon" ...	... Torpedo School, Portsmouth ... ..	4
"Victory" ...	... R.N. Barracks, Portsmouth ... ..	6
"Victory XI"	... Naval Base, Portland ... ..	4
"Vivid" ...	... R.N. Barracks, Devonport ... ..	6
"Vulcan" ...	... Submarine Depôt Ship ... ..	4
R.M. Divisions	... —	4

All other ships and establishments are to conform to the provisions of the article quoted.

(K.R. and A.I., Art. 1700 (7).)

## 1902.—Boiler Repairs during large Refit.

(D. 8561/27.—15.7.1927.)

When ships come in hand for large repairs, or D.2 refits, the dockyard officers are to make a careful examination of the boilers and their fittings, including the uptake and funnel casings. The results of this examination are to be reported to the Admiralty as soon as possible after the vessel is taken in hand, together with a statement showing what repairs are considered necessary to ensure that the boilers are in all ways efficient for a further four years' service under normal conditions of steaming and dockyard refits. In the case of destroyers and flotilla leaders this examination is only to be made when the refit is being carried out under Home Dockyard Regulations, Article 778, paragraph 9 (1).

(A.F.O. 2416/28.)

## 1903.—Diagrams inside L.P. Junction Boxes of H.M. Ships.

*H.M. Dockyards.*

(D.7524/27.—15.7.1927.)

A question has recently arisen as to whether the provision or correction of diagrams of connection for the insides of L.P. boxes are to be considered as being quite separate from the provision or correction of "as fitted" drawings of L.P. circuits.

2. As such diagrams of connections form part of the junction box fittings and are essential for identification of cables passing through the respective boxes, they should therefore be considered independent of any diagrams forming part of the low power "as fitted" drawings supplied to a ship. The alteration to any L.P. circuits during the D.2 refit of a vessel necessitates the correction of these diagrams in the L.P. boxes as part of the modification to such circuits.

## \*1908.—Cenotaph—Arrangements for Visits of Organised Parties.

(N. 2052.—22.7.1927.)

The following regulations in connection with the above, issued by the Home Office, are promulgated for information and guidance. Steps should be taken to notify in advance the Admiralty of all intended visits by Naval parties, etc.

"The Commissioner of Police of the Metropolis hereby notifies that owing to the importance of Whitehall as a public thoroughfare and the amount of traffic therein, and with a view to the public convenience and safety, and the due preservation of order, the following conditions must be observed by all persons desiring to visit the Cenotaph in organised bodies:—

- (i) No facilities can be given for any organised procession to the Cenotaph *except on Sundays and after 3 p.m. on Saturdays.*
- (ii) Applications in respect of any week-day other than a Saturday cannot be entertained except as in note below.
- (iii) Persons proposing to organise a procession should notify the Commissioner of Police beforehand, specifying the date and time at which they propose to arrive at the Cenotaph, and the approximate number of persons taking part in the procession.
- (iv) In order to facilitate arrangements, a letter that can be produced for inspection by police on duty will be issued to the organisers.
- (v) No religious service or singing or playing of instrumental music or ceremony of any kind (other than the placing of a wreath) is permitted at the Cenotaph.

*Note.*—Notwithstanding these rules, discretion is reserved to arrange for occasions of exceptional national interest."

## 1927.—Illuminated Gun Sights—Supply and Renewal of Luminant.

(N.S. 8355/27.—22.7.1927.)

The work of supplying and renewing the luminant of all radium-illuminated sights for fleet requirements will be carried out at Portsmouth Yard. All home and foreign yards and Gun Mounting Overseers should demand filled serviceable sight parts as necessary, from Portsmouth, but not more than a three months' supply in advance, returning defective luminant holders to that yard for treatment.

2. A demand should be forwarded by Portsmouth during the last month of each quarter for the amount of radium compound expected to be required during the ensuing quarter.

3. The question of the supply for gun mountings set aside for A.M.C., D.E.M.S., etc., will form the subject of a further Order.

## 1941.—Record of Legal Representatives of Civilian Officers and Workmen serving Abroad, who have been sent out from England.

(C. (III) 4820.—22.7.1927.)

Arrangements are to be made at each of H.M. Naval Establishments abroad for the compilation and maintenance of a record of the legal representatives or next-of-kin of all civilian officers and workmen serving at the establishment, who have been sent out from England. This record is to be kept by the Cashier, or other Accountant Officer, to whom any subsequent amendments are to be reported, and all such officers and workmen joining the establishment should be called upon to report the necessary details to the Accountant Officer immediately on arrival.

2. In the event of the death of any such officer or workman, the Accountant Officer is to include the name and address of his legal representative or next-of-kin in the report to the Accountant-General of the Navy, of the balance of pay, etc., due. The Accountant Officer is never to settle any local or other claims on the estate of the deceased from the balance of pay or any other moneys forming part of the estate without first obtaining the authority of the Admiralty.

## 1948.—Packing Cases Manufactured in Dockyards—Incidence of Charge in the Accounts.

(N.S. 8284/27.—22.7.1927.)

When packing cases are manufactured in the Dockyards for stores and fittings charged to H.M. ships and services—other than repayment services—the cost is to be brought to account under Item 22, Section A, of the Account No. 88, except for cases of a very special character, which would not afterwards be suitable for general stores (e.g. cases for gun-mountings, etc.), and which should, therefore, be made on direct charge to the service concerned.

Packing cases required for other Navy Votes, other departments of Government, other Governments (Dominion, Colonial, Foreign, etc.), and private individuals are to be charged as hitherto to the pertinent item of Section F of Account No. 88.

## 1950.—Naval Stations—Limits.

(M.—29.7.27.)

The limits of Naval Stations are as follows:—

### LIMITS OF THE HOME STATION.

*North.*—From the coast of Greenland at the meridian of 40° West Longitude and thence undefined.

*East.*—By the Western shores of Europe to the Southern Boundary between Portugal and Spain in 7° 25' West Longitude (approximately), and thence by that meridian to the Southward to the African coast, thence to the Southward by the African coast to Cape Blanco, the Boundary between French Senegal and the Southern end of the Spanish Protectorate of Rio d'Oro in 20° 47' North Latitude (approximately).

*South.*—From Cape Blanco, the Boundary between French Senegal and the Southern end of the Spanish Protectorate of Rio d'Oro in  $20^{\circ} 47'$  North Latitude (approximately) along that parallel to the Westward to the meridian of  $40^{\circ}$  West Longitude.

*West.*—From a point in  $20^{\circ} 47'$  North Latitude and  $40^{\circ}$  West Longitude along that meridian to the Northward to the coast of Greenland.

#### LIMITS OF THE MEDITERRANEAN STATION.

*North.*—From the Southern Boundary between Portugal and Spain in  $7^{\circ} 25'$  West Longitude (approximately) by the Southern shores of Europe, the shores of Asia Minor and Arabia (including the Black Sea and Sea of Azov) to Jebel Hasis on the Arabian coast in Latitude  $12^{\circ} 40' 50''$  North, Longitude  $43^{\circ} 31' 40''$  East.

*East.*—By a line drawn between the following positions:—

Latitude  $12^{\circ} 28' 30''$  North, Longitude  $43^{\circ} 19' 45''$  East, and

Latitude  $12^{\circ} 40' 50''$  North, Longitude  $43^{\circ} 31' 40''$  East

(i.e., from the Southern extreme of Ras Siyan on the African coast to Jebel Hasis on the coast of Arabia).

*South.*—From the Southern extreme of Ras Siyan on the African coast in Latitude  $12^{\circ} 28' 30''$  North, Longitude  $43^{\circ} 19' 45''$  East by the shores of the North coast of Africa to the meridian of  $7^{\circ} 25'$  West Longitude.

*West.*—Between the coast of Europe and Africa by the meridian of the Southern Boundary between Spain and Portugal in  $7^{\circ} 25'$  West Longitude (approximately).

#### LIMITS OF THE AMERICA AND WEST INDIES STATION.

*North.*—From the coast of Asia on the meridian of  $180^{\circ}$  along the shores of the North American Continent to the coast of Greenland on the meridian of  $40^{\circ}$  West Longitude.

*East.*—Along the meridian of  $40^{\circ}$  West Longitude from the coast of Greenland to the Southward to  $4^{\circ} 20'$  North Latitude, thence in a South-Easterly direction to a point on the Equator in  $20^{\circ}$  West Longitude, thence along that meridian to the South Pole.

*South.*—South Pole.

*West.*—From the South Pole along the meridian of  $120^{\circ}$  West Longitude to the Equator, thence to the Westward along the Equator to the meridian of  $150^{\circ}$  West Longitude, thence along that meridian to the Northward to  $30^{\circ}$  North Latitude, thence to the Westward along that parallel to the meridian of  $180^{\circ}$ , and thence to the Northward along that meridian to the coast of Asia.

#### LIMITS OF THE AFRICA STATION.

*North.*—From a point in  $40^{\circ}$  West Longitude and in  $20^{\circ} 40'$  North Latitude along that parallel to the Eastward to Cape Blanco, the boundary between French Senegal and the Southern end of the Spanish Protectorate of Rio d'Oro, in  $20^{\circ} 47'$  North Latitude (approximately), thence by the Southern shores of Africa to Cape Delgado, the Northern boundary of Portuguese East Africa in  $10^{\circ} 40'$  South Latitude (approximately) along that parallel to the eastward to  $55^{\circ}$  East Longitude, thence along that meridian to the Southward to  $30^{\circ}$  South Latitude, thence along that parallel to the Eastward to  $80^{\circ}$  East Longitude.

*East.*—From a point in  $30^{\circ}$  South Latitude and  $80^{\circ}$  East Longitude along that meridian to the Southward to the South Pole.

*South.*—The South Pole.

*West.*—From the South Pole along the meridian of  $20^{\circ}$  West Longitude to the Equator, thence in a North-Westerly direction to a point in  $4^{\circ} 20'$  North Latitude and  $40^{\circ}$  West Longitude, thence along that meridian to the Northward to  $20^{\circ} 47'$  North Latitude.



## LIMITS OF THE EAST INDIES STATION.

*North.*—By a line drawn between the following positions:—

Latitude  $12^{\circ} 28' 30''$  North, Longitude  $43^{\circ} 19' 45''$  East, and  
Latitude  $12^{\circ} 40' 50''$  North, Longitude  $43^{\circ} 31' 40''$  East

(i.e., from the Southern extreme of Ras Siyan on the African coast to Jebel Hasis on the coast of Arabia, thence by the South shores of Asia (including the Persian Gulf) to Lem Voalan, Salang Island.

*East.*—From Lem Voalan, Salang Island (Latitude  $7^{\circ} 46' N.$ , Longitude  $98^{\circ} 18' E.$ ), thence to Diamond Point, Sumatra (Latitude  $5^{\circ} 16' N.$ , Longitude  $97^{\circ} 30' E.$ ), thence Westward along the North Coast of Sumatra to Achin Head (Latitude  $5^{\circ} 34' N.$ , Longitude  $95^{\circ} 15\frac{1}{2}' E.$ ), thence Southward along the West Coast of Sumatra to Buga Point, Riau Bay (Latitude  $5^{\circ} 15' N.$ , Longitude  $95^{\circ} 15' E.$ ), thence Southward along the meridian of Longitude  $95^{\circ} 15' E.$  to  $30^{\circ} S.$  Latitude.

*South.*—From a point in  $95^{\circ} 15'$  East Longitude and  $30^{\circ}$  South Latitude along this parallel to the Westward to  $55^{\circ}$  East Longitude, thence along this meridian to the Northward to  $10^{\circ} 40'$  South Latitude, thence along this parallel to the Westward to Cape Delgado, the Northern boundary of Portuguese East Africa in  $10^{\circ} 40'$  South Latitude (approximately).

*West.*—From Cape Delgado, the Northern Boundary of Portuguese East Africa in  $10^{\circ} 40'$  South Latitude (approximately) by the East African shore to the Southern extreme of Ras Siyan in Latitude  $12^{\circ} 28' 30''$  North, Longitude  $43^{\circ} 19' 45''$  East.

## LIMITS OF THE CHINA STATION.

*North.*—From Lem Voalan, Salang Island (Latitude  $7^{\circ} 46' N.$ , Longitude  $98^{\circ} 18' E.$ ) thence towards the East by the shores of Asia as far as the meridian of  $180^{\circ}$ .

*East.*—By the meridian of  $180^{\circ}$  from the point where that meridian touches the shores of Asia to the Southward to  $4^{\circ}$  North Latitude.

*South.*—From the meridian of  $180^{\circ}$  in  $4^{\circ}$  North Latitude, along this parallel to the Westward to the meridian of  $169^{\circ}$  East Longitude, thence along this meridian to the Southward to the Equator, thence along the Equator to the Westward to  $141^{\circ}$  East Longitude, thence along that meridian to the Southward and along the Eastern Boundary of Dutch New Guinea in about  $141^{\circ}$  East Longitude to its Southern termination in about  $9^{\circ} 30'$  South Latitude, thence in a Westerly direction to a point in  $11^{\circ}$  South Latitude and  $120^{\circ}$  East Longitude, thence along that meridian to the Southward to  $13^{\circ}$  South Latitude, thence along that parallel to the Westward to the meridian of  $95^{\circ} 15'$  East Longitude.

*West.*—From Lem Voalan, Salang Island (Latitude  $7^{\circ} 46' N.$ , Longitude  $98^{\circ} 18' E.$ ) to Diamond Point, Sumatra (Latitude  $5^{\circ} 16' N.$ , Longitude  $97^{\circ} 30' E.$ ), thence Westward along the North Coast of Sumatra to Achin Head (Latitude  $5^{\circ} 34' N.$ , Longitude  $95^{\circ} 15\frac{1}{2}' E.$ ), thence Southward along the West Coast of Sumatra to Buga Point, Riau Bay (Latitude  $5^{\circ} 15' N.$ , Longitude  $95^{\circ} 15' E.$ ), thence Southward along the meridian of Longitude  $95^{\circ} 15' E.$  to  $13^{\circ} S.$  Latitude.

## LIMITS OF THE AUSTRALIA STATION.

*North.*—From a point in  $95^{\circ} 15'$  East Longitude and  $13^{\circ}$  South Latitude along that parallel to the Eastward to the meridian of  $120^{\circ}$  East Longitude, thence along that meridian to the Northward to  $11^{\circ}$  South Latitude, thence to an Easterly direction to the Southern termination of the Eastern boundary of Dutch New Guinea in about  $141^{\circ}$  East Longitude, thence along the meridian of the boundary to the Northward to the Equator, thence along the Equator to the Eastward to  $169^{\circ}$  East Longitude.

*East.*—From a point on the Equator in  $169^{\circ}$  East Longitude, along that meridian to the Southward to  $1^{\circ}$  South Latitude, thence along that parallel to the Eastward to the meridian of  $170^{\circ}$  East Longitude, thence along that meridian to the Southward to  $32^{\circ}$  South Latitude, thence along that parallel to the Westward to the meridian of  $160^{\circ}$  East Longitude, thence along that meridian to the South Pole.

*South.*—The South Pole.

*West.*—From the South Pole by the meridian of 80° East Longitude to the Northward to 30° South Latitude, thence along that parallel to the Eastward to the meridian of 95° 15' East Longitude, thence along that meridian to the Northward to 13° South Latitude.

#### LIMITS OF THE NEW ZEALAND STATION.

*North.*—From a point in 169° East Longitude and 4° North Latitude along that parallel to the meridian of 180°, thence along that meridian to the Northward to the parallel of 30° North, thence along that parallel to the meridian of 150° West Longitude, thence Southward along that meridian to the Equator, thence Eastward along the Equator to the meridian of 120° West Longitude.

*East.*—From a point on the Equator in 120° West Longitude, along that meridian to the South Pole.

*South.*—The South Pole.

*West.*—From the South Pole along the meridian of 160° East Longitude to 32° South Latitude, thence along that parallel to the Eastward to the meridian of 170° East Longitude, thence to the Northward along that meridian to 1° South Latitude, thence along that parallel to the Westward to 169° East Longitude thence along that meridian to the Northward to 4° North Latitude.

### 1951.—Aircraft at Anchor or Moored on the Water—Lights to be Shown.

(N.L. 1691/27.—29.7.1927.)

With reference to King's Regulations and Air Council Instructions for the Royal Air Force, paragraph 687, and sub-paragraph 12 (a), it has been decided that the one light prescribed for aircraft at anchor or moored on the water does not sufficiently protect such aircraft from the risk of being run into at night time. In consequence of this decision all Fleet Air Arm Aircraft at anchor or moored on the surface of the water will in future show at a height of one metre above the white light already laid down, and in addition to it, a red light, to be visible in all directions at a distance of at least one mile.

2. Pending the production of a standardised apparatus, Naval pattern lamps as issued to H.M. ships should be used for the purpose.

### 1969.—Masts at W/T Stations—Surveys.

*H.M. Dockyards and Warship Production Superintendents.*

(D. 9634/27.—29.7.1927.)

When the masts, etc., at W/T stations are repaired by contract, the survey and inspection of the work are to be arranged by the Warship Production Superintendent of the area in which the W/T station is situated, instead of by representatives of the dockyards, when this is the more economical course.

2. In such cases the dockyard officers concerned should forward the defect list and specification of the work to be undertaken to the Warship Production Superintendent, who should report to them in due course whether the work has been satisfactorily performed and completed in accordance with the specification.

3. In the cases of W/T stations in the Pembroke and Rosyth areas, the preliminary surveys of the masts are to be undertaken by the Warship Production Superintendent concerned, who should prepare defect lists with a view to the invitation of tenders for repair by contract.

4. In those cases in which suitable assistants are not borne on the staff of the Warship Production Superintendent concerned, the Warship Production Superintendent should obtain the necessary assistance from the most convenient dockyard.

## 1973.—W/T Installation, Type 37—Modification to Wiring of Filament Battery Charging Circuits.

(N.S. 7875/27.—29.7.1927.)

The charge-discharge switches which are components of Patterns 7644 and 7645 "Boards, charge-discharge," are provided with neutral positions such that with a switch in its neutral position the battery controlled by it is neither charging nor discharging. The neutral position is described as an "off" position, and this is a correct description with regard to the battery itself, but does not result in a total break of the supply circuit, which continues to supply current through the charging resistances unless broken elsewhere. Three possible charging arrangements may be fitted in a type 37 set, and the necessary action to be taken in each case is described hereunder.

2. *Ship's Second W/T Office with Type 37.*—In this type of office the filament batteries, both for receiving apparatus and for transmitter 4H, are charged from the 20-volt low power mains. The negative lead from the charging board to Pattern 7644 board is common to both transmitting and receiving batteries, but the positive supply is in two parts, so that separate charging resistances are used for transmitting and receiving batteries. The whole supply can be broken by means of a double-pole switch (Pattern 7636) on the main charging board, but there are no switches in existing wiring for breaking the supply through one charging resistance without also cutting out the other. In order to overcome this, the main double-pole switch is to be replaced by two Pattern 5998 switches, 2-pole, 1-way, the wiring being altered as shown on E.F.O. 83/27. With this arrangement it is possible to break either positive lead separately, and care is to be taken that the appropriate Pattern 5998 switch is broken when the batteries controlled by it are taken off charge. A label to this effect is to be fitted below the Pattern 7644 board.

3. *Destroyer's Main Office with Pattern 7644 Board, charge-discharge.*—In a destroyer using Pattern 7644 board, the supply is from the ship's mains but is not divided into separate supplies for transmitting and receiving batteries, as all batteries charging simultaneously are charged in series. When no battery is on charge, the supply is to be broken by means of the switch already fitted on Pattern 7627 board, distributing, 7-way, 50 amps., and a label to this effect is to be fitted below the Pattern 7644 board.

4. *Destroyer's Main Office with Pattern 7645 Board, charge-discharge.*—This is similar to a destroyer with Pattern 7644 board, except that the switches on Pattern 7645 are suitable for 40 amps. As there is no main switch in the circuit between Pattern 7331 board, fuse and Pattern 7645 board, charge-discharge, a Pattern 7636 switch, 2-pole, 1-way, 50 amps, is to be wired in these leads, the switch being fitted in a convenient position adjacent to Pattern 7645 board. As the switch is a back-connected article suitable for switch-board mounting, it is to be mounted on a teak board of convenient size with suitable supports for fitting it out from the bulkhead. A label to the effect that this switch is to be broken when no battery is on charge should be fitted below the Pattern 7645 board.

5. The necessary work of fitting and wiring as described above is to be carried out by ships' staffs. The switches required are to be demanded, quoting this Order as authority. The main double-pole switches (Pattern 7636) at present fitted in ships' second offices are to be returned to store.

6. *Error on specification drawing.*—The fitting-out specification drawings for Type 37 set show links on Pattern 7644 board for making connections between supply terminals. These links are not supplied as part of the board as indicated on the drawings, but should be provided by the dockyard or contractor installing the set.

7. The necessary alterations to W/T specifications and establishments will be promulgated in due course.

## 2064.—Fleet Air Arm—Prevention of Fires during Petrol Filling Operations.

(M. 01072/27.—12.8.1927.)

The occurrence of fires during the filling of petrol tanks has been traced in certain cases to the generation of frictional electricity during filling operations.

2. Tests have clearly shown that high voltages may be developed by pumping and filtering petrol, and that the voltage increases with the quantity delivered, the speed of delivery, the length of hose used, and the insulation resistance of the tank, etc. Under certain conditions a spark may be caused of sufficient intensity to ignite petrol vapour.

3. The following precautions are to be adopted in all cases to prevent the development of high voltages and the occurrence of sparks during filling operations:—

- (a) The hose used must either be all-metal or internally and externally armoured, and care is to be taken to ensure that both armouring wires are in metallic contact with the metal end connections.
- (b) In all cases where metallic contact between the end of the filling hose and the tank is not ensured by the parts being screwed together, a short length of chain is to be fitted in metallic contact with the metal connection at the delivery end of the filling hose; the other end of the chain being provided with a metal hook which is to be hooked into the filling opening in the aircraft tank before pumping is started, and is to remain in metallic contact with the tank the whole time that filling is proceeding.
- (c) When chamois leather filters are used, the whole of the chamois leather through which the fuel passes must be in contact with the metal filling funnel and its gauze, and the funnel must be in metallic contact with the fuel tank the whole time that filling is proceeding.
- (d) In bonded aircraft, if fitted with a metal tail skid, no further precautions are necessary, but these aircraft are never to be filled with the tail skid off the deck.

In bonded aircraft, if fitted with a wooden tail skid, temporary electrical connection is to be made between some portion of the metal structure and the steel deck.

- (e) In non-bonded aircraft, a direct electrical connection between the petrol tank and the steel deck is to be made.

(A.F.O. 201/29.)

## 2076.—Gun Fire Control Instruments fitted in H.M. Ships—Returns of Particulars—REPORT.

(G. 9673/27.—12.8.1927.)

With reference to A.F.O. 1133/27, paragraph 1, the torpedo and search-light portions of the returns, referred to as being no longer required, include also the electrical portions of instruments and apparatus in connection with the gun control.

2. The various details of fire control instruments, non-electrical, are to be reported on as ordered in A.F.O. 1133/27.

(A.F.Os. 1133/27 and 1475/29.)

## 2079.—Gun Mountings, 4 in., C.P. II, C.P. III, and C.P. IIIC—Modifications to Loading Trays.

(G. 4791/27.—12.8.1927.)

Sketches E.F.O. 77/27, showing modifications to the loading tray gear of 4 in. C.P. II and 4 in. C.P. III and IIIC mountings, are circulated for guidance in carrying out repairs to such gear which may have become seriously defective through wear.

### 2084.—W/T—Fitting of Remote Control Attachment to New Pattern Morse Key.

(S.D./G. 10229/27.—12.8.1927.)

The new pattern Morse key, Pattern 7681, which has been introduced for use in W/T sets in lieu of Pattern 2426, is designed so that it can be operated satisfactorily when Pattern 5062 attachment for remote control is fitted to it. The fitting of the attachment is illustrated in E.F.O. 87/27. The method of fitting is to be as described below.

2. The attachment is in two parts as follows:—

(a) Fixed portion, consisting of bobbins and cores. This is to be secured to the key base.

(b) Armature, which is to be secured to the key lever.

To secure the fixed portion of the attachment to the key base, the key lever is to be removed, after which the base of the attachment should be placed on the key base with its edge carrying the terminal board adjacent to the hinge bearing the key. Two 2 B.A. tapped holes are provided in the key base, in positions corresponding to two clearance holes in the base of the attachment, for securing the latter in position. Securing screws are supplied as part of Pattern 5062 attachment and these are to be inserted, care being taken to ensure that the screws do not project beyond the ebonite base of the key. The  $\frac{1}{8}$  inch pad which is attached to the ebonite base is not to be drilled for these screws. To fit the armature to the lever, the knob is first to be removed and the armature, with packing piece in position under it, is to be mounted on top of the key lever arm. It is to be secured in position by means of two 6 B.A. screws provided with the attachment, and which are to replace the existing screws securing the main contact to the lever arm. If holes are not already drilled in the armature and packing piece through which the knob spindle can pass, a  $\frac{3}{8}$  inch diameter hole is to be drilled in each.

3. The necessary alterations to W/T fitting-out specifications will be promulgated in due course.

4. No alteration will be made to the establishment of W/T stores, as this Order is not an authority for demanding stores and does not call for any modification to existing allowances.

### 2089.—Ball and Roller Bearings, Steel Balls—Procedure for Demanding, etc.

(N.S./C.P. 3531/27.—12.8.1927.)

A standing contract, C.P. 3531/27, dated 23rd February, 1927, has been arranged with various firms for the supply of steel balls and all standard ball and roller bearings other than those of self aligning type, and the following instructions should be observed by all officers demanding these articles:—

(a) Particulars as to type, size, maker's code, etc., of the bearings required should accompany the demand, and in cases where the whole of these particulars are not available, a dimensioned sketch or other information is to be furnished to enable the supplying yard to order the bearings required from the contractor or contractors holding the standing contract.

(b) In the case of requirements of ball bearings included in the Rate Book, the bearings should be examined for maker's type, number, etc., and a sketch should be furnished as above to facilitate recognition if any doubt exists. All patterns of W/T ball bearings, for instance, included in Specification No. 8975 can be regarded as being obtainable from one or other of the firms participating in the contract, but for W/T purposes it is desirable that when purchases are arranged the contractors should be required to comply with the packing and marking clauses of this specification. *No extra charge will be made for this special packing.*

- (c) Malta Yard should demand all bearings required for replacement, etc., purposes in connection with machinery in H.M. ships and establishments from Chatham. Other ships, establishments and dockyards abroad should forward demands to Sheerness. Chatham and Sheerness should arrange supply under the terms of the standing contract and shipment in accordance with the approved procedure.
- (d) The attention of yard officers is directed to the desirability of distributing orders for bearings as evenly as possible between the firms concerned, *i.e.*, orders should not be confined to one firm merely because the original bearings are of that firm's manufacture. (See A.F.O. 3328/26.)
- A copy of each order placed under the standing contract is to be sent direct to the Director of Navy Contracts, Branch IX, Princes House, Kingsway, London, W.C.2, in addition to the copies included in periodical returns of local purchases.
- (e) The present procedure in regard to rendering annual or half-yearly demands for steel balls from dockyards should be continued and demands for bearings chargeable to Vote 8, Section 2, from yards abroad should continue to be forwarded to Admiralty in the usual manner.

2. Attention is directed to the instructions contained in paragraphs 1, 2 and 3, A.F.O. 3328/26, in regard to purchases of bearings not covered by the standing contract and to the remainder of that order relative to the interchangeability of bearings made by the various makers.

(A.F.O. 3328/26.)

### **2101.—Payment of Dockyard Pensions—Institution of a Handbill drawing Pensioners' attention to the significance of their Signatures on the List.**

(C. (III) 5539/27.—12.8.1927.)

In order that pensioners in receipt of Admiralty pensions, paid through the cashiers of H.M. dockyards, may be made more fully aware of the significance of their signatures to the declaration on the pension lists, a handbill (Form D.199e) has been prepared for annual distribution.

A copy of this notice is to be handed to all pensioners, both Naval and Civil, who sign the lists on or soon after 1st October next and yearly thereafter. It is not intended for distribution to civil artificers, paid on the witnessed payment system, and to those in receipt of injury allowances under the Workmen's Compensation Acts and Schemes. Supplies should be obtained from the Superintendent, R.N. Store Depôt, West India Docks, E.

### **2105.—Rolled Steel Sections—Payment of Extras.**

(N.S./C.P. 25665/26.—12.8.1927.)

Difficulties have arisen in connection with the procedure laid down for the payment of extras and the whole question has been reconsidered.

2. It has been arranged that steelmakers when forwarding their invoices (D.55) for sections on which extras for web thicknesses are claimed to the local Warship Production Superintendent for his certificate, shall show clearly the thickness of the various sections corresponding to the weights per foot ordered and the contour of section actually employed. The local Warship Production Superintendent should then furnish a certificate on the invoice that the web thicknesses shown have been checked and that the firm's figures are concurred in, and these figures should be accepted by dockyards for payment purposes.

(C18807)



(2) *Engineering Branch.*

	<i>Per Diem.</i>
	\$
Engineer Sub-Lieutenant or Sub-Lieutenant (acting or confirmed) qualified in (E) ... ..	4·00
Engineer Lieutenant and Lieutenant (E)—	
On promotion ... ..	5·00
After 4 years ... ..	5·75
After 6 years ... ..	6·75
Engineer Lieutenant-Commander and Lieutenant-Commander (E)—	
On promotion ... ..	8·50
After 4 years ... ..	9·00
After 6 years ... ..	9·50
Engineer Commander and Commander (E)—	
On promotion ... ..	11·25
After 3 years ... ..	12·25
After 6 years ... ..	13·25
After 9 years ... ..	14·25
Engineer Captain and Captain (E)—	
On promotion ... ..	15·00
After 3 years ... ..	16·25
After 6 years ... ..	17·50
After 9 years ... ..	18·75

(3) *Accountant Branch.*

Paymaster Cadet ... ..	1·50
Paymaster Midshipman ... ..	2·00
Paymaster Sub-Lieutenant ... ..	4·00
Paymaster Lieutenant—	
On promotion ... ..	5·00
After 4 years ... ..	5·50
After 6 years ... ..	6·00
Paymaster Lieutenant-Commander—	
On promotion ... ..	7·50
After 3 years ... ..	8·00
After 6 years ... ..	8·50
Paymaster Commander—	
On promotion ... ..	10·00
After 3 years ... ..	11·00
After 6 years ... ..	12·00
After 9 years ... ..	13·00
Paymaster Captain—	
On promotion ... ..	13·75
After 3 years ... ..	15·00
After 6 years ... ..	16·25
After 9 years ... ..	17·50

(4) *Medical Branch.*

Surgeon Lieutenant—	
On entry ... ..	5·00
After 3 years ... ..	6·00
Surgeon Lieutenant-Commander—	
On promotion ... ..	7·50
After 4 years ... ..	8·50
Surgeon Commander—	
On promotion ... ..	10·00
After 3 years ... ..	11·00
After 6 years ... ..	12·00
After 9 years ... ..	13·00
Surgeon Captain—	
On promotion ... ..	15·00
After 3 years ... ..	16·25
After 6 years ... ..	17·50
After 9 years ... ..	18·75



(5) *Instructor Branch.*

	<i>Per Diem.</i>
	\$
Instructor Lieutenant—	
On entry ... ..	5-00
After 3 years ... ..	6-00
Instructor Lieutenant-Commander—	
On promotion ... ..	7-50
After 3 years ... ..	8-00
After 6 years ... ..	8-50
Instructor Commander—	
On promotion . . . . .	10-00
After 3 years ... ..	11-00
After 6 years ... ..	12-00
After 9 years ... ..	13-00
Instructor Captain—	
On promotion ... ..	13-75
After 3 years ... ..	15-00
After 6 years ... ..	16-25
After 9 years ... ..	17-50

(6) *Commissioned Officers from Warrant Rank and Warrant Officers.**A.—Mechanical Branch.*

Warrant Officers—	
On promotion ... ..	4-00
After 3 years ... ..	4-25
After 6 years ... ..	4-50
After 9 years ... ..	4-75
Commissioned Officers from Warrant Rank—	
On promotion ... ..	5-00
After 3 years ... ..	5-50
After 6 years ... ..	6-00
After 9 years ... ..	6-50
Lieutenant—	
On promotion ... ..	7-00
After 3 years ... ..	7-25
After 6 years ... ..	7-50
Lieutenant-Commander—	
On promotion ... ..	8-00
After 3 years ... ..	9-00
Commander ... ..	As for Commander of Branch.

*B.—Non-Mechanical Branch.*

Same Ranks—25 cents. per diem less all through except Commander to receive Commander's Pay of Branch.

## PART II.

## ALLOWANCES—OFFICERS.

Allowances to officers generally are payable at rates approximately equivalent to those payable to R.N. officers serving in the Royal Navy, and under similar conditions.

The current rates of Lodging, Fuel and Light, Provision and Subsistence Allowances are shown in Parts VI and VII respectively.

## PART III.

## RATINGS.—PAY AND ALLOWANCES.

*Per Diem.**Seaman Class.*

	\$
Boy, 1st Class ... ..	.50
Ordinary Seaman ... ..	1.65
Able Seaman ... ..	1.85
Leading Seaman ... ..	1.95
Petty Officer ... ..	2.40
after 3 years ... ..	2.50
after 6 years ... ..	2.60
Chief Petty Officer... ..	2.80
after 3 years ... ..	2.95
after 6 years ... ..	3.10
after 9 years ... ..	3.25

*Signal Branch.*

Signal Boy ... ..	.60
Ordinary Signalman ... ..	1.75
Signalman ... ..	2.00
Leading Signalman ... ..	2.10
Yeoman of Signals ... ..	2.65
after 3 years ... ..	2.75
after 6 years ... ..	2.85
Chief Yeoman of Signals... ..	3.05
after 3 years ... ..	3.20
after 6 years ... ..	3.35
after 9 years ... ..	3.50

*Telegraphist Branch.*

Boy Telegraphist ... ..	.60
Ordinary Telegraphist ... ..	1.75
Telegraphist ... ..	2.00
Leading Telegraphist ... ..	2.10
Petty Officer Telegraphist ... ..	2.65
after 3 years ... ..	2.75
after 6 years ... ..	2.85
Chief Petty Officer Telegraphist ... ..	3.05
after 3 years ... ..	3.20
after 6 years ... ..	3.35
after 9 years ... ..	3.50

*Sailmaker Branch.*

Sailmaker's Mate ... ..	2.05
Sailmaker ... ..	2.65
after 3 years ... ..	2.75
after 6 years ... ..	2.85
Chief Sailmaker ... ..	3.05
after 3 years ... ..	3.20
after 6 years ... ..	3.35
after 9 years ... ..	3.50

*Stoker Branch.*

Stoker—	
2nd Class ... ..	1.75
1st Class ... ..	2.00
Acting Leading Stoker ... ..	2.10
Leading Stoker ... ..	2.10
Stoker Petty Officer ... ..	2.65
after 3 years ... ..	2.75
after 6 years ... ..	2.85
Chief Stoker ... ..	3.05
after 3 years ... ..	3.20
after 6 years ... ..	3.35
after 9 years ... ..	3.50

								<i>Per Diem.</i>
								\$
<i>Mechanicians.</i>								
Mechanician	...	...	...	...	...	...	...	3-05
after 3 years	...	...	...	...	...	...	...	3-20
after 6 years	...	...	...	...	...	...	...	3-35
after 9 years	...	...	...	...	...	...	...	3-50
after 12 years	...	...	...	...	...	...	...	3-65
Chief Mechanician—								
2nd Class	...	...	...	...	...	...	...	3-80
1st Class	...	...	...	...	...	...	...	4-05
<i>Engine Room Artificers, Electrical Artificers, Ordnance Artificers.</i>								
Artificer—								
5th Class	...	...	...	...	...	...	...	2-10
Acting 4th Class	...	...	...	...	...	...	...	3-05
4th Class	...	...	...	...	...	...	...	3-05
3rd Class	...	...	...	...	...	...	...	3-15
2nd Class	...	...	...	...	...	...	...	3-25
1st Class	...	...	...	...	...	...	...	3-50
Chief Artificer—								
2nd Class	...	...	...	...	...	...	...	3-80
1st Class	...	...	...	...	...	...	...	4-05
<i>Shipwrights.</i>								
Shipwright—								
5th Class	...	...	...	...	...	...	...	2-10
4th Class	...	...	...	...	...	...	...	3-05
3rd Class	...	...	...	...	...	...	...	3-15
2nd Class	...	...	...	...	...	...	...	3-25
1st Class	...	...	...	...	...	...	...	3-50
Chief Shipwright—								
2nd Class	...	...	...	...	...	...	...	3-80
1st Class	...	...	...	...	...	...	...	4-05
<i>Blacksmiths, Plumbers, Painters, Joiners, Coopers.</i>								
5th Class	...	...	...	...	...	...	...	2-10
4th Class	...	...	...	...	...	...	...	2-60
3rd Class	...	...	...	...	...	...	...	2-70
2nd Class	...	...	...	...	...	...	...	2-80
1st Class	...	...	...	...	...	...	...	2-90
after 3 years	...	...	...	...	...	...	...	3-00
Chief—	...	...	...	...	...	...	...	3-20
after 3 years	...	...	...	...	...	...	...	3-30
after 6 years	...	...	...	...	...	...	...	3-60
<i>Armourers.</i>								
Probationary Armourer's Crew	...	...	...	...	...	...	...	2-10
Armourer's Crew	...	...	...	...	...	...	...	2-60
Armourer's Mate	...	...	...	...	...	...	...	2-70
Armourer	...	...	...	...	...	...	...	2-80
after 3 years	...	...	...	...	...	...	...	2-90
Chief Armourer	...	...	...	...	...	...	...	3-20
after 3 years	...	...	...	...	...	...	...	3-30
after 6 years	...	...	...	...	...	...	...	3-60
<i>Sick Berth Staff.</i>								
Sick Berth Attendant	...	...	...	...	...	...	...	1-95
Leading Sick Berth Attendant	...	...	...	...	...	...	...	2-10
Sick Berth Petty Officer	...	...	...	...	...	...	...	2-65
after 3 years	...	...	...	...	...	...	...	2-75
after 6 years	...	...	...	...	...	...	...	2-85
Sick Berth Chief Petty Officer	...	...	...	...	...	...	...	3-00
after 3 years	...	...	...	...	...	...	...	3-15
after 6 years	...	...	...	...	...	...	...	3-30
after 9 years	...	...	...	...	...	...	...	3-45

*Writers.*

	<i>Per Diem.</i>
	\$
Boy Writer ... ..	-60
Writer ... ..	1-95
Leading Writer ... ..	2-10
Petty Officer Writer ... ..	2-65
Chief Petty Officer Writer ... ..	3-00
after 3 years ... ..	3-15
after 6 years ... ..	3-30
after 9 years ... ..	3-45

*Victualling Staff.*

Victualling Boy ... ..	-60
Victualling Assistant ... ..	1-95
Leading Victualling Assistant ... ..	2-10
after 3 years ... ..	2-20
Victualling Petty Officer... ..	2-65
after 3 years ... ..	2-75
Victualling Chief Petty Officer ... ..	3-00
after 3 years ... ..	3-15
after 6 years ... ..	3-30
after 9 years ... ..	3-45

*Ship's Cook.*

Assistant Cook ... ..	1-65
Cook ... ..	1-95
Leading Cook ... ..	2-10
after 3 years ... ..	2-20
Petty Officer Cook ... ..	2-65
after 3 years ... ..	2-75
after 6 years ... ..	2-85
Chief Petty Officer Cook ... ..	3-00
after 3 years ... ..	3-15
after 6 years ... ..	3-30
after 9 years ... ..	3-45

*Regulating Branch.*

Regulating Petty Officer ... ..	2-65
after 3 years ... ..	2-75
Master-at-Arms ... ..	3-10
after 3 years ... ..	3-25
after 6 years ... ..	3-40
after 9 years ... ..	3-55

*Officers' Stewards and Cooks.*

Boy Servant ... ..	-50
Officers' Steward and Cook—	
3rd Class ... ..	1-85
2nd Class ... ..	2-05
1st Class ... ..	2-50
Officers' Chief Steward and Cook ... ..	3-00

## PART IV.

## NON-SUBSTANTIVE RATINGS—ALLOWANCES, ETC.

All non-substantive pay and allowances are payable generally in accordance with King's Regulations and Admiralty Instructions, and at rates which approximate to those payable to ratings in the R.N.

## PART V.

## MARRIAGE ALLOWANCE.

Marriage Allowance is a grant made by the Government of the Dominion of Canada to ratings in the Canadian Naval Service while such ratings in respect of whom it is paid remain in the Naval Service.

2. The object of the allowance is to assist ratings whilst serving to provide and maintain a home for their wives and children.

3. Marriage Allowance shall be payable in respect of:—

- (a) Wife.
- (b) Guardian of child or children.
- (c) Child or children.

4. For the purpose of these regulations:—

- (i) "Wife" shall mean, legal wife.
- (ii) "Guardian" shall mean, in the case of ratings who are widowers or are separated from their wives, the person who has care of the child or children.
- (iii) "Children" shall mean (a) legitimate children, in the case of boys under the age of sixteen, and in the case of girls under the age of seventeen; (b) legitimate step-children, in the case of boys under the age of sixteen, and in the case of girls under the age of seventeen (provided they are not in receipt of endowment from any other source); (c) adopted children, at the discretion of the Minister of National Defence, in the case of boys under the age of sixteen, and in the case of girls under the age of seventeen (provided they are not in receipt of endowment from any other source).

5. Marriage allowance shall be credited to the rating concerned and by him shall be allotted to his wife or to the guardian of his child or children. No marriage allowance shall be paid unless the rating himself allots monthly, in addition to the full amount of the marriage allowance, not less than fifteen days' pay of his rating, exclusive of allowances. In cases where no voluntary allotment is made, compulsory allotment of fifteen days' pay of rating, exclusive of allowances, plus full amount of marriage allowance, may be put in force against the rating. In cases where a compulsory allotment is put in force, the rating concerned will be informed. Should he object and submit reasons for his objection it will be decided by the Minister of National Defence whether the compulsory allotment shall be continued. In the event of the compulsory allotment being discontinued marriage allowance will also be discontinued.

6. All applications for marriage allowance must be supported by certificate of marriage, birth certificates in the case of children, or other unimpeachable evidence as to marriage, birth or guardianship.

7. For the purpose of mulcts, marriage allowance is not to be considered as part of the daily rate of pay.

8. Payment of marriage allowance shall be continued for any period during which its recipient is undergoing punishment in cells, detention or imprisonment unless he is ordered to be dismissed or discharged from His Majesty's Service at the expiration of his sentence.

9. Marriage allowance is not payable to ratings in receipt of Consolidated Pay.

10. Marriage allowance shall be paid on the following scales in accordance with the above regulations:—

*All Ratings.*

(A)										<i>Per Diem.</i>
										\$
Wife only	...	...	...	...	...	...	...	...	...	0.50
Wife and 1 child	...	...	...	...	...	...	...	...	...	0.75
Wife and 2 children	...	...	...	...	...	...	...	...	...	1.00
Wife and 3 children	...	...	...	...	...	...	...	...	...	1.25
Wife and 4 children or more	...	...	...	...	...	...	...	...	...	1.50

*Per Diem.*  
\$

(B)

1 child in care of guardian ... ..	0.50
2 children in care of guardian ... ..	0.75
3 children in care of guardian... ..	1.00
4 or more children in care of guardian ... ..	1.25

Any question arising as to the interpretation of these regulations shall be decided by the Minister of National Defence.

The regulations governing payment of marriage allowance are to be explained to all newly-entered men, in order that, when necessary, allotments, effective from date of entry, may be declared.

The separation of a seaman and his wife, whether judicially or by mutual consent, is rarely notified voluntarily by the parties concerned. In the absence of this information irregular payments of marriage allowance may proceed for considerable periods.

If a Naval rating fails to notify the fact that he is living apart from his wife, whether legally, or under mutual arrangement, or by the intention of the husband not to live at home with his wife, he will in future be liable to be charged with the amount of any overpayment of marriage allowance which may in consequence occur.

## PART VI.

### ALLOWANCES IN LIEU OF LODGING, PROVISIONS, LIGHT AND FUEL.

Allowances in lieu of lodging, provisions, light and fuel shall be paid on the following scale:—

	Lodging, Fuel and Light.	Provisions.	Consolidated Allowance.
		Per Diem.	
Captains and Officers of corresponding rank ...	\$2.25	\$0.85	\$3.10
Commanders and Officers of corresponding rank	2.00	0.85	2.85
Lieutenant-Commanders and Officers of corresponding rank.	1.75	0.85	2.60
Lieutenants and Officers of corresponding rank	1.50	0.85	2.35
Sub-Lieutenants, Commissioned Officers from Warrant Rank and Subordinate Officers .	1.25	0.85	2.10
Warrant Officers ... ..	1.00	0.85	1.85
All ratings, ¶ ... ..	0.60	0.85	1.45

*Per Diem.*  
\$

Allowance in lieu of provisions as per Article 1673, King's Regulations ... ..	0.85
Fuel and light allowances to officers provided with official residences:—	
Captains, Commanders and officers of corresponding rank	1.00
Other commissioned officers ... ..	0.75
Commissioned officers from warrant rank and warrant officers ... ..	0.50

## PART VII.

## SUBSISTENCE ALLOWANCE.

The following rates of subsistence allowance are payable to officers and men :—

	Absent a night or for every 24 hours of absence.	Absent above 9 hours but not absent a night.	Absent above 5 hours but under 9 hours.	After 15 days in one place and not exceeding 3 months.
Captains and Officers of corresponding rank.	\$8·00	\$4·00	\$2·00	\$5·00
Commanders, Lieutenant-Commanders and Officers of corresponding rank.	6·00	3·00	1·50	4·00
Other Commissioned Officers ...	5·00	2·50	1·25	3·50
Commissioned Officers from Warrant Rank, Warrant Officers and Subordinate Officers.	3·75	1·90	0·90	3·00
Chief Petty Officers and Petty Officers.	2·50	1·25	0·65	2·50
Men and Boys below rating of Petty Officers.	2·25	1·15	0·60	2·00

*Notes.*—When travelling west of Port Arthur, chief and other warrant officers and subordinate officers to receive an increase of 65 cents, 30 cents and 15 cents according to period of journey.

When temporarily stationed at any place, officers and men may be paid full subsistence allowance for the first 15 days, and after 15 days for a period not exceeding three months, at the rate shown above.

Subsistence allowance is ordinarily to be paid whilst persons are actually travelling on duty and, if requisite, for a maximum period of 15 days after arriving at destination. In the case of officers and men taking up shore appointment, payment of subsistence will not usually be approved for the maximum period of 15 days, but only for such time as is necessary to procure lodgings, after which date they will receive lodging and compensation only.

Payment of subsistence allowance generally is governed by Article 1666, King's Regulations.

## PART VIII.

## CLOTHING GRATUITIES.

The following annual gratuities are approved for the upkeep of kit :—

	\$
Chief Petty Officers ... ..	60·00
Petty Officers and men dressed as seamen ... ..	40·00
Petty Officers and men not dressed as seamen ... ..	56·00
Submarine Kit Upkeep Allowance ... ..	7·00

**2131.—Practice Projectiles Fitted for Internal Night Tracers  
—Adjustment of Stocks.**

(G. 7925/27.—19.8.1927.)

Supplies of internal night tracers (for H.E. shell and practice projectiles, 7.5 in. and below, except fixed ammunition) to a new design, will be available for distribution to H.M. ships towards the end of the current year, and as a first action, sufficient will be issued *for practice projectiles only* in the following order of priority, viz. :—

- (a) Mediterranean Fleet.
- (b) Atlantic Fleet.
- (c) China Squadron.
- (d) America and West Indies.
- (e) East Indies.
- (f) New Zealand.
- (g) Africa.

2. Demands should be put forward for sufficient tracers to adjust the proportions of N.T. practice projectiles on board H.M. ships to the correct allowance, *i.e.*, 20 per cent. where night tracer fitted ammunition is allowed, and these will be met as supplies become available on the various stations.

3. Any N.T. practice projectiles on board in excess of the authorised numbers should then be returned to store and non-tracer projectiles drawn in lieu.

4. Existing stocks of practice projectiles designed for night tracers should not be issued from depôts in future to meet requirements for non-tracer projectiles unless such action is specially authorised or non-tracer projectiles are not available.

(A.F.O. 2347/28.)

**2133.—Electrical Equipment of H.M. Ships—Accessibility and  
Preservation of Legibility of Makers' Nameplates on  
Machines.**

(S. 4129/27.—19.8.1927.)

In connection with O.U. 6137—"Electrical Equipment of H.M. Ships," difficulty has been experienced in the correct rendering of the reports owing to:—

- (a) The inaccessibility of the makers' nameplates fitted on machines.
- (b) The nameplates being so covered with paint as to make the stamped particulars illegible, even after they have been scraped.
- (c) The nameplates being removed.

2. In order that the particulars may be easily obtained, care is to be taken when electrical machines are being fitted in ships that the makers' nameplates are secured to the machines in a position where they can be read, and yet be not unduly exposed to damage. Nameplates are not to be painted or removed, and where a nameplate has been damaged or defaced, a new plate is to be made and fitted to the machine.

3. As the provision of correct spare parts depends to a large extent on the correct rendering of the particulars shown on the nameplates, every care is to be taken that the correct particulars are shown on the substituted nameplate.

(A.F.Os. 1328/27, 2896/28 and 1155/29.)

**2135.—Issued Confidentially.**



**2137.—Capstan Spindles and Deck Bushes—Examination.**

(D. 991/27.—19.8.1927.)

In connection with the examination of capstan spindles and deck bushes in battleships and cruisers the following items of work in connection with the above examination should be allowed for in estimating when the work is performed by dockyards, unless any serious defect necessitating extra work is suspected:—

- (a) To rig sheer legs for lifting cable holders.
- (b) To remove driving heads and cable holders from the port and starboard cable holder spindles.
- (c) To remove packing from all glands on the capstan and cable holder spindles.
- (d) To turn out the worm shafts (port and starboard sides only), also take clearances of worm shafts and thrusts.
- (e) To lift forward and after capstans and cable holder spindles, carry out examination of foot-step bearings and deck bearings, lower spindles, replace worm shafts, cable holders, etc., and repack glands.

**2138.—Oil Fuel Tanks or Compartments—Survey.***H.M. Ships.*

(D. 1816/27.—19.8.1927.)

It has been decided that in battleships, battle cruisers and cruisers, the period of survey of oil fuel compartments is to be extended to 8 years in ships undergoing annual refit, or to 7½ years in the cases of the Mediterranean Fleet where ships at present refit every 2½ years, the appropriate proportion of tanks being dealt with at each refit as closely as is conveniently practicable.

The above is subject to the following provisos:—

- (a) That examination by the ship's staff of individual tanks in accordance with Article 494, Clause 4A, Engineering Manual, does not disclose necessity for early sighting of frames and plates.
  - (b) *Oil fuel tanks under engine and boiler rooms.*—When, at the next refit, it is required to survey the inner bottom forming the crown of the tanks, the whole of the tanks under should be prepared for survey during the refit. When defects to the inner bottom have been reported, the whole of the tanks under the reported defects should be prepared for examination during the refit.
2. No alteration is to be made to the existing regulations for destroyers or other vessels.
  3. This decision is subject to revision later when the results of the trial of the 2½ yearly refit scheme for Mediterranean Fleet have been considered.

**\*2154.—Diving Regulations for Civil Engineer Officers in the Department of the Civil Engineer-in-Chief.**

(C.E. 6354/26.—19.8.1927.)

Civil Engineer Officers must qualify as competent helmet divers before the expiration of their probationary period, but no officer over forty years of age will be required to qualify.

2. The qualifying course is:—

1 day—Lecture on diving.

Explanation of apparatus.

1 day—Diving in shallow water, dressing and attending diver, exercising signals, valve management, etc.

2 days—Diving in 3 fathoms, examination and measurement of submerged object.

2 days—Diving in 3 to 6 fathoms, examination of dock wall, and underwater fittings.

4 days—Diving in 6 to 12 fathoms, examination of harbour works, fittings, etc.

3. Officers are to be examined medically immediately before diving on every occasion when they are required to exercise or work under water. In making the examination, the Medical Officer will be guided by the rules laid down in the Diving Manual, Chapter VIII.

4. Qualified officers up to the age of forty-five may be employed on diving at any depth. Those over forty-five may be employed on diving at a depth not greater than 10 fathoms for short periods, if they so desire, provided they are medically examined and found to be fit.

5. Efficiency should be maintained by diving at least once every six months. If this is impracticable officers must become acquainted with the latest apparatus and methods at the first opportunity before being considered available for diving.

6. Officers in Charge of Works are to report to the Civil Engineer-in-Chief when qualification is impossible or efficiency cannot be maintained, and give reasons.

**\*2168.—Warrant Ordnance Officers and Ordnance Artificers undergoing Instruction in Breech Mechanisms—Pay Arrangements.**

(N.P. (II) 1618/27.—26.8.1927.)

Warrant Ordnance Officers and Ordnance Artificers detailed from seagoing ships for the special course of instruction in breech mechanisms referred to in O.U. 5362, Gunnery Training Manual, page 45, Course 67, are to remain borne for pay on the books of their ships. A nominal transfer list showing rates of pay and allotment, whether or not in debt to the Crown, and the last date victualled, is, however, to be forwarded to H.M.S. "Excellent" on the books of which establishment these officers and men are to be borne nominally (List 17) whilst undergoing the course.

2. Credits of Provision and Lodging Allowances, as laid down in Articles 1669, 1671 and 1673, King's Regulations and Admiralty Instructions are to be made in H.M.S. "Excellent" and weekly payments in respect of pay and allowances are to be made to the ratings by the Accountant Officer of that establishment. During the Woolwich portion of the course these are to be forwarded "c/o The Inspector of Naval Ordnance, Royal Arsenal, Woolwich," to whom all communications in respect of pay, travelling, etc., should be addressed.

3. Monthly advances should be made to officers.

4. Ships and establishments will furnish travelling warrants to Woolwich, also from Woolwich to Priddy's Hard; "Excellent" will furnish those for the officers and ratings to return to their respective ships and depôts on completion of course, and will also inform the Commanding Officers of ships and establishments to which these ranks and ratings belong, of the date they are discharged to "Excellent" for course at Priddy's Hard.

**2178.—Breech Mechanisms—Fitting of Automatic Extractors.**

(G. 19388/26.—26.8.1927.)

The automatic extractors referred to A.F.O. 1708/27 are only to be fitted to Q.F. 2 pdr. sub-calibre guns, H.A., Mark II, Q.F. 4 in., Marks V-V\*, and "A," V-V\*, and H.A., Mark II, Q.F. 4.7 in., Mark VIII.

The guns when fitted with these extractors will be designated "Mark III."

(A.F.O. 1708/27.)

**2230.—Voicepipes—Communications to 6 in. Guns.***“ Queen Elizabeth ” Class.*

(G. 10363/27.—2.9.1927.)

It has been approved to fit in ships of the “ Queen Elizabeth ” class, so far as applicable, the following communications, viz. :—

- (i) Telephone from top to No. 3 casement with sightsetters' headpieces at each gun, used for range and deflection.
- (ii) Voicepipe from top to director, gun control tower and No. 3 hood, used for passing orders. This voicepipe should have branches in the top to the Control Officer and to the Clock Operator.

A mouthpiece is to be provided on Nos. 2 and 3 in the gangway abreast No. 3 casemate.

- (iii) Voicepipe from No. 3 hood to each casemate, used for local control.
- (iv) Voicepipe from No. 3 hood to the ammunition lobby.
- (v) Voicepipe from port hood to starboard hood.

2. An item for any of this work which has not already been carried out is to be included in the ships' next list of alterations and additions.

**2294.—Aircraft passing over Prohibited Areas—Identification.**

(M. 02318/27.—9.9.1927.)

With reference to the arrangements for reporting cases of aircraft flying over prohibited areas, a breach of the Air Navigation Order is committed if the aircraft is at a height of less than 6,000 ft. Should the lettering on the machine be visible to the naked eye, the aircraft may be presumed to have flown over the prohibited area at a lower height. This rough rule should be taken as a basis for reporting breaches of the Order.

**2297.—Sea Fisheries Acts and Conventions—Enforcement.**

(M. 3014/27.—9.9.1927.)

An instance recently occurred of two steam trawlers concealing their names under canvas when passed by one of H.M. ships and not replying to signals addressed to them. It has therefore been considered desirable to promulgate the following information with regard to the enforcement of the Sea Fisheries Acts and Conventions and to extend the distribution of the Sea Fisheries Manual as shown in paragraph 6 below.

2. The enforcement of the Sea Fisheries Acts and Conventions is placed in the hands of Sea Fishery Officers appointed by the Governments who have signed the Conventions.

3. All Commissioned Officers of H.M. ships on full pay are *inter alia* British Sea Fishery Officers and can exercise jurisdiction as such.

4. The duties of British Sea Fishery Officers and the offences which may be dealt with by all British Sea Fishery Officers are dealt with in Chapter II of the Sea Fisheries Manual, 1926, an extract from which is given below. Normally these duties will be carried out by vessels under the orders of the Captain A/P but action may be taken by other officers in cases of offences coming under their notice. If a fishery cruiser is in the vicinity, the attention of the Commanding Officer should be drawn to the irregularity observed as it is preferable that the action should be taken by an officer specially appointed for Fishery Protection Service duties.

5. The following is an extract from the Sea Fisheries Manual:

*Chapter II.*

5. Offences which may be dealt with by all British Sea Fishery Officers.—In the exercise of these duties, a British Sea Fishery Officer has authority to deal with the following offences with regard to all fishing vessels inside British Exclusive Fishery Limits and British fishing vessels anywhere:—

- (i) Causing injury to any person belonging to another boat, or damaging another sea fishing boat, or damaging gear belonging to another sea fishing boat.
- (ii) Concealing nationality.
- (iii) Anchoring between sunset and sunrise among drifters.
- (iv) Improperly shooting nets near other vessels when drifting.
- (v) Anchoring nets on a drift net fishing ground.
- (vi) Making fast to another boat's gear.
- (vii) Failure of trawlers to keep clear of drifters and long liners.
- (viii) Cutting entangled nets without mutual consent or necessity.
- (ix) Cutting entangled long lines without necessity.
- (x) Neglecting to rejoin long lines cut by necessity.
- (xi) Lifting gear, the property of others.
- (xii) Using an instrument for cutting or destroying nets or having such an instrument on board.
- (xiii) Failing to hand over gear salvaged.
- (xiv) Failing to observe the Collision Regulations. This applies to Icelandic and Faroese waters only.
- (xv) In English Channel only. Fishing for oysters or carrying oyster dredgers between 16th June and 31st August. This applies also to French fishing vessels.
- (xvi) Not conforming to the international rules for lights at sea.
- (xvii) Discharging fire arms.
- (xviii) Throwing missiles.
- (xix) Using threatening language.
- (xx) Fighting or brawling.

And with regard to British vessels only:—

- (xxi) Being improperly marked, or gear being improperly marked.
- (xxii) Not having Certificate of Registry on board.

And with regard to foreign vessels only:—

- (xxiii) Fishing within British exclusive fishery limits.
- (xxiv) Entering British exclusive fishery limits for a purpose not recognised by International Law.

It is also an offence in the British Isles to manufacture, sell or expose for sale, any instrument serving only or intended to damage or destroy fishing implements.

\* \* \* \* \*

7. Powers of British Sea Fishery Officers under the Sea Fisheries Act, 1883.—A British Sea Fishery Officer may for the purpose of dealing with offences specified in paragraph 5, exercise the following powers over all fishing vessels inside British exclusive fishery limits and British fishing vessels anywhere.

He may—

- (i) Board any sea fishing boat.
- (ii) Require the production of official papers.
- (iii) Muster the crew.
- (iv) Require information of the Master.
- (v) Examine her gear.
- (vi) Seize illegal instruments.
- (vii) Hold inquiries on oath.
- (viii)\*Take an offending boat into any convenient port and detain her.

\* An opinion has been given by the Scottish Law Officers of the Crown that fishing gear can be detained and the vessel released. This opinion is being acted on in Scotland.

Foreign fishing vessels observed fishing within the exclusive fishery limits may be pursued and arrested outside such limits, and taken to a British port for prosecution, provided that the pursuit is continuous and undertaken immediately on the commission of the offence.

\* \* \* \* \*

#### Chapter VI.

1. *Arrest and Bringing into Port.*—A foreign vessel found fishing within British territorial waters should be seized and brought into the nearest suitable port, preferably one where there is an agent of the Solicitor to the Board of Trade.

2. *Information to Customs, etc.*—The Commander should at once inform the nearest Collector or Principal Officer of Customs and Excise, and if the Solicitor to the Board of Trade has a duly appointed agent, that officer also. (*See list in Appendix O.*) The Collector or Principal Officer will telegraph the particulars to the Board of Trade, who will give the necessary instructions to their Solicitor. The Solicitor will instruct his agent for the purpose of the proceedings.

6. The distribution of the Sea Fisheries Manual, 1926, is being extended to:—

Commanders-in-Chief, Home Ports.

Vice-Admiral Commanding Reserve Fleet.

Commander-in-Chief and Flag Officers of Atlantic Fleet.

Commodore and Captains (D), Atlantic Fleet Flotillas.

Ships of 2nd and 3rd Battle Squadrons, Battle Cruiser Squadron, 2nd Cruiser Squadron, "Adventure," "Furious."

H.M. Ships "Tiger," "Maidstone," "Alecto," "Adamant," "Fermoy" and "Ross."

2305. } —*Issued Confidentially.*  
2306. }

### 2327.—Removal of Electrical Apparatus from Ships in Reserve —Preservation of Cables.

*Dockyards.*

(G. 12823/27.—9.9.1927.)

Where any piece of electrical apparatus is removed and may be replaced at a later date in ships in reserve, the ends of the cables from which the apparatus has been disconnected are to be protected from damage and dampness, in order that the apparatus may be replaced quickly in its original position if required. The disconnection of the cores from the terminals and the withdrawal of cables from glands should be carefully done without damage to the cables. A label giving full particulars of the circuit and connections should be affixed to the exposed cores, and the whole rendered safe from deterioration by protective tape. The tape should be finally painted over and the cable ends securely lashed to prevent movement which might injure the external sheathing of the cable.

### \*2335.—Half Pay for Misconduct—Warrant Officers and Officers Promoted therefrom, and Supplementary Officers, R.N.

(N.L./N.P.(1) 1776/27.—16.9.1927.)

The following procedure is to be observed in regard to half-pay of warrant officers and officers promoted from warrant rank, and supplementary officers, R.N., when placed on half-pay for misconduct:—

- (i) If dismissed a ship or establishment by sentence of Court-Martial these officers will go to half-pay from the date of sentence and remain on half-pay until they receive a definite appointment. They should be instructed to report their arrival in England (if dismissed ship abroad) and their address on half-pay to their *dépôt* or Royal Marine Division and to the Admiralty.

- (ii) If otherwise discharged from a ship or establishment abroad for misconduct, they will be placed on half-pay for a fixed period, at the end of which, if not appointed elsewhere, they should join their depôt or Royal Marine Division on full pay for disposal. They should inform the Admiralty and their depôt or Royal Marine Division of their arrival in England (if discharged from a ship abroad) and of their address on half-pay.
- (iii) In the case of a Court-Martial, the full facts will be communicated to the Admiralty in the Court-Martial proceedings. In other cases a full report of the misconduct will be sent to the Admiralty.

In addition, in all cases, the officer's depôt should be informed direct of the fact of any form of discharge for misconduct, in order that the question of the duration of half-pay may be ascertained and that a fresh appointment to routine or other duty may not be made at the depôts pending due authority. This information should therefore reach the depôt at least as soon as the officer is likely to reach his depôt.

### 2345.—Cordite—Method of Recording Lots of Cordite on Board, and their Expenditure.

*Gunnery School Firing Ships.*

(G. 8337/27.—16.9.1927.)

In order to reduce the amount of clerical work of the Explosives Accounting Officers in Gunnery School firing ships and at the same time to ensure that a check is kept on the dates by which the various lots of cordite supplied to them are expended, the following procedure is to be carried out in future:—

- (i) On the completion of each week's firing, Commanding Officers of Gunnery School's firing ships are to inform the Armament Supply Officers concerned by signal or otherwise of the lots of cordite completely expended during the week's firings.
- (ii) The lot numbers of all lots of cordite remaining on board on the date of closing the magazine log are to be noted on the relevant page of the log.
- (iii) If the final expenditure of a lot of cordite has not been reported to the Armament Supply Officer by the date on which it is due to be finally withdrawn, the Armament Supply Officer concerned is to call the attention of the Commanding Officer to this fact.

### 2347.—Small Scale Drawings—Supply to Ships under Construction.

(S. 04717/27.—16.9.1927.)

In future,  $\frac{1}{8}$  in. scale drawings will be issued on loan to officers appointed to ships under construction, the drawings being additional to the small scale "as fitted" drawings already supplied on the completion of the ship. These small scale prints will be issued as follows, and application for supply is to be made by the officers concerned through the proper channels to the Director of Naval Construction, Admiralty, viz. :—

	<i>Set.</i>						
Captain ... ..	...	...	...	...	...	...	1
Commander ... ..	...	...	...	...	...	...	1
Engineer Officer ... ..	...	...	...	...	...	...	1
Shipwright Officer ... ..	...	...	...	...	...	...	1

The drawings are to be returned to Director of Naval Construction on completion of the ship. The issue of these drawings to the officers mentioned is for the purpose of facilitating the performance of their duties, and is not to be regarded as an invitation to make proposals for altering details already settled and worked to by the shipbuilder.

### 2348.—Submarine Main Batteries—Omission of Float Indicator and Vent Inlet Fittings.

(D. 11549/27.—16.9.1927.)

In future, the float indicator, float bush and vent inlet fittings, which are supplied with certain types of cells, are only to be used for cells which are operated under the PIPE ventilation system.

These fittings are to be omitted from existing batteries, which are operated under the OPEN ventilation system, as soon as a suitable opportunity occurs; the holes in the cell covers for these fittings should be closed by means of ebonite or Lorival plugs which should be effectively sealed to the covers in order to prevent leakage of acid. The necessary work should be carried out by the ship's staff.

### 2354.—New Commutator Type Ten-Minute Transmitters for Gyro Compasses—Adoption.

(N.S. 6914/27.—16.9.1927.)

Consequent on the trials carried out with the new commutator type ten-minute transmitter, it has been approved to adopt this type of transmitter for use with gyro compasses fitted with one only, in lieu of the present 10-minute cam type, Pattern 1501.

2. Supplies of the new type transmitter will not, however, be made until the present cam type transmitters in use are worn out and incapable of repair, and until the existing stock of transmitters is exhausted. Further purchases will be of the new commutator type and the articles will be added to the Rate Book of Naval Stores in due course under Pattern number 1504.

3. The following instructions in regard to fitting the Pattern 1504 transmitters are issued for information and guidance:—

- (i) In this transmitter there is no adjustment for the meshing of the driving pinion with the azimuth gear wheel.
- (ii) Remove (a) Ten-minute transmitter, complete with leads.  
(b) The counter balance weight for the transmitter.
- (iii) Fit the commutator type transmitter and its counter weight.
- (iv) Connect the leads to the after terminal blocks.

N.B.—The lead from the solid ring in the transmitter is No. 4, the others are numbered 1, 2 and 3.

- (v) Check the outer number compound balances and adjust if necessary.

(A.F.O. 2020/28.)

### 2358.—Fendering between Bulged Ships and Auxiliary Vessels— REPORTS.

(N.S. 8904/27.—16.9.1927.)

The problem of fendering bulged ships with a view to preventing damage by or to auxiliary vessels, including oilers, when lying alongside, has been under consideration, and the provision of suitable fenders is regarded as essential for the purpose of fuelling and transfer of stores from all kinds of supply vessels.

2. The reports from the Commanding Officers of all bulged warships and aircraft carriers indicated that if floating fenders were provided, a type similar to that carried in "Repulse," while possessing certain disadvantages, was considered generally to be the most suitable for adoption, but in a number of ships, particularly "Royal Sovereign" class, hazel rod fenders had proved satisfactory in calm weather.

3. While the difficulties of stowing large wooden fenders in modern warships and of using them in a swell are recognised, their use is considered to be not impracticable in view of experience on certain vessels, and they are absolutely necessary for aircraft carriers on account of the overhang of the flying deck.

4. The following remarks embody the conclusions which have been arrived at:—

(i) As the problem varies for each class of ship according to the shape of the bulge and hull, the overhang of decks, and other conditions, no uniform method applicable to all bulged ships is practicable.

(ii) It has been found possible to classify the various bulged ships roughly into two groups, and to arrange for fenders of two standard types as follows:—

(a) Vessels with bulges of considerable projection or overhang of decks—including aircraft carriers—for which catamaran fenders, as already used in several vessels, are most suitable.

(b) Vessels with moderately projecting bulges—for which hazel rod fenders made up in banks, and weighted as necessary to sink them to the required position are most suitable (i.e., a development of the method already in use in some ships of the “Royal Sovereign” class).

The standard types of fenders which are therefore to be carried by the various bulged ships are as follows, being indicated on the sketches (E.F.O. 93/27 (1)–(11)):

(a)—*Catamarans, of type similar to that carried in “Repulse.”*

Ship.	No. of fenders per ship.	Approx. size of each fender.	Approx. weight of each fender.	Remarks.
“Queen Elizabeth” class (as bulged).	2	ft. ft. ft. 12 × 6½ × 2	tons. 2·1	As in sketch E.F.O. 93/27 (1)
“Hood” ... ..	2	12 × 9 × 2	3·0	“ ” (2)
“Courageous” and “Glorious.”	2	12 × 10½ × 2	3·4	“ ” (3)
“Renown” ... ..	2	12 × 8 × 2	2·6	“ ” (4) As already carried, see note (a).
“Repulse” ... ..	2	12 × 9 × 2	3·0	Do. do.
“Furious” ... ..	2	12 × 10½ × 2	3·4	As in sketch (5). As already carried, see note (b).
“Eagle” ... ..	2	12 × 11 × 2	3·6	As in sketch (6), see note (b).
“Hermes” ... ..	2	15 × 16 × 2 (mean)	6·4	As in sketch (7), see note (b).

(b)—*Hazel Rod Fenders, made up in banks of eight hazel rod fenders as shown in sketches, and weighted as necessary to sink them to the required position.*

Ship.	No. of banks per ship.	Remarks.
“Royal Sovereign” class ... ..	2	As in sketch (8).
“Hawkins” class ... ..	2	“ ” (9).
“Kent” class ... ..	2	“ ” (10).
“Adventure” ... ..	2	“ ” (11).

Note (a).—Sketch E.F.O. 93/27 (4) shows the fenders already carried by “Renown” and “Repulse” slightly increased in size to give what are considered to be more satisfactory clearances than those given by the existing fenders.



*Note (b).*—"Furious," "Eagle" and "Hermes" are already supplied with catamaran fenders which have not been found satisfactory, and the shape and size of suitable fenders for these aircraft carriers must be considered specially for each ship. Sketches E.F.O. 93/27 (5), (6) and (7) show such fenders, which would give the minimum satisfactory clearances. The proposed fenders for "Furious" are only suitable if the pad pieces on the ship which have been approved, but deferred pending decision on the fendering question, are fitted. For "Eagle," pad pieces on the ship are also considered desirable, but would be of much smaller size than those in "Furious."

(iii) According to present information, the construction of new or modification of existing catamaran fenders will be necessary to the following extent:—

Ship.	No. of fenders.	Remarks.
"Queen Elizabeth" class (when bulged).	10	} New fenders.
"Hood" ... ..	2	
"Courageous" and "Glorious"	4	
"Repulse" ... ..	2	} Alterations to existing fenders for "Repulse" (sketch (4)) and for "Renown."
"Renown" ... ..	2	
"Furious" ... ..	2	} Alterations to existing fenders and fitting of pad pieces on ship's side as in sketch (5).
"Eagle" ... ..	2	
"Hermes" ... ..	2	} New fenders.

(iv) This work is to be carried out by H.M. dockyards, and estimates from the vessel's storing yards should be submitted for approval at the first convenient opportunity.

It is essential that these fenders should be as light as possible consistent with the necessary strength, in order that they may be handled by the ship's lifting appliances.

(v) Catamaran fenders are in future to be dealt with as permanent sea stores, and any fenders of this type already in use should be transferred to that heading.

(vi) The banks of hazel rod fenders to be used by certain ships are to be made up on board from fenders drawn as consumable stores. The value of the hazel rod fenders and other materials used for this purpose is to be specially reported on the return S.1095a.

(vii) As far as fuelling is concerned with ships not under way, oiling alongside with suitable fenders in position is to be regarded as the main system of fuelling; where this cannot be safely done, e.g., in a swell or other conditions which render it dangerous for the oiler to come alongside, it has been found feasible to take in fuel from an oiler laying astern. This should only be adopted as a secondary method.

(viii) The special difficulties likely to arise from small craft such as lighters laying alongside have been considered, but no special provision for this purpose appears necessary. In most cases, one or more banks of hazel rod fenders will provide sufficient protection, but where catamaran fenders are provided, it may not be necessary to supplement them.

The small wooden fenders carried in H.M.S. "Revenge" for this purpose may continue to be used till worn out, but will not be replaced.

(ix) The Commanding Officers of the various bulged ships to which these fenders are to be supplied for the first time should report as to their suitability and efficiency when sufficient experience of their use has been gained.

### 2370.—Articles supplied by Contract—Work carried out by Dockyards to make Serviceable.

(D. 12984/27.—16.9.1927.)

A case has recently occurred in which certain articles supplied by a contractor to a dockyard were rejected on receipt as not satisfying contract conditions. The contractor then asked that the articles might be made serviceable at his cost, and this was done. When the claim was presented to the contractor for payment, he demurred, stating that he had been under the impression that the cost of the alterations would be slight, and not, as was found, greater than the first cost of the articles.

2. In future cases where a contractor requests a dockyard to make articles supplied by him serviceable, the contractor should be informed of the estimated cost of the work involved and his concurrence obtained in the work being proceeded with on this basis.

3. If, in any case, an alternative method of performing such work to that laid down in Admiralty Orders will lessen the cost of the alteration, Admiralty instructions in the matter should be sought.

### \*2379.—Vessels Returning to England to Refit—Leave.

(M. 3176/27.—23.9.1927.)

It has been decided that the following rules shall govern the leave which may be given to officers and men when vessels belonging to foreign stations return to England to refit and/or recommission.

2. *Ratings who will continue to serve in the ship on return to her station:—*

- (a) If the vessel returns home to refit only: such men may receive special leave up to a maximum of ten days during the refit. This special leave will not be deducted from foreign service leave.
- (b) If the vessel is ordered to recommission as well as refit while she is in England: ratings continuing in the ship are to receive ten days' special leave, and in addition are to take as much of the foreign service leave due to them as is possible in the time available. A notation should be placed with each man's Service Certificate of any foreign service leave taken under the provisions of this Order.
- (c) Ships returning to England to recommission only will not normally grant leave to ratings who are recommissioning for further service in the ship, beyond any periods of 48 hours which the exigencies of the Service may permit. Special extensions may, however, be granted at discretion to such ratings whose homes are 8 hours' travelling distance or more from the port.
- (d) Men who leave the vessel before she again proceeds abroad and men who newly join the vessel during her stay in England are ineligible for any leave under the terms of this Order. Such men will normally be given foreign service leave or drafting leave respectively by their depôts.

3. *Officers who will continue to serve in the ship on return to her foreign station:—*

- (a) When ships return home to refit, or refit and recommission: leave may be granted to officers continuing in the ship up to a maximum of ten days without deduction from foreign service leave. This privilege will not be granted when ships return to recommission only.
- (b) Any excess of leave over ten days taken by such officers when ships return to refit or refit and recommission, and any leave taken by such officers when ships return to recommission only will, after deduction of leave earned on the home service scale while the vessel is at home, be deducted from the foreign service leave due to the officer on relinquishing his appointment.
- (c) Officers will in no circumstances be entitled to carry forward any balance of leave on the home service scale which they may have been unable to take during the period in England.
- (d) All grants of leave to officers in accordance with this Order should be reported to the Admiralty. Article 1556, King's Regulations and Admiralty Instructions, Clause 15 (b) and 16 (c) will be amended accordingly in due course.

4. The departure of a ship from England for her station is never to be delayed for the purpose of giving leave under this Order.

**2380.**—*Issued Confidentially.*

**2382.**—**Applications from Officers attached to the Royal Air Force from the R.N. or R.M.**

(C.W. 8736/27.—23.9.1927.)

Any application for the termination of their attachment from officers attached to the Royal Air Force from the Royal Navy or the Royal Marines and serving in a unit embarked in a carrier should be made to the Senior Air Force Officer of the carrier, who will forward them with his remarks to the Commanding Officer of the ship. The latter will forward the applications to the Naval Commander-in-Chief, for transmission to the Admiralty, and at the same time send a duplicate to the appropriate Air or other Officer Commanding, for transmission to the Air Ministry.

**2385.**—*Issued Confidentially.*

**\*2387.**—**Quarry House, St. Leonards-on-Sea—Assistance to Ratings without Resources on Discharge.**

(N. 3079.—23.9.1927.)

The attention of Their Lordships has been drawn to the facilities offered by Quarry House, St. Leonards-on-Sea, to men and boys who are invalided from the Service or discharged on other than disciplinary grounds, who are without any pension or resources of their own, and whose friends are not in a position to help them.

2. Such ratings are recommended to write to the Warden, Quarry House, St. Leonards-on-Sea, and to state their case *before actual discharge*, and if possible, in the case of invalids, as soon as survey has been ordered. A written recommendation from an officer or other responsible person will be of value, but men should not for this purpose delay getting into touch with Quarry House.

3. Quarry House is not an employment agency, but offers assistance, advice, and accommodation on cheap and fair terms while discharged ratings are looking for employment.

4. Arrangements have been made for a leaflet on the subject to be distributed to ratings invalided in home waters.

**2395.**—*Issued Confidentially.*

**2397.**—**Q.F., 2 pdr., Sub-calibre, B.L., 4 in., Mark IX-IX\*\*\*, and 4·7 in., Mark I-I\*, Guns, L.A., Mark I—Fitting E.M. Firing Gear.**

(G. 12628/27.—23.9.1927.)

Instruction Print N.O.D. 2157/42, to guide modification to breech mechanisms of Q.F., 2 pdr., sub-calibre, B.L., 4 in., Mark IX-IX\*\*\*, and 4·7 in., Mark I-I\*, guns, L.A., Mark I, to suit electro-mechanical firing gear will be distributed to Naval Armament Depôts at an early date.

2. The work will be carried out by Naval Armament Depot staff to guns in store and on board H.M. ships at the first opportunity, in accordance with the above-mentioned instruction print and drawings N.O.D. 2157/41 and /44, copies of which will be forwarded.

3. An intermediate demand should be forwarded by Armament Supply Officers for the sets of electro-mechanical firing gear required.

(A.F.O. 2167/28.)

**2398.**—**Gun Mountings, 4 in. H.A., Marks III and IV—Gear, Firing—Lever, Actuating, Front.**

(G. 6005/27.—23.9.1927.)

The sketch (E.F.O. 97/27) shows a strengthened design of lever for the firing gear for the 4 in. H.A. III and IV mountings.

2. The existing design of lever has been fitted to all 4 in. H.A. III mountings and to 4 in. H.A. IV mountings, Reg. Nos. 1 to 19.

3. The strengthened design of lever will be fitted to 4 in. H.A. IV mountings, Reg. Nos. 20 and above, and is to be adopted in all cases where replacement is necessary.

### 2402.—Gyro-Compass Repeaters—Responsibility for Testing.

(C. D. 29/27.—23.9.1927.)

In order to avoid overlapping between departments in testing gyro-compass installations in new construction and after refits, it has been decided provisionally that the Director Compass Department shall be responsible for testing all repeat instruments operated by the master compasses. These repeating instruments comprise:—

- (a) The simple gyro-compass repeaters (two-minute and ten-minute), *i.e.*, those not forming a component part on any other instrument.
- (b) Gyro bearing indicators, torpedo range finding bearing indicators and similar instruments incorporating a compass dial operated by the master compass.
- (c) Other gear incorporating a step-by-step motor operated by the master compass.

2. In regard to (b) and (c) above, the Director Compass Department will be responsible for the correct operation of the gear only in so far as the follow-up of the compass dial or step-by-step motor is concerned.

### 2405.—Petrol and Paraffin—Stowage.

*Leaders and Destroyers.*

(D. 9984/27.—23.9.1927.)

It has now been approved that the arrangements for the stowage of petrol and paraffin in leaders and destroyers should be standardised as much as practicable, although it is realised that owing to limited deck space it may be necessary to fit different sizes of racks in different positions.

2. A sketch No. 454581, showing details of a rack which should be adopted where possible, has been approved for these vessels, and has been circulated to all dockyards for information and general guidance when fitting racks.

3. The racks should be fitted on the weather deck, remote from all fan intakes and electric motors or other sources of ignition.

4. A saveall is to be fitted under the rack if fitted upon or adjacent to inflammable deck coverings.

5. Alterations are not to be made to any existing stowages unless they are not fitted generally in accordance with paragraphs 3 and 4 above, or are unsatisfactory in any other way, in which case an item is to be included in the next list of alterations and additions.

### 2412.—Paravane Fittings for H.S.M.S. and H.S.S.S.— Particulars of Stocks held—REPORTS.

(N.S. 487/25.—23.9.1927.)

The accompanying lists showing particulars of paravane fittings for H.S.M.S. and H.S.S.S. on charge at the yards, etc., named, are promulgated for information.

2. It is under consideration to dispose of the whole of the paravane steam winches on charge, with the exception of the following possible requirements for surveying vessels and the winches laid apart on deposit for definite services:—

<i>Surveying Vessel.</i>	<i>Description.</i>	<i>No. to be Retained.</i>	<i>Where to be Retained.</i>
"Kellett" ...	Paravane winches ...	2	Portsmouth.
"Fitzroy" ...	Similar to destroyers	2	Portsmouth.
"Beaufort" ...	H.S.M.S. type ...	2	Devonport.
"Protea" ...	" " ...	2	Devonport.
"Iroquois" ...	" " ...	3	Portsmouth.
"Herald" ...	" " ...	3	Devonport.
"Ormonde" ...	" " ...	3	Devonport.
"Endeavour" ...	" " ...	3	Portsmouth.
"Moresby" ...	" " ...	3	Portsmouth.
To be retained as spares ...	... ..	3	Devonport.
<b>Total</b> ...	... ..	<b>26</b>	

3. The winches proposed to be disposed of should be reported on D.68, but no arrangements made for actual disposal pending approval, and reports should be furnished showing the winches being retained for surveying vessels, and those laid apart for definite services.

4. All electrical items for H.S.S.S. are obsolete and should be reported on Form D.68 for disposal, including those allocated as spares for winches, which are being retained for surveying and other special services. Such items should not be brought to account pending Admiralty approval.

5. If not already arranged, items marked \* should be transferred to main ledger for general utilisation.

6. In the event of discrepancies between quantities shown herein and those actually held, due to transactions having taken place, etc., reports should be forwarded showing correct figures, in order that amendments may be promulgated in due course.

PARAVANE FITTINGS FOR H.S.M.S. AND H.S.S.S.—STOCKS.

Description.	Denomination.	Chatham.	Sheerness.	Portsmouth.	Devonport.	Malta.	Remarks.
<i>On Vote 8 II B2E Charge.</i>							
Rotary davit, left-handed control, with pair of 18 in. tongs ... ..	No.	-	-	-	1	-	Enquiries to be made whether required for "Assistance," "Titania" or "Ambrose" before arranging for disposal, vide Admiralty letter, 27.9.26, N.S. 487/25/20296.
Paravane fairleads ... ..	"	-	-	-	2	-	
Davits for paravane ... ..	"	2	-	-	-	-	Transferred from Rosyth, vide Admiralty letter, 23.3.26, N.S. 4158/26/6370.
<i>On Vote 8 II B3 Charge.</i>							
Jig and tool for rotary davit ... ..	Set.	-	-	1	-	-	†6 of these in custody of M.E.D. for:— 1 "Vancouver." 2 "Sable."* 1 "Aubretia."* 1 "Vectis." 1 "P.C. 72."*
Roller fairleads:—							
Stern ... ..	No.	-	-	122	-	3	
Starboard ... ..	"	-	-	85	-	-	
Port ... ..	"	-	-	85	-	-	
Davit for tadpole ... ..	"	1	-	-	-	-	
Rotary davits ... ..	"	30R	-	18† 34R	-	23 21R	

R—Repairable stock.

PARAVANE FITTINGS FOR H.S.M.S. AND H.S.S.S.—STOCKS—*continued.*

Description.	Denomination.	Chatham.	Sheerness.	Portsmouth.	Devonport.	Malta.	Remarks.
Dropping davits, 18½ in. jaws ... ..	No.	-	5	-	-	-	
Rotary davits, guards for :—							
Outer... ..	"	-	-	50	-	-	
Inner... ..	"	-	-	50	-	-	
Paravane davits, Z.R.T. type ... ..	"	-	-	-	1R	-	Transferred from Pembroke. To be retained at Devonport for probable requirements of new two-speed sweep for destroyers, <i>vide</i> Admiralty letter, 4.10.26, N.S. 12512/26/20670.
Rotary dropping davits, Z.R.T. type, 14 in. jaws	"	-	-	-	2R	-	
<i>On Vote 8 II B8 Charge.</i>							
Roller fairleads :—							
Patt. 7843 :—							
Port ... ..	"	-	2	-	-	-	
Starboard ... ..	"	-	2	-	-	-	
Patt. 7845 ... ..	"	-	1	-	-	-	
<i>On Vote 8 II B12 Charge.</i>							
Extension lengths ... ..	"	-	-	-	-	53‡	‡ Deficient of Patt. 2155 shackles.
Guy gallows, complete ...	"	-	-	-	-	15	
<i>On Vote 8 II D4 Charge.</i>							
Canvas covers ... ..	"	-	-	-	-	4	
<i>On Vote 8 II E13 Charge.</i>							
Stowing chocks, wood ...	"	-	4	-	-	-	
Runners for deck tackle... Sets.	"	-	-	1	-	-	
<i>On Vote 8 III Machinery Charge.</i>							
Winches, steam :—							
Starboard ... ..	No.	9R	-	†6 46	} 60	} 21 20	†6 on charge in custody of M.E.D. at Haslar for :— 1 "Vancouver." 1 "Vortigern." 2 "Royalist." 2 "Rocket."
Port ... ..	"	11R	1R	63			
Without drums ... ..	"	-	-	-	33	-	

R—Repairable stock.

## PARAVANE FITTINGS FOR H.S.M.S. AND H.S.S.S.—STOCKS—continued.

Description.	Denomination.	Chatham.	Sheerness.	Portsmouth.	Devonport.	Malta.	Remarks.
Spare gear for paravane winches :—							
<i>Ex</i> "Unknown" ...	Sets.	—	—	—	—	1	
<i>Ex</i> "Fury" ...	"	—	—	—	—	1	
<i>Ex</i> "Lizard" ...	"	—	—	—	—	1	
<i>Ex</i> "Hydra" ...	"	—	—	—	—	1	
For winches Nos. 443 and 608 ...	"	—	—	—	—	2	
Angle brackets with bolts and nuts ...	"	—	—	—	—	12	
Spare parts for steam winches :—							
Piston rods and cross-heads complete ...	No.	2	—	—	—	—	
Valve rods ...	"	2	—	—	—	—	
Eccentric rods and straps ...	"	4	—	—	—	—	
Piston rings ...	"	4	—	—	—	—	
Differential valve rings ...	"	4	—	—	—	—	
Crankhead bolts ...	"	2	—	—	—	—	
M.B. brasses ...	Prs.	2	—	—	—	—	
Crankhead brasses ...	"	2	—	—	—	—	
Bolts for ...	No.	2	—	—	—	—	
Crankshaft ...	"	1					Journals in rather bad condition considered to be worth repair.
Driving shaft ...	"	1					
Drum shaft ...	"	1					
Pistons and rods ...	"	2					One rod in bad condition considered to be worth repair.
Connecting rods ...	"	2	—	—	—	—	
Slide valves ...	"	2					In rather bad condition, considered to be worth repair.
Valve rod ...	"	1					
Main bearing and driving shafts, bearings and brackets...	"	4	—	—	—	—	
Guides ...	Sets.	2	—	—	—	—	
Brake screw and band	No.	1	—	—	—	—	
Pawl ...	"	1	—	—	—	—	
Differential valve chest ...	"	1					In bad condition, considered to be worth repair.
Steam stop valve ...	"	1	—	—	—	—	
Spare gear for P.V. winches :—							
<i>Ex</i> "Constance" ...	Sets.	—	—	—	2	—	Transferred from Rosyth.
<i>Ex</i> "Cambrian" ...	"	—	—	—	1	—	
<i>Ex</i> "Vesper" ...	"	—	—	1	—	—	
<i>Ex</i> "Leith" ...	"	—	—	—	1	—	
<i>Ex</i> "Inconstant" ...	"	—	—	—	1	—	

PARAVANE FITTINGS FOR H.S.M.S. AND H.S.S.S.—STOCKS—*continued.*

Description.	Denomination.	Chatham.	Sheerness.	Portsmouth.	Devonport.	Malta.	Remarks.
<i>On Deposit Charge.</i>							<i>On Deposit for :—</i>
Dropping tackle for tadpole ... ..	Sets.	-	-	3	-	-	"Redoubt."* "Thruster." "Rocket."*
Tadpole towing arrangements ... ..	"	-	-	2	-	-	"Redoubt."* "Thruster."
Securing wires for dropping davits ... ..	"	-	-	3	-	-	"Redoubt."* "Thruster." "Rocket."*
Runner and deck tackles	"	-	-	3	-	-	"Redoubt."* "Thruster." "Rocket."*
Guys for tadpole tackles...	"	-	-	3	-	-	"Redoubt."* "Thruster." "Rocket."*
Covers, canvas, for paravanes ... ..	No.	-	-	8	-	-	2 No. each for :— "Redoubt."* "Rocket."* "Relentless."* "Tyrant."
Winches, steam ... ..	"	-	-	-	4	-	2 No. each for :— "Watchman." "Walker."

*At Port Edgar on Deposit for "Radstock." To be returned to Rosyth and taken on Main Ledger Charge.*

Tadpole towing arrangements—1 set.  
 Securing wires for dropping davits—4 No.  
 Runners and deck tackles—2 sets.  
 Guys for tadpole davits—2 No.  
 Straps for lifting type "C" paravanes—2 No.

### 2437.—Welded Cylinders for Acetylene Gas.

(N.S. 11531/27.—23.9.1927.)

The instructions in regard to the disposal of stocks of welded acetylene gas cylinders, do not apply to cylinders employed exclusively for marine lighting, and welded cylinders used for this purpose should not be disposed of.

2. All cylinders for marine lighting of the A.130 type are welded cylinders.

(C 18807)

R



## 2441.—Fleet Air Arm—Training of Flights, Responsibility for, and Returns of Practices.

(C.W. 3739.—30.9.1927.)

The following arrangements in regard to the training of Fleet Air Arm Flights have been made and are promulgated for guidance:—

### 2. *Training.*

- (a) Fleet Air Arm Flights will be trained in accordance with the syllabus of instruction issued from time to time by the Admiralty, after consultation with the Air Ministry.
- (b) The responsibility for the training of embarked Flights and single aircraft, which are under the Naval Discipline Act, rests with the Commanding Officer of the Carrier or other H.M. Ship concerned, who is responsible to the Commander-in-Chief.
- (c) The responsibility for the training of disembarked Flights, which are under the Air Force Act, rests with the Air Officer Commanding, Coastal Area, the Air Officer Commanding, Royal Air Force, Mediterranean, or other appropriate R.A.F. authority, who will be responsible that the type of training required by the Commander-in-Chief is carried out.
- (d) The responsibility for the training of Flights and aircraft disembarked for less than 14 days and remaining under Naval Discipline rests with the Commanding Officer of the Carrier or other H.M. Ship concerned, who will make arrangements for their exercises direct with the Officer Commanding the Air Station, with the concurrence of the Commander-in-Chief and Air Officer Commanding, Coastal Area, or the Air Officer Commanding Royal Air Force, Mediterranean, or other appropriate R.A.F. authority.

### 3. *Returns.*

#### (a) *From embarked Flights.*

To be rendered in duplicate by the Commanding Officer of the Carrier or other H.M. Ship concerned to the Commander-in-Chief or Senior Officer of the Station, who will transmit one copy to the Admiralty and one to the Air Officer Commanding, Coastal Area, Air Officer Commanding, Royal Air Force, Mediterranean, or other appropriate Royal Air Force authority.

#### (b) *From disembarked Flights.*

To be rendered in triplicate through Royal Air Force channels, to the Air Officer Commanding, Coastal Area, Air Officer Commanding, Royal Air Force, Mediterranean, or other appropriate Royal Air Force authority, who will transmit one copy to the Commander-in-Chief or Senior Officer of the Station for transmission to the Admiralty, the third copy being sent to the Commanding Officer of the Carrier or other H.M. Ship concerned.

- (c) *From Flights disembarked for less than 14 days* (i.e., remaining under the Naval Discipline Act) to be rendered as for embarked flights.

4. A Flight disembarking to or embarking from an Air Station is to be accompanied by a statement of exercises carried out since last return rendered, addressed to the Officer Commanding the Air Station or Commanding Officer of the Carrier.

5. Consequent upon the introduction of Forms S.1156-8, the use of R.A.F. Form 1057 is no longer required, and the rendering of this form should be discontinued.

## 2444.—Commanders' Air Course—Details and Syllabus.

(C.W. 3739.—30.9.1927.)

With the view to assisting the permeation of the higher ranks of the Navy with some knowledge of air matters, and in particular of the general organization, training, capabilities and limitations of air units, arrangements have been made with the Air Ministry for a few Naval Officers of the rank of Commander to be lent now to the Royal Air Force for a short period of service with Air Force Units at home, in order to obtain practical experience of the work of the Air Arm in all its various aspects.

This system will be of a comparatively temporary nature and will cease as soon as Naval Officers, either observers or those trained under Article 335, King's Regulations and Admiralty Instructions, attain to the higher ranks of the Navy.

2. The period of loan to the Air Force will be determined by the Admiralty in each case, but will normally not exceed six months, and will usually include at its commencement a course of elementary flying instruction of not more than three months' duration, which will be carried out at a R.A.F. flying training school.

3. Officers so lent will receive full pay and allowances at Naval rates, together with an additional allowance of 6s. for each day on which they are actually required to fly. They will, during the period of loan, retain their Naval rank and status and continue to wear Naval uniform, and their service will be considered as good service towards promotion, although it will not be regarded as service in a ship of war at sea for the purposes of qualifying for promotion under Article 259 of the King's Regulations and Admiralty Instructions.

4. Arrangements have been concluded with the Air Ministry by which the Officers selected for these courses will undergo a course of elementary flying instruction of three months' duration at the R.A.F. Central Flying School, on completion of which they will be attached to the Coastal Area for a further period of three months.

5. The training during each of these periods respectively will be regulated by the syllabus contained in Appendix A and Appendix B to this Order.

6. As the Officers concerned will not qualify on service type machines or be employed as pilots, their physical standard need not attain that laid down, namely fitness for full flying and ground duties, but they will be accepted if they are fit to perform limited flying duties and home service ground duties, the standard of physical efficiency required for the latter category being lower than the former, although the visual acuity and judgment required is the same.

### APPENDIX A.

#### SYLLABUS OF INSTRUCTION FOR COMMANDERS, R.N., WHILST AT THE CENTRAL FLYING SCHOOL.

Duration of Course—3 months.

1. *Instruction in flying Avros.*—Officers will complete Category D tests on Avros if possible.

2. *Instruction in Theory of Flight.*—It will not be necessary to go deeply into this subject since Officers can study the theory of flight in their own time. Lectures covering sections 14 to 50 of Flying Training Manual, Vol. I, will, however, be arranged.

3. *Instruction in Rigging.*—Officers will be taught how to true up an aeroplane, how to correct faults in rigging, what particular parts of an aeroplane require examination after a heavy landing, renewal of controls and where to look for fray; and inspection and maintenance of aeroplanes so far as rigging is concerned.

4. *Instruction in Engines.*—The aim of this instruction will be to give Officers a general and not a detailed knowledge of any stationary engine with which the Central Flying School is equipped. Such points as the ignition system, petrol and oil supply, starting and running, the instruments with which the modern aero engine is equipped and their uses, and the care and maintenance of aero engines as laid down in A.M.W.O. 850/24.

5. *Instruction in Airmanship.*—Instruction in the housing of aircraft, manhandling, care, and security of aircraft in the open; airscrew swinging drill.

6. *Instruction in Air Pilotage.*—The aim of this instruction will be to acquaint Officers with the various types of aircraft compasses in use in aircraft, how aircraft are swung for deviation, methods of determining the drift and the force and direction of wind whilst in flight, and the various instruments used in Air Pilotage.

If there is sufficient time, tactical problems on the lines of sections 47 and 48, Flying Training Manual, Part II, will be touched upon.

7. *Instruction in the Organization of the Royal Air Force.*—The aim of this instruction will be to give Officers a knowledge of the main lines upon which the R.A.F. is organized (i.e., areas, groups, wings, squadrons and flights), and the location of R.A.F. units at home and overseas.

## APPENDIX B.

### SYLLABUS OF INSTRUCTION OF COMMANDERS, R.N., WHILST AT GOSPORT.

Duration of Course—3 months.

1. After the 3 months' course at the Central Flying School, the Naval Officers will be attached to Gosport for a further period of 3 months.

2. During this short period it is hoped that the Officers will benefit in knowledge of flying matters, by associating with the pilots and observers both in the mess and during working hours.

3. On arrival at Gosport the Officers will first be made thoroughly acquainted with the types, duties, numbers, organization and location of the various aircraft allotted to Coastal Area for the Fleet Air Arm and Naval co-operational work, and Lectures will be given which deal with these subjects.

4. Having become acquainted with the subjects set out in paragraph 3, Officers will be attached in rotation to the various Flights at Gosport, so that they can study at first hand the organization, training and work of the flight to which they are attached.

5. During their time at Gosport Officers will visit Leuchars for fourteen days, during which time they can study the training and work of the single-seater fighter and reconnaissance aircraft at that Station. Visits will also be made to Calshot, Lee-on-Solent, School of Armament and Gunnery Eastchurch, Experimental Stations at Martlesham and Felixstowe, the Royal Aircraft Establishment, Farnborough, the Royal Air Force Cadet College, Cranwell, and to an aircraft carrier, the visits to the latter being made, if possible, when deck landing training is in progress. When visiting Calshot, arrangements should be made, if practicable, for the Officers to be given flights in floatplanes and flying boats.

## 2458.—Breech Mechanisms, 4·7 in. B.L. Guns, Mark I-I\*— Fitting Breech Safety Change-over-Contacts.

(G. 9511/27.—30.9.1927.)

Breech safety change-over-contacts are to be fitted to all 4·7 in., Mark I-I\*, B.L. guns in lieu of non-change-over pattern. The stores are on order, and a further communication will be made when supplies become available.

2. The work of fitting the contacts will be carried out on guns on board H.M. ships and in store by Naval Armament Depot Staff as opportunity arises, in accordance with Instructional Print N.O.D. 2154/7, copies of which have already been forwarded to depôts at home, and will be sent to depôts abroad shortly.

3. Intermediate demands for the articles required should be forwarded by Armament Supply Officers.

## 2461.—Ball and Roller Bearings in Electrical Machines— Lubrication.

(D. 14336/27.—30.9.1927.)

Ball or roller bearings in electrical machinery have generally been provided in the past with approved lubricators such as "Stauffer," "Tecalemit," etc. It has now been recognised, however, that such arrangements for lubrication are liable to lead to trouble due to excessive greasing, and at the same time the necessary fittings permit the access of foreign matter which is injurious to the bearings and impairs their operation.

2. As a result of extensive experience it has now become a recognised practice of many manufacturers not to fit any special lubricating arrangements, but to pack the bearings and housings with grease, and to seal the housing by means of a blank screwed plug, which can be removed for replenishment of the grease when required.

3. The fitting of blank screwed plugs instead of special lubricators is now specified for Admiralty machines, and these plugs will generally be fitted in future to machines supplied to Admiralty specification.

4. Where "Stauffer" and similar lubricators are already fitted, great care should be taken to avoid excessive greasing.

5. In cases where "Tecalemit" and similar lubricators are fitted, they should be taken to serve the purpose of the blank screwed plugs referred to above.

6. The bearings and housings when once packed with grease will require very little attention, and except in special cases or where symptoms of lack of grease are observed, they should only be repacked upon the occasion of the dismantling of the machine, or at least once a year.

## 2469.—Coal and Coke—Consumption in Shore Establishments— REPORT.

(N.S. Fuel, 4784/27.—30.9.1927.)

In connection with the continuance of the economies in coal consumption, introduced during the coal stoppage of last year, it is desirable that in all Naval shore establishments the available technical staff should be called into consultation on the use of existing appliances at all times to the best advantage.

2. An indication of the means by which considerable economy has been attained in one establishment is given below:—

- (a) Regular routine for cleaning boilers externally on the fire side, in addition to the periodical internal cleaning.
- (b) Weekly change-over of boilers, where possible, and weekly examination of all heating surfaces externally.
- (c) Maintenance in good condition of draught plates and furnace doors and external lagging.
- (d) Fitting of external lagging on coke boilers where not already done.
- (e) Recovery and return to feed tank of all exhaust steam where possible to save boilers being fed with cold water.
- (f) Periodical inspection and supervision of stokers on furnaces to ensure that the men take an interest in their work and understand the manipulation of dampers, draught plates, etc. This especially applies to large coke-fired boilers, where too much draught means big increase of fuel expenditure.
- (g) Prohibition of the use of Welsh coal and substitution of north country furnace coal except for steamboats. This renders the use of a fan unnecessary and although the actual expenditure in tons may not be reduced, the cost of the fuel is considerably lower.
- (h) A system of rationing of coal and coke as a complete check on all expenditure instituted. After a few weeks' careful supervision definite allowances fixed for open grates, etc., which could not be exceeded without permission of the Commanding Officer.
- (i) Keeping of records of the fuel issued, the number of boilers and fires in use, and the hours each is alight.
- (j) Adjustment of valves on radiators and branch circulating pipes by an experienced person to ensure equal distribution of heat throughout the building, and adoption of measures to prevent the setting of the valves being altered by unauthorised persons. This should result in a reduced consumption of coke.

3. Reports and estimates should be furnished by the respective yards, through the Commanders-in-Chief, in regard to such work as may be involved in any alterations recommended under paragraph (2) clause (e).

### **2479.—De Laval Turbo Generators fitted in "Saint" Class Tugs and "Moor" Class Salvage Vessels.**

*H.M. Dockyards concerned.*

(D. 10939/27.—30.9.1927.)

The following extracts from correspondence regarding De Laval Turbo Generators fitted in "Saint" Class tugs and "Moor" Class salvage vessels, are promulgated for the information of H.M. dockyards concerned in the refit of the classes of vessels named:—

\* \* \* \* \*

*Extract from Portsmouth Yard Letter, 22.7.27, No. 5714.*

Instructions are requested as to the maximum period the De Laval Turbo Generators, as fitted to certain "Saint" Class tugs, and "Moor" Class salvage vessels, may be permitted to run without renewal of shafts, in view of A.F.O. 2946/25, which states that the shafts of the De Laval Turbo Generators fitted in battleships are to be renewed triennially, and that each year the working shaft and wheel is to be changed to the spare, and the spare fitted for running; and A.F.O. 243/26, which directs that the shafts should be supplied (for renewal) by Admiralty direct.

In accordance with A.F.O. 2131/23, these shafts are inspected annually during refit of these vessels, and there is one spare turbo complete at Portsmouth Yard for sets as fitted in "Saint" Class tugs.

\* \* \* \* \*

*Extract from Admiralty Letter, 5.9.27, D.10939/27, address to Admiral Superintendent, Portsmouth.*

The instructions in A.F.O. 1653/27 should be followed in the case of the small type of De Laval Turbo Generators fitted in the "Saint" Class tugs and "Moor" Class salvage vessels so far as they are applicable, except:—

- (1) The alteration referred to in 1 (d) is not to be carried out.
- (2) One year's life of a shaft under ordinary steaming conditions should be taken as 2,000 running hours.

\* \* \* \* \*

### 2499.—Cartridges, Impulse, Torpedo, Filled with Cordite, and Cartridges, M.L., Depth Charge Thrower, Filled with Cordite—Testing, Withdrawal, etc.

(G. 9898/27.—7.10.1927.)

Cartridges, impulse, torpedo, filled with cordite are now being supplied to H.M. ships.

2. The cordite in these cartridges is to be dealt with in all respects (storage, testing, withdrawal, etc.) in accordance with Naval Cordite Regulations, 1922.

3. In view of paragraph 2 above, it has been decided to transfer cartridges, impulse, torpedo, filled with cordite, and cartridges, M.L., depth charge thrower, filled with cordite, from the Torpedo Gunner's Naval Armament to the Gunner's Naval Armament Stores, in order that the responsibility for the storage, testing, and withdrawal, etc., shall be placed on one officer. The transfer is to come into force on January 1st, 1928.

4. All orders issued in respect of particular lots of cordite will apply whether they are contained in cartridges for guns or cartridges, impulse, torpedo, or cartridges, M.L., depth charge thrower.

5. For the purpose of Article 95 of Naval Cordite Regulations (dealing with cartridges from which heat test samples have been taken), cartridges, impulse, torpedo, and cartridges, M.L., depth charge thrower, are to be regarded as covered by sub-paragraph (ii). The Regulations are being amended.

### 2501.—Torpedo, Mining and Electrical Drawings for Instructional Purposes—Re-organisation.

(G. 6066/25.—7.10.1927.)

Approval has been given for the instructional drawings supplied to ships to be re-organised on the following lines.

2. Some of the drawings have become obsolete and are to be deleted from the list; others will be modified on the next occasion of reprinting and new ones have been added.

3. The system of numbering has also been revised in order that each drawing may bear a different number.

4. The approved list of instructional drawings and establishment is given below:—

Old No.	Title.						New No.
	Torpedo.						
1.	21 in. warhead	...	...	...	...	...	1
2.	21 in. collision head	...	...	...	...	...	2
3.	A.W. pistol...	...	...	...	...	...	3
4.	S.F. pistol, 21 in. and 18 in., Mark IV	...	...	...	...	...	4
5.	Cold air leads	...	...	...	...	...	5
6.	Heater system, diagrammatic	...	...	...	...	...	6
7.	21 in. valve group and counter	...	...	...	...	...	7
8.	Servo-motor	...	...	...	...	...	8
9.	21 in. reducing valve	...	...	...	...	...	9
10.	Disc reducer	...	...	...	...	...	10
11.	21 in. torpedo Tappet engine—arrangement of Tappet gear...	...	...	...	...	...	11
14.	Gyro valve chest, diagrammatic section	...	...	...	...	...	12
15.	Air-driven angled gyro, S.R.	...	...	...	...	...	13
21.	21 in. submerged torpedo tubes, broadside, "Raleigh" Class...	...	...	...	...	...	14
22.	Pipe diagram, 18 in., Mark VIII*	...	...	...	...	...	15
27.	Pipe diagram, 21 in., Mark IV and IV*	...	...	...	...	...	16
28.	Pipe diagram, 21 in., Mark V	...	...	...	...	...	17
29.	Greenock depth gear	...	...	...	...	...	18
30.	Ignition delay (hammer) gear	...	...	...	...	...	19
31.	Combined non-return valve	...	...	...	...	...	20
32.	"D" type generator	...	...	...	...	...	21
33.	Injection oil bottle	...	...	...	...	...	22
34.	Variable oil nozzle, 21 in., Mark II****-IV*	...	...	...	...	...	23
35.	Sectional elevation of tail	...	...	...	...	...	24
36.	Plan of typical air service in Capital ships	...	...	...	...	...	25
37.	Dashpot firing valve	...	...	...	...	...	26
38.	21 in. T.R.I. torpedo tubes	...	...	...	...	...	27
41.	21 in. Mark V spring, loaded by-pass valve	...	...	...	...	...	28
	K.8 blowing head	...	...	...	...	...	29
	Latch type tripper	...	...	...	...	...	30
	External dashpot firing gear	...	...	...	...	...	31
	Action of the Greenock depth gear	...	...	...	...	...	32
<i>Electrical—Low Power.</i>							
5.	Vickers' "Follow-the-pointer" range and deflection instruments	...	...	...	...	...	100
6.	Barr and Stroud's range transmitter and receiver connections	...	...	...	...	...	101
8.	Arrangement of hummer circuits	...	...	...	...	...	102
9.	Connections for Navyphones, Patts. 2461A, 2462 and 3333	...	...	...	...	...	103
10.	Connections for Navyphones, Patt. 3333	...	...	...	...	...	104
24.	Low power distribution ("Royal Sovereign" Class)	...	...	...	...	...	105
25.	Director firing circuits, ships and destroyers	...	...	...	...	...	106
26.	Henderson's gyro panel and wiring diagrams	...	...	...	...	...	108
27(a).	Firing and night sight circuits for turret guns	...	...	...	...	...	109
27(b).	Local firing circuits for 6 in. guns	...	...	...	...	...	110
28.	Director elevating and training circuits	...	...	...	...	...	111
29.	Evershed bearing indicators (for guns). Wiring diagrams	...	...	...	...	...	112
29(a).	Evershed bearing indicators (for guns). Principals	...	...	...	...	...	113
32.	Sperry gyro compass circuits. Typical diagram	...	...	...	...	...	115
33.	Navyphone exchange system	...	...	...	...	...	116
34.	{ Vickers' range and deflection circuits. Typical wiring diagram } { Barr and Stroud's range, order and rate circuits. Typical wiring diagram }	...	...	...	...	...	117
35.	Forbes log circuits	...	...	...	...	...	118
36(a).	Low power distribution ("Hood") 2-wire circuits	...	...	...	...	...	119
36(b).	Low power distribution ("Hood") single wire circuits	...	...	...	...	...	120
36(c).	Battery selector switch on Y, ZA and ZM panels. Principle of operation	...	...	...	...	...	121
	Firing and night circuits, 6 in. guns	...	...	...	...	...	122
	Two wire G.S. phone	...	...	...	...	...	123
	Two wire exchange	...	...	...	...	...	124
	Navyphone, Patt. 3330	...	...	...	...	...	125

<i>Old No.</i>	<i>Electrical—High Power.</i>	<i>New No.</i>
11.	Ring main. General diagrams ... ..	200
13.	Supply breakers and connections to dynamo ... ..	201
14.	Workshop motor starter ... ..	202
15.	Large motor controller (modern type) ... ..	203
16.	Boat hoist control gear, Clarke Chapman ("Repulse")	204
17.	Williams-Janney variable speed gear ... ..	205
18.	Circuits for emergency electrical supply ... ..	206
19.	Submersible pump. Wiring diagrams ... ..	207
21.	Lawrence Scott 36 in. searchlight motor generator ... ..	208
22.	Lift circuit. Smith, Major and Stevens type ... ..	209
23.	Continuous feed searchlight lamp ... ..	210
	Field distortion in dynamo ... ..	211
	Sparkless commutation in dynamos ... ..	212
	Lap and wave windings ... ..	213
	Navigation light circuit ... ..	214
	Branch breaker controlling a junction box. Oil type, modified	215
	Branch breaker controlling a motor. Oil type, modified ...	216
	Moving coil instrument ... ..	217
	H.C.D. lamp, Mark III ... ..	218
31.	Evershed helm indicator ... ..	219

#### *Mining.*

1.	Mine H.II, Mark II ... ..	300
2.	S.V. mine and sinker ... ..	301
3.	Mark VIII sinker ... ..	302
4.	Mark XII sinker ... ..	303
6.	Depth charge, Type D, with Mark IV pistol ... ..	304
7.	Depth charge thrower and hydraulic release gear ... ..	305
8.	Protector paravane, Type C, Mark IV ... ..	306
	Detonators used in mining ... ..	307
	Methods of fitting G.C. primers ... ..	308
5.	E.C. net mine ... ..	309

#### *Torpedo Control.*

T.C. installation.	Destroyer, "W" Class ... ..	400
T.C. installation.	Cruiser, "D" Class ... ..	401
T.C. installation.	Battleship, "Royal Sovereign" Class ... ..	402

#### *Establishment.*

Battleships, battle cruisers, cruisers and aircraft carriers in full commission and H.M.S. "Adventure."	1 set of Whitehead, electrical, L.P. and H.P. mining and torpedo control.
Destroyer depôt ships in full commission, for use in flotillas as required.	3 sets of Whitehead, electrical, L.P. and H.P., mining and torpedo control.
Torpedo schools ... ..	4 sets of do., do.
Cadets' training ships ... ..	2 sets of do., do.
R.N.V.R. divisional headquarters	} 1 set of do., do.
R.N.V.R. sub-divisional establishments.	
Submarine depôt ships in full commission.	1 set of Whitehead, mining and torpedo control.
Dockyards, home ... ..	2 sets of electrical, L.P. and H.P.
Dockyards, abroad ... ..	1 set of electrical, L.P. and H.P.

5. In order to avoid confusion during the period that existing drawings continue to bear their old numbers, arrangements are to be made for the title of the drawing and the new number to be quoted on all demands.

6. The new drawings will be issued as they become available, without demand, from the R.N. Store Depôt, Royal Victoria Yard, Deptford.



**\*2559.—Advancement of Ordinary Seamen (Tr.) to Able Seaman—Recommendations.**

(N. 2754/27.—14.10.1927.)

In order to assist captains when advancing ordinary seamen (Tr.) transferred from other ships, the following notation is to be made in the margin of Form S.536D (Certificate of Progress of Boys and Ordinary Seamen) by the captain of the ship from which an ordinary seaman (Tr.) is transferred:—

“Recommended for advancement to A.B. on (date).”

Provision will be made for this notation in the new edition of S.536D which is now in hand.

**\*2565.—Group Settlements in Western Australia—Position of Royal Fleet Reservists.**

(N. 3251.—14.10.1927.)

Attention has been drawn by the Government of Western Australia to the position of Royal Fleet Reservists who are working on Group Settlements in that State.

2. The nature of the work on these settlements (involving the clearing of land, etc.), renders prolonged absence from the Group undesirable. As regards Royal Fleet Reservists generally, who can perform their training at the Naval Reserve Training Depot, Fremantle, or in H.M. Australian ships in the vicinity, no difficulty arises; but as regards higher Gunnery and Torpedo ratings, who are required to proceed to Flinders Naval Depot for training, the period of absence involves dislocation of the Group.

3. The Government of Western Australia prefer, therefore, not to admit such men to Group Settlements unless either (a) they have families who are able to carry on the work in their absence, or (b) they are prepared to relinquish their higher non-substantive ratings.

4. This Order is to be brought to the notice of Royal Fleet Reservists intending to reside in Western Australia.

*2567.—Issued Confidentially.*

**2578.—Pistols, Webley—Loss.**

(G./N.L. 2772/27.—14.10.1927.)

A case has occurred where the loss of three Webley pistols from the pistol cupboard in one of H.M. ships was not detected for a considerable period.

2. It is considered that a contributory cause was the fact that there were a number of spare spaces in the pistol cupboard, so that it was not sufficiently obvious whether any pistol was missing.

3. Any spare spaces in pistol cupboards are to be filled in with blocks of wood or by other suitable method.

*2602.—Issued Confidentially.*

## 2607.—Wind in the Upper Atmosphere for Home and Mediterranean Waters—Notes and Data.

(M. 02727/27.—21.10.1927.)

No exact rules can be given regarding the variation of wind direction and speed with height above the ground, because the rate of change depends upon several different factors. Among these may be mentioned the actual direction and speed of the wind at the time, the changes taking place in the pressure distribution, and, for the lowest layers, the time of day and season of the year.

2. The following average rules may be applied in the neighbourhood of the British Isles:—

(a) Up to a height of from 2,000 to 3,000 ft. the wind speed increases, and the direction veers from the surface direction; above this height the changes are more irregular, but it may be stated that above 10,000 ft. the westerly component is usually more pronounced than at the surface.

(b) *Winds in the North-East Quadrant.*—A wind from between north and east veers from the surface direction with increase of height, but at a gradually decreasing rate. The speed increases up to 1,000 ft., but above this height little change occurs.

(c) *Winds in the South-East Quadrant.*—A wind from between east and south veers about 25 degrees in the first 2,000 ft., and at higher levels the veer is even more pronounced. The speed increases up to a height of 1,000 ft., but above this level little change occurs.

(d) *Winds in the South-West Quadrant.*—In this quadrant the wind veers through about 20 degrees in the first 2,700 ft., and through a further 15 degrees at higher levels. The speed increases steadily with height, the value at 8,000 ft. being approximately 1·17 times that at 2,000 ft.

(e) *Winds in the North-West Quadrant.*—In the case of winds from between west and north, a veer of about 10 degrees occurs up to 3,000 ft., and a further veer of about 8 degrees occurs as the height increases. The speed increases fairly quickly with height, the value at 8,000 ft. being about 1·45 times that at 1,000 ft.

The following approximate rules apply to the changes with height in winds of different speeds regardless of direction:—

(a) *Light Winds* (below 10 m.p.h. at 2,000 ft.).—The ratio of the wind speed at 2,000 ft. to that at the surface is approximately 1·3, while above 2,000 ft. little increase occurs.

(b) *Moderate Winds* (10–30 m.p.h. at 2,000 ft.).—The ratio of the wind speed at 2,000 ft. to that at the surface is approximately 1·6.

(c) *Strong Winds* (above 30 m.p.h. at 2,000 ft.).—The ratio of the wind speed at 2,000 ft. to that at the surface is approximately 1·8.

(d) In general there is less change in direction and speed as the height increases for light winds than for moderate or strong winds.

3. Deviations from the rules given above are likely to occur in the following circumstances:—

(a) When a current of air recently derived from high or low latitudes is replacing the existing wind current. In the neighbourhood of a depression there may be an abrupt change of both direction and speed, particularly if the depression is in the earlier stages of its existence.

(b) During the day the wind tends to veer and increase from dawn till the early afternoon, backing and falling off towards evening. At a height of from 1,000 to 2,000 ft. the diurnal changes are reversed, the wind speed decreasing in the day and increasing at night. There is thus less change of wind speed and direction with height in the middle of the day than at night.

(c) Topographical features may cause variations in the general wind direction near the surface. In certain circumstances vertical currents are also produced, and may extend in favourable circumstances to considerable heights. The most persistent vertical currents are usually produced by a wind blowing at right angles to a ridge of hills or mountains, upward currents existing on the windward and downward currents on the leeward side.

4. Inshore or sea breezes occur frequently in summer during the day along the coast. From actual measurements the currents are found to be usually less than 500 ft. thick, but occasionally they may be 1,000 ft. thick. The maximum upward current actually measured in the case of a sea breeze was 300 ft. per minute. Descending currents may also occur, more particularly over the sea.

5. *Mediterranean*.—As in the neighbourhood of the British Isles, the wind at any given place and time in this region and the change of direction and speed with height, depend upon the existing pressure distribution and the changes which are in progress. Depressions usually travel eastwards or slightly north of east along the Mediterranean, and are normally less extensive and less intense than those of more northerly latitudes, while their effect does not extend to such great heights in the atmosphere. Further, since most of the Mediterranean depressions arrive from the Atlantic or originate in the Gulf of Lions, they are usually of greater intensity in the western part of the Mediterranean than in the eastern half.

6. In winter the prevailing wind direction on the northern coasts is easterly or north-easterly, while on the African coast the prevailing direction is westerly or south-westerly. Strong northerly gales often develop in the rear of a depression and are especially severe in the Levant. The following local winds are worthy of note:—

7. *Mistral*.—This is a cold squally north-west wind which is especially developed along and near to the Rhone Valley. It often lasts for three to nine days at a stretch, and when well developed it extends to considerable depths with little change of direction.

8. *Bora*.—This is similar in origin to the mistral, but is more squally in character especially inshore, and will thus have more rapid changes in wind speed. In winter this wind may last for days or even weeks at a time.

9. In summer northerly or north-westerly winds are most prevalent, but they are lighter in the western than in the eastern Mediterranean. A marked diurnal change of wind occurs at this time of year, the northerly wind freshening considerably on the African coast in the afternoon and falling off after sunset.

10. In the western Mediterranean there is a considerable variation in the direction of the wind below 6,000 ft., but above this height northerly winds are most frequent. On the south coast of France and the coast of Spain, north-west winds prevail above 3,000 ft. from October to early May, westerly winds from May to the end of July, and south-west winds in August and September.

11. In the central Mediterranean, easterly winds are confined, as a rule, to levels below 3,000 ft., and the southerly component in the wind decreases at greater heights. In winter at all levels above 5,000 ft., and particularly above 10,000 ft. the prevailing wind is from between west and north-west, but on the northern shores the predominant direction is more northerly. In summer the northerly component in the wind in the lower levels is more pronounced than in winter, but on the levels above 8,000 ft. the prevailing direction is again north-westerly.

12. In the eastern Mediterranean the following distributions of wind occur in the seasons indicated:—

(a) *Summer*.—In this season conditions are stable. The NNW. wind at the surface veers to slightly east of north at a height of 1,500 ft. and then

gradually backs to west at 10,000 ft., continuing from between west and WSW. up to 30,000 ft. Above the latter height the direction veers to NW.

The mean wind speed at the surface is 7 m.p.h. The mean speed increases to 16 m.p.h. at 5,000 ft., and to 23 m.p.h. at 20,000 ft. Above 30,000 ft. there is a marked decrease.

(b) *Winter*.—The following distributions occur most frequently in winter:—

- (i) *Southerly*.—The prevailing direction at the surface SSE. veers to SW. at 3,000 ft., and continues from between SW. and W. up to 20,000 ft. Above the latter height the direction is slightly north of west. The speed increases with height from an average value of 7 m.p.h. at the surface to 45 m.p.h. at 20,000 ft.
- (ii) *Westerly*.—The wind veers from south at the surface to WSW. at a height of 1,500 ft., and to slightly north of west at 3,000 ft. Between the latter height and 15,000 ft., no appreciable change occurs. The speed increases with height from an average value of 7 m.p.h. at the surface to 39 m.p.h. at 15,000 ft.
- (iii) *North-westerly*.—The direction which is mainly NW. to NNW. at the surface changes little up to 3,000 ft. Above this height up to 8,000 ft. the direction backs to WNW., little change then occurring up to 20,000 ft. The mean speed increases from 7 m.p.h. at the surface to 45 m.p.h. at 15,000 ft.

(c) *Spring and Autumn*.—The following are the main types of distribution at these seasons:—

- (i) *North-easterly*.—The wind direction which is slightly north of NE. at the surface veers to east of NE. at 1,500 ft. and then backs to NNW. at 8,000 ft.

Above this level the direction is from WSW. in spring and WNW in autumn. The mean wind speed in spring increases from 13 m.p.h. at the surface to 19 m.p.h. at 3,000 ft. and then decreases to 16 m.p.h. at 6,000 ft. In autumn the corresponding speeds are slightly less than the values given. In both seasons the wind increases slowly above 6,000 ft. to a mean value of 37 m.p.h. at 25,000 ft.

On the north African coast winds from this direction usually show a considerable diurnal variation.

- (ii) *Cool Northerly*.—The surface wind direction is north and the direction veers to NNE. at 1,500 ft., backing to NW. at 8,000 ft., west at 15,000 ft., and slightly south of west above this height. The mean speed increases from 8 m.p.h. at the surface to 17 m.p.h. at 3,000 ft. From this height to 8,000 ft., little change in mean speed occurs, but above 8,000 ft. the speed increases, reaching 43 m.p.h. at 20,000 ft.
- (iii) *Hot Southerly*.—These winds which are confined mainly to the spring months are known as the Sirocco, Khamsin, Gibli, etc., according to the district. The direction veers from SE. at the surface to south at 3,000 ft., SW. at 5,000 ft., and west at 8,000 ft. Above this level the direction is from between SW. and west. The mean wind speed increases from 8 m.p.h. at the surface to 23 m.p.h. at 6,000 ft. It then decreases to 19 m.p.h. at 7,000 ft. afterwards increasing to 35 m.p.h. at 15,000 ft.

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**2619.—Gun, Sub-calibre, Q.F. 2 pdr.—Springs, Cartridge Retaining Catch, Mark II.**

(G. 13886/27.—21.10.1927.)

Difficulty in loading and extraction with Q.F., 2 pdr., sub-calibre guns has been reported. To remedy this the existing spring, cartridge retaining catch, Mark I, on H.M. ships, should be replaced on board by a Mark II spring, and the quantity required demanded from Royal Naval Armament Depôts.

2. The replacement of springs in guns in store should be carried out by depôt staff when supplies become available.

3. The Mark I springs should be regarded as obsolete.

**2620.—Breech Mechanisms—Modified Boxes, Slide K—Gauges Testing Overlap of Tube Retainer no longer required.**

(G. 14177/27.—21.10.1927.)

When all the boxes, slide K, of guns on board H.M. ships have been modified in accordance with A.F.O. 103/26, the Gauges testing overlap of tube retainer allowed in the proportion of 1 per ship will no longer be required and should be returned to nearest Royal Naval Armament Depôt.

2. The surrendered gauges should be retained in store at R.N. Armament Depôts, for the present, and further instructions as to disposal will be given when all boxes, slide K, are modified.

(A.F.O. 103/26.)

**2624.—Looping-in-Bases for Electric Lighting Fittings—Method of Wiring.**

(G. 14015/27.—21.10.1927.)

Attention is called to the correct method of wiring looping-in-bases for electric lighting fittings as shown in drawing (E.F.O. 108/27).

2. The method shown enables one part of the circuit to be isolated from the other by the removal of screws "A," without disconnecting the wires.

3. The wiring inside the box should be kept as short as possible.

**2627.—Practice Smoke Apparatus (Type F.7)—Periodical Examination and Reconditioning—REPORT.**

(N.S. 11438/27.—21.10.1927.)

The use of practice smoke apparatus (Type F.7) is at present restricted to the target ship, and stocks will normally only be maintained at Chatham.

2. The following instructions in regard to periodical examination and reconditioning are promulgated for general information and for guidance in the event of any apparatus of this type being landed at yards other than Chatham; any apparatus so landed should be reported to the Admiralty for instructions as to disposal.

3. To ensure full efficiency being obtained from practice smoke apparatus, it is necessary that the condition of the filling composition should be verified, and reconditioning carried out if necessary, as recently as practicable before use. Any unexpended stock on board the target ship should be landed for inspection, when six months have elapsed since the date for filling or of last inspection.

4. The following procedure in regard to the inspection and reconditioning of the apparatus at dockyards has been approved:—

- (i) Stock should be inspected every six months from date of filling or last inspection. It is undesirable that issues should be made of apparatus which is nearly due for inspection. Accordingly, if time permits, apparatus, which has not been examined within the preceding two months, should not be issued until it has been reinspected and, if necessary, reconditioned. The foregoing instruction, however, does not preclude the issue of the apparatus if time does not permit of its reinspection, provided that at the preceding periodical inspection it has been found in good condition.
- (ii) Inspections will be carried out by Assistant Inspectors of Naval Ordnance at Home Yards, Malta, Gibraltar and Hong Kong, by the Officer-in-Charge of Armament Supply at Bermuda, by the Deputy Assistant Director of Ordnance Services, Ceylon, at Colombo for Trincomali, and by Inspecting Ordnance Officers at other yards abroad.
- (iii) Requisitions should be forwarded by the Naval Store Officer when the apparatus is due for inspection.

#### *Reconditioning.*

5. *Deterioration.*—F.7 composition is a stiff paste and is much drier in appearance than the F.3 composition used in Service smoke floats. The condition of the F.7 composition, therefore, cannot be decided from visual inspection, as indicated in A.F.O. 1450/27, paragraph 1, and must be determined by checking the weight. Each container should be weighed, and the ascertained weight compared with the filled weight stencilled on the side. If the loss in weight does not exceed one pound, reconditioning is not required.

6. *Emptying.*—If the loss in weight exceeds one pound, the lid of the container is to be removed, and the mixture emptied into a suitable large tray. Should any local heating or smoke be observed during the process of reconditioning, the whole of the composition from that container is to be dumped.

7. *Mixing.*—Carbon tetrachloride of weight slightly in excess of the weight lost should be added, and the composition reconditioned by rapid mixing. If a mechanical mixer is available, this should be used; if not, the composition must be well mixed by hand (spade). In the building where the chemicals are handled, ventilation should be low down, a fan being used if available.

8. *Refilling and Closing.*—Immediately the mixing is completed, the composition is to be replaced in the container, about 3 lb. at a time, and well stemmed, using a wooden stemming tool about 1.25 in. diameter. The top of the container having been thoroughly cleared from all traces of composition and corrosion, the lid (with screwed plug previously removed) should be riveted in position, and the joints between rivets and container, and between lid and container well soldered. The stemming tool is then to be inserted through the screwed socket, and the composition stemmed to a depth of 2 in. below the top of the socket, to accommodate the igniter. Care is to be taken that no melted solder gets into the mixture, and that there is no possibility of a thin film of mixture being subjected to heat transmitted from the soldering iron. Resin or resin oil, not killed acid, is to be used as a flux for soldering. At no stage of the operation is killed acid (zinc chloride) to be used in any circumstances whatever.

9. *Testing.*—After all soldering has been completed, the container should be tested with air pressure (about 20 lb. per sq. in. for at least five minutes) for any leakage. If satisfactory, after seeing that the threads of the socket and plug are clean, the threads of the plug are to be coated with a mixture of one part of glycerine and two parts of precipitated chalk, and the plug screwed home.

10. *Painting*.—The lid of the container and the joints, after being thoroughly cleaned, are to be given two coats of copal varnish. The whole of the container is then to be painted yellow, after which the container is to be weighed.

11. *Marking*.—Each container should be stencilled in white letters with the following:—

- (a) " Practice smoke apparatus, F.7, Mark I. Not to be stowed between decks."
- (b) Initial of dockyard.
- (c) " This end up " on lid.
- (d) Date of original filling and date of reconditioning.
- (e) Original weight and weight after reconditioning.

12. *Handling*.—Rough handling during transport and storage should be avoided, and the containers should always be transported in crates.

13. *Carbon Tetrachloride*.—The carbon tetrachloride should be a clear anhydrous liquid with a density between 1.59 and 1.61 at 15° C. On distillation 96 per cent. of the liquid should boil off between 75° and 79° C. The carbon tetrachloride is not to contain more than 1 per cent. of carbon disulphide. When shaken with sulphuric acid and allowed to stand, there should be little or no brown colouration, and not more than 2 per cent. of the liquid should be absorbed. The carbon tetrachloride should be free from other than traces of acidity.

14. Inspection of igniters for practice smoke apparatus that may become necessary anywhere will be carried out by the same officers as those laid down for inspection of the practice smoke apparatus.

(A.F.O. 1450/27.)

### **2642.—Gyro-Compass Logs—Rendering.**

(C.D.G. 709/27.—21.10.1927.)

In future, the duplicates of gyro-compass logs (Form S.1177) of all ships of the Mediterranean Fleet, are to be forwarded to the Director Compass Department through the Superintendent of Gyro-Compasses, Malta.

### **2666.—Issued Confidentially.**

### **2671.—A.W. Revolving Torpedo Tubes—Corrosion of Revolving Structure in the Region of Steam Heating Coils—REPORT.**

*Ships and Yards concerned.*

(G. 12591/27.—28.10.1927.)

During the recent refits of Cruisers on the America and West Indies station, opportunity was taken to lift the torpedo tubes clear of the turntables.

2. Examination of the platform under the tubes revealed extensive corrosion of the platform plating under the millboard lagging fitted in the space around the torpedo tube heating pipes, the millboard being found water-logged and deteriorated.

3. Arrangements are to be made in the case of all vessels fitted with A.W. revolving tubes in which steam heating pipes are fitted externally in the space between the tube supports and the turntable, for the tubes to be lifted from the platforms and the millboard lagging removed.

4. The work should be carried out during the period of a refit and at a time when the torpedo tubes are due to be lifted for examination of pivots and the underside of mountings. An item is to be included in the defect lists forwarded by the ships' officers accordingly.

5. A report should be forwarded by the dockyards concerned as to the extent of the corrosion in each case.

6. In order that the adequacy of the steam heating arrangements after removal of the millboard lagging may be considered, the first opportunity should be taken when operating in cold climates to test the efficiency of the steam heating arrangements.

7. Reports should be forwarded accordingly through the usual channels, by all vessels fitted with A.W. revolving tubes in which the millboard lagging has been removed.

### **2675.—Depth Charge Equipments.**

*Cruisers, Leaders and Destroyers and Twin Screw Minesweepers.*

(G. 12773/27.—28.10.1927.)

All vessels (except trawlers and drifters) in full commission and not fitted with the approved depth charge equipment (O.U. 5320, pages 6 and 7), are to insert in their next list of Alterations and Additions an item detailing the work required to bring their depth charge equipment up-to-date and stating the reason for any deficiencies in this respect.

2. Vessels in reserve or with reduced complements are to include this item in their list of Alterations and Additions if and when they are brought forward for service or completed to full complement.

3. Cruisers in full commission are to make and fit by ships' staffs the stowages for spare depth charges required to complete their depth charge equipment.

### **2678.—Submarines fitted with Steel L.P. Blowing System.**

(D. 14061/27.—28.10.1927.)

In future, when any submarine fitted with steel L.P. blowing system is taken in hand for refit at a dockyard, a certain percentage of the L.P. blow system piping should be removed for examination, and, in any doubtful case, a drill test on that length should be carried out.

### **2696.—Tiles—Acceptance of Deliveries.**

(N.S. 15507/26.—28.10.1927.)

Sealed patterns of tiles, Patterns 40, 41 and 42, will be distributed by Devonport Yard to all home dockyards and Admiralty Pattern Room for use as standards to which manufacturers will be invited to tender. No sealed patterns of Patterns 43 and 44 are being provided, as requirements of these tiles will gradually disappear.

2. The following procedure is to be adopted by Dockyard Officers in accepting consignments of tiles from contractors, viz. :—

When consignments are received at the yard, a number of tiles taken at random should be compared with the sealed pattern in the three following respects :—

(a) Size and thickness.

(b) Porosity :—tested by drawing a red ink line on the top surface. This line should be sharply defined and show no tendency to spread laterally.

(c) Brittleness :—tested by cutting and examination of fracture.



**\*2702.—Acting Sub-Lieutenants, R.N.—Arrangements for Courses.**

(C.W. 10210/27.—4.11.1927.)

Provided that they are recommended for promotion and have satisfactorily passed the Seamanship examination, Midshipmen will be promoted to Acting Sub-Lieutenant on 1st January, 1st May, or 1st September (*vide* K.R. & A.I., Article 263).

2. As a general rule, they will commence their shore courses for the rank of Lieutenant as soon as possible after passing the Seamanship examination, but whenever possible, Midshipmen from ships on foreign stations will be allowed a fortnight's leave before commencing their courses.

3. The normal sequence of the courses is as shown in the following table, but this is subject to slight variation, if considered necessary, owing to difficulties of accommodation. The dates shown are *approximate*, and are only given in order to show the working of the scheme; further notice of the exact dates will be published for each term.

4. Midshipmen who are required to join the R.N. College, Greenwich, a few days before promotion to Acting Sub-Lieutenant will be permitted to wear the uniform of that rank on joining.

*Officers due to become Acting Sub-Lieutenants on 1st January.*

Go to Greenwich ... ..	30th December.
Vacation ... ..	24th March to 28th April.
Complete Greenwich course ... ..	21st July.
Commence G., T. and N. courses ... ..	15th August.
Complete G., I. and N. courses ... ..	11th February.
Divisional course, Anti-gas course and balance of foreign service leave (if any) for all officers ... ..	February–April.
Appointed to sea as Sub-Lieutenant ... ..	April.

*Officers due to become Acting Sub-Lieutenants on 1st May.*

Go to Greenwich ... ..	28th April.
Divisional courses in long vacation (all Officers) ... ..	21st July–29th September.
Complete Greenwich course ... ..	22nd December.
Anti-gas course (half term) ... ..	6th February–10th February
Commence G., T. and N. course... ..	13th February.
Complete G., T. and N. ... ..	7th August.
Anti-gas course (half term) ... ..	6th–10th August.
Appointed to sea as Sub-Lieutenant ... ..	August.

*Officers due to become Acting Sub-Lieutenants on 1st September.*

Anti-gas course (half term) ... ..	19th September–23rd September
Go to Greenwich ... ..	29th September.
Complete Greenwich course ... ..	29th March.
Commence G., T. and N. course ... ..	12th April.
Complete G., T. and N. ... ..	9th October.
Divisional course (half term) ... ..	8th–26th October.
Anti-gas course } (half term) ... ..	22nd October–16th November.
Divisional course }	
Officer appointed to sea ... ..	December.

2713. }  
2714. } *Issued Confidentially.*

**2718.—Inclination and Mean Rangefinder, Range Communications, also G.D.T. Communications in H.M. Cruisers "Danae," "Dauntless," and "Dragon."**

*Cruisers of H.M.S. "Hawkins," "D," "E," and "Carlisle" classes, Aircraft Carriers "Eagle" and "Hermes" and Gunnery Schools.*

(G. 3846/27.—4.11.1927.)

It has been decided to fit the above-mentioned communications in the cruisers, aircraft carriers and Gunnery Schools enumerated above, and the following wiring diagrams and instructions are issued for the guidance of the dockyards in carrying out the work:—

- (a) Diagrams D.T.M. 176/26 and 176A/26 (E.F.O. 79/27 (13-17)) for guidance in "Hawkins."
- (b) Diagrams D.T.M. 174 and 174A/26 (E.F.O. 79/27 (5-8)) for guidance in "Frobisher."
- (c) Diagrams D.T.M. 173 and 173A/26 (E.F.O. 79/27 (1-4)) for guidance in "Effingham."
- (d) Diagrams D.T.M. 175 and 175A/26 (E.F.O. 79/27 (9-12)) for guidance in "Vindictive."
- (e) Diagrams D.T.M. 178 and 178A/26 (E.F.O. 79/27 (22-23)) for guidance in "Enterprise."
- (f) Diagrams D.T.M. 177 and 177A/26 (E.F.O. 79/27 (18-21)) for guidance in "Emerald."
- (g) Diagrams D.T.M. 179 and 179A/26 (E.F.O. 79/27 (24-27)) for guidance in "Despatch" and "Diomedea."
- (h) Diagrams D.T.M. 186 and 186A/26 (E.F.O. 79/27 (53-57)) for guidance in "Danae" and "Dauntless."
- (i) Diagrams D.T.M. 182 and 182A/26 (E.F.O. 79/27 (34-38)) for guidance in "Dragon."
- (j) Diagrams D.T.M. 180 and 180A/26 (E.F.O. 79/27 (28-30)) for guidance in "Delhi."
- (k) Diagrams D.T.M. 181 and 181A/26 (E.F.O. 79/27 (31-33)) for guidance in "Durban" and "Dunedin."
- (l) Diagrams D.T.M. 183 and 183A/26 (E.F.O. 79/27 (39-41)) for guidance in "Carlisle" class.
- (m) Diagrams D.T.M. 185 and 185A/26 (E.F.O. 79/27 (48-52)) for guidance in "Hermes."
- (n) Diagrams D.T.M. 184 and 184A/26 (E.F.O. 79/27 (42-47)) for guidance in "Eagle."
- (o) Diagrams D.T.M. 216/26 (E.F.O. 79/27 (58)) for guidance in Portsmouth, Chatham and Devonport Gunnery Schools.

2. Sets of working copies of these diagrams have been sent separately, together with a copy of this A.F.O. to all yards concerned and to the C.-in-C., East Indies, and the Commodore, New Zealand Squadron, for diagrams affecting the ships on these stations.

3. The existing cables, instruments, etc., are shown by dotted lines on the various diagrams. New instruments and new local wiring, also instruments removed to a new position are shown by full lines. In all ships local wiring only is required additionally.

4. The mean rangefinder range receivers are to be sided in the spotting tops, and the inclination transmitter fitted in a convenient central position.

5. The wiring for the range receiver fitted in the plotting office in the various cruisers, and originally operated off the Dreyer table or from the concentration range transmitter, is now to be connected to the mean rangefinder range transmitter wiring. This alteration is included on the diagrams circulated with this Order in cases where the original wiring connections of these receivers is shown on Admiralty copies of the "as fitted" diagrams. In ships where the alteration is not shown, arrangements should be made by the Yards to make the necessary alterations in the wiring connections to comply with these instructions.

6. The existing range receivers fitted in the spotting tops and operated direct from the individual rangefinders are to be liberated when the mean rangefinder range receivers are fitted. The receivers so liberated are to be utilised to meet the requirements of the mean rangefinder range receivers as shown in the respective diagrams. These instruments are not therefore included in the schedule accompanying this Order.



"Capetown"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
"Calcutta"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
"Eagle" ...	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
"Hermes"	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gunnery																								
Schools :																								
Portsmouth	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Chatham	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Devonport	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Total Require-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ments ...	6	2	4	1	21	4	1	4	21	4	4	1	4	18	4	4	1	4	21	4	4	1	4	18
Total Surplus†																								

Supply arranged.

DEFICIENCIES OF INSTRUMENTS AND ARRANGEMENTS TO BE MADE FOR SUPPLY.

Patt. No.	Description.	From whence to be obtained.
3132A.	Range Transmitter	...
3142B.	Range Receivers	... 1 } To be supplied from those liberated from other ships.
5269.	Range Receivers	... 1 }
—	Inclination Transmitters	... 21 To be supplied from stocks available at Portsmouth.
—	Inclination Receivers	... 18 Patt. 2607 Bearing Receivers } To be modified and ... 18 Patt. 2606 Bearing Receivers } supplied by Portsmouth.

\* To be obtained from stocks at the yards.

† Surplus instruments to be returned to the Dockyards.

7. The Pattern 5269 range receivers and the inclination transmitters and receivers required for fitting in the ships attached to the respective yards are to be obtained from Portsmouth Yard.

8. Sufficient Pattern 2607 and 2606 bearing transmitters and receivers available at Portsmouth are to be modified by the yard, before issue to other yards, to meet the required quantities of inclination transmitters and receivers respectively shown in the schedule.

The instruments are to be modified as follows:—

- (a) "Train" window blanked and shutter coil removed.
- (b) Starboard and port shutter marking altered to read right and left.
- (c) Counterdrum and gearing to be altered to read from 0 to 180 in degree steps, instead of 0 to  $179\frac{1}{2}$  in  $\frac{1}{2}$  degree steps.
- (d) Pattern 2607 to have "train" shutter switch and handle removed, and the hole in casing blanked. The engraving for the starboard and port shutter hand should be altered to read right and left.
- (e) The title engraving on the outside of the casings to be altered to read "Inclination transmitters and receivers," respectively.

9. Where inclination transmitters and receivers are not shown in the diagrams circulated with this Order, the instruments and communications are already fitted in the ships to which the respective diagrams apply.

10. The wiring connections for the G.D.T. communications in the "Danae," "Dauntless," and "Dragon" are included in the diagrams circulated for these cruisers. The supply of the three sets of gyro director training gear has been arranged with Messrs. Elliott Bros. under contract C.P. 28999/F.1191, dated 19.11.26, for delivery with the fire control table to Chatham. Separate arrangements are also being made for the supply and fitting the two-minute transmitters to the master gyro compasses of these cruisers, and instructions and diagrams for guidance in fitting the transmitters and making the necessary connections to the repeater panels and G.D.T. gear will be circulated with a separate Order.

11. Instruments rendered surplus by this Order are to be returned to the dockyards making the alterations and held available for other services.

12. An item for carrying out the work is to be included in the next list of approved alterations and additions sent in by all ships affected.

## 2725.—W/T—Type 83—Electric Shock—REPORT.

### *Ships Affected.*

(S.D./G. 03419/27.—4.11.1927.)

A case occurred recently in which two ratings in a destroyer received a severe shock from the microphone of the Type 83 set.

2. This is believed to have been due to the fact that the input terminal marked "negative" on the Board Output 2H was actually connected to the positive H.T. supply. The set still functioned in this condition because the H.T. leads between the Board Output 2H and Transmitter 8H had also been reversed. The effect of this was that the earth, ordered to be put on, although on the terminal marked "negative" and therefore apparently correct, was in reality on the H.T. positive supply. This placed the microphone at 2,000 volts negative to earth, and consequently the insulation broke down. (*Vide* Fig. 8 in O.U. 6087 (33) Handbook, Type 83.)

3. Vessels concerned are to examine their Type 83 sets to ascertain that, with the transmitter working correctly, the leads from the input terminals to output terminals of Board Output 2H, and from thence to Transmitter 8H are from positive to positive and negative to negative throughout.

4. (a) Any vessel in which this is not found to be the case is to report the fact, and the following action is to be taken:—

The polarity of the H.T. supply is to be ascertained:—

- (i) At the generator.  
(ii) At the input terminals of Board Output 2H.

Since the electrostatic voltmeter will not show the polarity, the following procedure is to be adopted:—

The generator field circuit should be disconnected and the machine run. (Great care must be taken to disconnect the generator field and not the motor field). Due to residual magnetism an E.M.F. of about 180 volts should be generated. The polarity can then be ascertained by using a Pattern 5526 portable voltmeter on the 250-volt range. Before using the portable voltmeter it should be ascertained that the E.M.F. generated is not too high, by observing the reading on the electrostatic voltmeter.

- (b) If the polarity at the generator is found to be reversed, the H.T. leads from the generator on Board Output 2H should be reversed.  
(c) If the polarity at the generator is found to be correct, but wrong at the input terminals of Board Output 2H, the leads between the generator and Board Output 2H should be reversed.  
(d) If the polarity at both the generator and input terminals of Board Output 2H are found to be correct, then the wiring between the input and output terminals of Board Output 2H must be incorrect and should be revised.  
(e) Before attempting to work the set again, it is to be carefully checked that all H.T. leads run from positive to positive and negative to negative terminals throughout; also that the earth in the Board Output 2H is on the negative H.T. supply.

The results of these tests are to be included in the report.

5. As an additional precaution all vessels fitted with Type 83 sets are to tape over the handle of the microphone to a depth of  $\frac{1}{8}$  in. with Pattern 300 or Pattern 301 pure rubber tape.

### **2771.—Aircraft Catapults in H.M. Ships.**

*H.M. Dockyards.*

(D. 0988/27.—4.11.1927.)

The following demarcation of work is to be followed in connection with the manufacture and installation of catapults in H.M. ships:—

#### *Constructive Department.*

Structural fittings in the ship, including roller paths, arrangements for lifting aircraft on to the catapult, and deck fittings for securing the catapult when not in use.

#### *Engineering Department.*

The framework of catapults, when the framework does not form part of the ship's structure, all actuating gear and training (power or hand operated).

### **\*2876.—Injuries Sustained on Duty to be Reported Immediately.**

(M.D.G. 9860/27.—11.11.1927.)

It should be brought to the notice of all ranks and ratings that in the event of an injury being received in carrying out any act of duty (which includes participation in games or other forms of physical recreation definitely organised by Naval authority—*vide* Article 1419, King's Regulations) the fact should be reported immediately, or on the first opportunity, to the Medical Officer of the ship or establishment.

2. This instruction applies particularly to damage to the ears by gunfire, and claims to compensation on the ground of attributability to the Service, in the event of disability developing from such an injury as to necessitate invaliding from the Service, cannot be accepted unless the injury is reported and a hurt certificate awarded at the time or unless other satisfactory evidence is available that the injury was actually sustained as claimed.

3. Medical Officers are to record carefully in their Journal all injury claims made, whether any disability is found to have resulted from the injury or not. If a hurt certificate is not granted the reasons are to be recorded.

### **2879.—Consular Officers—Expenditure incurred on behalf of the Admiralty.**

(C. (II) 7466/27.—11.11.1927.)

Arrangements have been made with the Foreign Office that when H.M. Superintending Consuls have occasion to draw a bill of exchange to recoup themselves in respect of any comparatively large item of expenditure incurred on Admiralty account, they are to obtain from the Commanding Officers of H.M. ships ordering the supplies or services a signed certificate (to be attached to the bill) that the supplies received or services rendered were for Navy account.

Commanding Officers are to furnish such certificates upon request.

### **2880.—Naval Rifle Ranges—Use by Army, Air Force or other Personnel—REPORTS.**

(C. (II) 5642.—11.11.1927.)

In the event of rifle ranges administered by the Royal Navy or Royal Marines being used by Army, Air Force or other personnel, reports are to be forwarded to the Accountant-General of the Navy by the officers responsible for their administration showing:—

- (a) The dates on which the ranges were used;
- (b) The name or description of the unit making use of the ranges; and
- (c) The number of rounds fired.

2. These reports, which should be rendered annually and forwarded as soon as practicable after 31st March in each year, will form the basis on which claims (assessed at a rate similar to that adopted by the War Office in their claims against the Admiralty, as set out in A.F.O. 288/26) will be preferred against the War Office, Air Ministry, etc., and any further particulars which are considered to be relevant to this purpose should be incorporated in the reports.

(A.F.O. 288/26.)

2882. } *Issued Confidentially.*  
2883. }

### **2909.—Annual Statement of Average Cost per Ton for Handling Steam Vessel Coal.**

(N.S. Fuel 7006/27.—11.11.1927.)

It has been decided to discontinue the circulation of the complete statement showing the costs of handling steam vessel coal at all yards, but the annual reports forwarded in accordance with Article 559 of the Store Duties Instructions should continue to be rendered for Admiralty information.

## 2910.—Boarding of Merchant Vessels at Naval Ports by the Officer of the Guard.

(M. 1540/27.—18.11.1927.)

Attention is called to the primary object of this practice—which is to maintain liaison with the Mercantile Marine, to collect intelligence, and when the need arises to offer assistance or to supply information to the vessels visited.

2. Endeavour is to be made to prevent the practice from appearing either inquisitory or a burdensome formality. Visits are to be restricted to occasions when it is desirable to carry out the duties referred to, and need not be made for secondary objects such as enquiry as to naval personnel carried, enquiries as to mails, or in the case of ships flying the Blue Ensign, enquiries as to reservists carried, when these can be made satisfactorily in a less formal way. This is already recognised in some station Orders, which provide that British merchant ships will not be boarded unless specially ordered, and that the Senior Officer should give orders for British merchant ships to be boarded occasionally in order that liaison may be maintained between the Navy and the Merchant Service, and also when they come from places of interest so as to obtain information.

3. It is not necessary for a vessel to be visited immediately on arrival, and it will often be more convenient if the Master of the merchant vessel can be warned by signal of the intended visit.

(K.R. and A.I., Articles 126 (3) and 1154.)

## 2911.—Dartmouth Harbour—Traffic Signals.

(N.L. 2601/27.—18.11.1927.)

By local custom, *private* vessels in charge of pilots entering or leaving Dartmouth Harbour in the daytime may not follow the ordinary Rule of the Road in a certain area of the harbour.

H.M. ships and vessels (including tenders to the Royal Naval College) are none the less to follow the Rule of the Road.

The following signals are shown when one of H.M. ships or vessels is entering or leaving Dartmouth Harbour:—

<i>Signal.</i>	<i>Where shown.</i>	<i>Signification.</i>
Red Burgee over Ball.	Compass Point, Coast Guard Station.	H. M. vessel is now leaving harbour.
Ball over Red Burgee.	Channel Coaling Co.'s flag mast.	H. M. vessel is now entering harbour.

These signals are intended to keep local pilots informed of movements of H.M. vessels, and all vessels in charge of the pilots will, if practicable, remain outside the harbour or to the northward of a line joining the Great Western Railway pontoons at Dartmouth and Kingswear, until H.M. vessel has entered or left the harbour.

In order that the Coast Guard Station and Channel Coaling Company may be advised of intended movements, H.M. vessels visiting Dartmouth are to report expected time of arrival to the Commanding Officer, Royal Naval College, through the Commander-in-Chief, Plymouth Station. Similarly, before departure, the Commanding Officer, Royal Naval College, is to be informed of the proposed time of leaving harbour.

## 2932.—Storing Period for H.M. Ships over 2,000 Tons Navy List Displacement fitted for Central Storekeeping.

(N.S. 14440/27.—18.11.1927.)

It has been decided that battleships, battle cruisers, cruisers, aircraft carriers, depôt ships, repair ship "Assistance," and all H.M. sea-going ships (except submarines) over 2,000 tons Navy List displacement, fitted for central storekeeping, whether in commission or reserve, are on each occasion of



periodical replenishment, to complete to requirements for five months, i.e., four months at peace time rate of expenditure, plus one month at the war rate, which for the present should be calculated at double the peace rate. Under this arrangement ships in commission will normally complete with stores three times a year.

2. Ships in reserve, which come within the above definition but are not yet stored for the increased period, are to demand the stores necessary to complete as early as possible.

3. Attention is drawn to the fact that owing to the longer interval between replenishments, great care and precision will be necessary in estimating requirements and preparing demands when replenishing.

4. In the case of certain stores liable to deterioration, especially in hot climates, it will be necessary to exercise discretion in replenishing stocks.

### 2938.—W/T—Glass Transmitting Valves in S/W— Precautions to be taken.

(N.S. 14758/27.—18.11.1927.)

Cases have occurred where glass transmitting valves when used on S/W have broken down after a life much shorter than that normally obtained on long wave. The following information concerning the use of glass transmitting valves on S/W is promulgated for the information and guidance of ships concerned.

2. It is very important to ensure that glass valves are not over-run on S/W as the safe load on S/W is much less than on long wave transmission. In the case of an N.T.4A valve, the maximum safe H.T. voltage may be less than 50 per cent. of that on long wave.

3. When a new glass valve is brought into use for S/W it should be run for a short time—about half-a-minute—on S/W at an H.T. voltage, about 75 per cent. of that normally used for S/W transmission.

4. To ensure the glass surface of the valve being at equal potential, ships should fit strips of tinfoil or copper gauze over the external surface of the valve between, and connected to the guard rings.

### 2946.—Pneumatic Tyred Motor Vehicles—Inflation Pressures.

(N.S.M.T. 546/27.—18.11.1927.)

The pressures to which beaded edge and straight-sided tyres should be kept inflated are as follows:—

<i>Section of Tyre.</i>	<i>Pressure lbs. per sq. in.</i>	
	<i>Front.</i>	<i>Rear.</i>
3½ in. or 90 m.m.     ...   ...   ...   ...   ...	45	50
4 in. or 100 m.m.   ...   ...   ...   ...   ...	50	60
4½ in. or 120 m.m. ...   ...   ...   ...   ...	55	60
5 in. or 135 m.m.   ...   ...   ...   ...   ...	60	65
7 in.           ...   ...   ...   ...   ...	85	100
8 in.           ...   ...   ...   ...   ...	60	65

2. Pressures should be tested at least once weekly by means of a Schrader tyre pressure gauge, as if tyres are run in an under-inflated condition considerable damage and undue wear and tear will result, and the life will be shortened.

3. If Schrader gauges are not already available, they can be obtained on demand in the usual manner. It is considered that one gauge should be sufficient for every six pneumatic tyred vehicles or less attached to an Establishment, with a maximum of three gauges.

**2964.—Stores Supplied to New Zealand Government—Vouchers.**

(N.S. 13692/27.—18.11.1927.)

In connection with the supply of stores (Naval, victualling, armament and medical), the value of which is chargeable to the New Zealand Government, five valued copies of the vouchers are, in future, on despatch of the stores, to be sent direct to the High Commissioner. Two of these copies will be receipted by the High Commissioner and returned direct to the yard or other establishment concerned; the others will be retained by the High Commissioner and used as supply notes, for record purposes, etc.

2. After return from the High Commissioner of the two receipted copies, one should be forwarded to the Admiralty as supporting voucher to the Return D.72D, V.108, or O.87A, and the other retained in support of the yard, etc., accounts. Returns D.72D, V.108, etc., reporting charges for work done for, or stores supplied to, the New Zealand Government, should be accompanied by two complete sets of supporting vouchers (one only of which will consist of the receipted vouchers), both arranged in the same order, and also by a duplicate Return D.72D, etc. (without further supporting vouchers), which should be marked "Copy of Enclosure No..... to Return D.72D, etc.....Quarter 19....."

**2979.—Orders for Attendance by Surgeons and Agents on Men Sick on Shore.**

(M.D.G. 11435/27.—25.11.1927.)

The attention of Commanding Officers is called to the necessity of promptly responding to surgeons' and agents' requests for orders for attendance in cases of men sick on leave from their ships. These orders can be given on Forms M.211, S.47, or, when such forms are not available, on reference sheets.

2. It should be noted that supplies of Form M.211 are not made to surgeons and agents, but may be obtained on requisition from the nearest Naval medical establishment.

**2988.—Gun Mountings—Lewis and Maxim.***Leaders and Destroyers in Maintenance Reserve.*

(G. 16391/27.—25.11.1927.)

Leaders and destroyers going into maintenance reserve are to land their Lewis and Maxim gun mountings at the Home Yards.

2. Destroyers already at Rosyth are to hand their mountings over to Rosyth Yard, packed and addressed to the respective yards, for return at the first opportunity of free freight.

3. *Dockyards*.—The mountings on receipt are to be taken on store charge (not held on deposit), and the ships should be completed to authorised establishment if and when brought forward for service.

## 2989.—Gun Circuit Fittings—Abolition of “C” Connections.

*Battleships and Battle Cruisers of the “Royal Sovereign,” “Queen Elizabeth,” “Iron Duke,” “Repulse” Classes, “Hood,” “Tiger,” Cruisers of “Hawkins,” “Carlisle,” “Ceres,” “D” and “E” Classes, Aircraft Carriers “Furious,” “Hermes,” Flotilla Leaders and Destroyers of the improved “W” Class armed with 4.7 in. guns.*

(G. 4405/27.—25.11.1927.)

It has been decided to abolish the “C” connections from double contact interceptors and contact boxes for firing handles on transferable mountings and pistol grip firing keys on turret guns and transferable mountings in the above-mentioned classes of ships, flotilla leaders, and destroyers, and the following drawings showing the amended fittings and instructions are promulgated for guidance in effecting the alterations:—

- (i) E.F.O. 101/27 (1) of pistol grip firing keys, Pattern 1547, and pistol grip firing key for turret guns.
- (ii) E.F.O. 101/27 (2) of the contact box for firing handles on 6 in. P. VI, VII and VII\* mountings.
- (iii) E.F.O. 101/27 (3) of the contact box for firing handles on 6 in. P. IX mountings.
- (iv) E.F.O. 101/27 (4) of the contact box for firing handles on 6 in. P. VIII mountings.
- (v) E.F.O. 101/27 (5) of the interceptor and run out contacts.

2. The Pattern 1547A pistol grip firing key fitted on 7.5 in., 5.5 in., 4.7 in., 4 in. triple mountings and the 6 in. mountings (except the 6 in. P.V., V\*, VI, VII, VII\* and VIII) is already arranged with screw connections and the cab-tyre sheathed cable through packed glands into the pistols. The altered arrangement of connections and glands shown on drawing E.F.O. 101/27 (1) therefore apply to the Pattern 1547 pistol grip firing key fitted on the 6 in. P.V., V\*, VI, VII, VII\* and VIII mountings, and to the pistol grip firing keys fitted on turret guns.

3. The modified arrangements shown on the drawings of firing circuit fittings for transferable mountings are only to apply to these mountings fitted in the above-mentioned ships, and are only to apply to mountings other than these when the existing fittings become defective and cannot be replaced from stocks at the dockyards.

4. The modifications to the fittings for reserve mountings for the above-mentioned ships are not to be made until the mountings are required for service in the ships mentioned.

5. The whole of the new parts required for effecting the modifications in all ships mentioned are to be manufactured by Portsmouth Yard, and demands are to be forwarded to this yard by all other yards for the quantities of parts required for effecting the alterations to the firing circuit fittings in all ships attached to the various yards.

6. The vessels affected are to insert an item, giving a detailed statement of the number of component and spare fittings involved in their next list of alterations and additions submitted.

7. Estimates of the cost of the dockyard work involved are to be prepared and forwarded by all yards concerned.

8. The replacement of the single contact interceptors fitted on the 5.5 in. C.P. II mountings in H.M.S. “Hood” and the 6 in. C.P. XIV mountings fitted in “D” and “E” classes of cruisers by double contact interceptors of the latest type is under consideration, and therefore no modifications are to be made to these single contact interceptors.

9. Copies of the above-quoted drawings, together with a copy of this Order, have been forwarded separately to all dockyards concerned.

10. The modifications required to the contact box for firing handle on the 6 in. P.XII\* mountings as fitted in “Eagle” are being considered separately, and further instructions regarding this ship will be issued in due course.

3034.—*Issued Confidentially.*3047.—**Voicepipes, Telephones, and Electromegaphones, etc.—  
Tallies.***“ Kent ” and later Class Cruisers.*

(G. 11378/27.—2.12.1927.)

In view of possible phonetic errors with the existing designations of control, etc., positions in 8 in. gun cruisers, it has been decided to modify the nomenclature for such positions as follows :—

*(a) 8 in. Control.*

<i>Position.</i>	<i>Present Designation.</i>	<i>Approved Nomenclature</i>
For'd control platform ...	For'd control position ...	Fore control.
After control platform ...	After control position ...	After control.
For'd 8 in. director ...	For'd director tower ...	Aloft director.
After 8 in. director ...	After director tower ...	After director
8 in. fire control room ...	Fire control room ...	T.S.
Concentration position ...	For'd director platform ...	Fore link.

*4 in. Control.*

H.A. control platform ...	S/L and H.A. gun control platform.	H.A. top.
H.A. calculating position in after 8 in. control platform.	After control position ...	After control.

*Torpedo Control.*

<i>Position.</i>	<i>Approved Nomenclature.</i>
Torpedo crew shelter, starboard ...	Torpedo tubes, starboard.
” ” ” port... ...	” ” port.
Air service charging column ...	Torpedo workshop.

*Electrical Equipment.*

Starboard electrical equipment compartment ...	No. 1 breaker room.
Port electrical equipment compartment ...	No. 2 breaker room.
Centre electrical equipment compartment ...	No. 3 breaker room.

*Searchlight Control.*

Searchlight stabilising position ...	Stabilising room.
--------------------------------------	-------------------

*Miscellaneous.*

Accommodation ladder ...	Quartermaster.
Wheel house ...	Upper steering position.
Fore capstan (direct phone from compass platform)	Forecastle.

(b) Voicepipes, telephones and electromegaphones should be tallied in accordance with the revised nomenclature, now approved.

(c) In the case of “ Kent ” class ships, additional tally plates in accordance with the revised nomenclature are to be fitted where considered necessary by the ships' officers. Such additional tally plates are to be restricted as far as possible, and estimates for fitting the same are to be forwarded by the Overseers and Dockyards concerned.

It is necessary to retain the present tallies in these ships in order to avoid alterations to the terminal markings of low power junction boxes, engraving of fire control transmitting apparatus which communicates to more than one position, telephone exchanges, change over switches, etc.

(d) As regards the “ London ” class, the revised nomenclature will be included, as far as possible, in the drawings of the low power communications.

Arrangements should, however, be made by the shipbuilders to ensure that all terminal markings of boxes and engravings of instruments, tallies for voicepipes, etc., agree with the nomenclature now approved to be adopted.

(e) The revised nomenclature should also be adopted for ships later than “ London ” class.

## 3065.—Establishment of Naval Stores for Engineering Purposes—Issue of Revised Edition.

(N.S. 9095/26.—2.12.1927.)

A revised edition of the "Establishment of Naval Stores for Engineering Purposes (Part I)" has been approved and copies will be forwarded to the various distributing authorities from R.N. Store Depôt, Deptford. Two copies have been allowed to each ship affected.

2. Part I of the Establishment, which is now being issued, provides for Battleships, Battle Cruisers and Cruisers, and for the Aircraft Carriers "Glorious," "Courageous," "Furious," "Eagle" and "Hermes." Part II, which will be issued later, will provide for every other vessel except Flotilla Leaders, Destroyers, Submarines, Hospital Ship, Monitors, Patrol Boats, "Insect" class and all China Gunboats, Motor Launches, Tugs, Trawlers and Drifters. The ships dealt with in Part II include "Argus," "Princess Margaret," Repair and Depôt Ships, Sloops, Minesweepers in full commission, Surveying Vessels and Yachts. The vessels excepted will remain as at present under separate Establishments.

3. "Permanent" stores.—The allowances of "permanent" stores in Part I have been tabulated for each class of vessel, e.g., "Royal Sovereign" class, "Queen Elizabeth" class, "D" class cruisers, "C" class cruisers, etc., and wherever possible, definite numerical allowances for each class have been shown in place of scale allowances, per boiler or per head of complement, etc. The outfit of tools has been revised and allowances have been added of a number of new pattern tools. The items shown below in lists "A" and "B" have been deleted from the previous edition of the Establishment and are to be transferred to the "Fixture List," as "spare gear" in the case of those in list "A," and as "special fittings" in the case of those in list "B." The term "special fittings" is intended to include certain articles supplied solely for use with a specific piece of machinery or apparatus, and others which require for their maintenance continuous technical supervision. Returns in respect of these items are to be rendered in accordance with Article 710 (24) King's Regulations and Admiralty Instructions.

4. Consumable stores.—The operation of Central Storekeeping renders unnecessary the perpetuation of quantity allowances, but a list is inserted in the revised Establishment detailing the *descriptions* of stores to which ships will be limited. A.F.O. 319/25 is accordingly no longer operative in regard to such stores for engineering purposes required by ships included in this Establishment.

Under present arrangements, ships maintain a minimum stock of two months' peace expenditure of consumable stores, this being taken generally as the equivalent of one month's war expenditure. In order, however, to make provision as far as is possible for emergencies which may arise and which may not necessarily be covered by a reserve of two months' normal expenditure, an "Emergency Stock" of certain essential stores has been fixed and shown separately in the Establishment. To provide for the war reserve, it is intended that these fixed quantities should be demanded in lieu of two months' expenditure of the items. To ensure a turnover of this stock, these stores should not be laid apart but should be used in the ordinary way. The Accountant Officer should make special notation in the ship's ledgers of the quantities fixed as "emergency stock" and special action should be taken to demand replenishments immediately figures of stock fall to this level. The first outfit of "consumable" stores for new ships will normally be based on the average expenditure for four months of a typical ship taken over a period of from one to three years, plus the quantities fixed as "emergency stock" or the normal war reserve, whichever is greater.

### LIST "A."

*Items deleted from Establishment and to be transferred to Fixture List as "Spare Gear."*

B.2.

Tubes, steel, for oil heaters.

- B.6.  
 Tubes, copper, for air heaters.  
 ,, brass, solid drawn for distilling condensers.  
 ,, " " " " refrigerators.  
 ,, " " " " surface condensers, main.  
 ,, " " " " " " auxiliary.  
 ,, " " " " " evaporator drain coolers or feed heaters.

- B.12.  
 Patt. 2, spindles for oil fuel sprayers, 600 lbs.  
 ,, 5, " " " " " 400 "  
 ,, 8, caps for spindles, 600 lbs.  
 ,, 9, " " " " 400 "

## LIST "B."

*Items deleted from Establishment and to be transferred to Fixture List as "Special Fittings."*

- B.8.  
 Hoses, canvas, H.P. unlined, delivery :—  
 2½ in. No. 3 size, 40 ft. long.  
 " " " 20 "  
 Hoses, bronze, No. 4 size, 40 ft. long, with one male and one female screwed  
 No. 4 Admiralty hose connections—for fuelling destroyers.  
 Hoses, steel, flexible, No. 1 or No. 2 size in 20 ft. lengths, fitted with screw  
 connections—for fuelling oil fired steamboats.  
 Hoses, leather, suction, No. 2 size, 6½ ft. with Nunan couplings—for use with  
 Stone's hydro-extractor.  
 Hoses, I.R. suction, fitted with N. and S. couplings—for use with submersible  
 pumping sets.  
 Patt. 391, machines, punching, hand lever, ½ in. hole, ½ in. plate, with one set  
 of spare dies and punches.  
 Patt. 392, machines, shearing, hand lever, to cut ¼ in., with one set of spare  
 blades.  
 Apparatus, tube expanding, tapping and plugging, complete with gear and one  
 set of spare rollers for W.T. boilers.  
 Apparatus for testing oil fuel for viscosity.  
 Patt. 2528, apparatus for testing oil fuel for flash point (Pensky Marten's).

- B.9.  
 Patt. 1521, branch pipes, copper, N. and S., with fixed jet, No. 3 size, for engine  
 and boiler rooms.

- B.10.  
 Patt. 1607, forge, motor driven, 220 volts.

- B.11.  
 Taps for Pearn's lightning tapping apparatus.  
 Patts. 623-634B }  
 ,, 950-956A } Screw cutting or chasing tools, C.S. hand and machine, for  
 and 970. } lathes.  
 Patts. 1500-1520 }  
 ,, 1526-1529 } Expanders, tube roller, self-feeding.  
 Patt. 1511, expanders for Messrs. Mirrlees, Bickerton & Day type generators.  
 Patts. 1521-1525, ratchet handles for expanders.

- B.12.  
 Drifts for expanders for heater tubes.

- F.1.  
 Electric drilling machine, portable.

### 3103.—Claims to Compensation for Injury—Circumstances in which Injured Men are to be placed on Light Duties, and Amplification of Post-accident Efficiency Report (Form 739B).

(C. (III) 11665.—2.12.1927.)

In order to establish definitely that the necessity of putting an injured workman on any other work than the normal duties of his grade results from his injury and is not due to any other cause unconnected with the injury, a workman who has sustained injury on duty is, in future, to be employed on light duties on *account of his injury* only on the recommendation of the Medical Officer, and not for any period in excess of that recommended without the further concurrence of the Medical Officer.

2. The period or periods of light duties recommended, together with the nature of the light employment assigned, should be recorded departmentally, and when it is found necessary to complete a Form D.739B, and the reply to Question 2 is in the affirmative, the details so recorded should be furnished.

The next reprint of Form D.739B will be amended as necessary.

### 3120.—Issued Confidentially.

#### 3127.—“M” Type Motors—Allowances of Spare.

(N.S. 8451/27.—9.12.1927.)

The following allowances of spare “M” type motors for all purposes have been approved :—

<i>Ship or Class.</i>	<i>Patterns and Marks.</i>				
	9295. <i>Mk. I.</i>	9296. <i>Mk. II.</i>	9297. <i>Mk. III.</i>	9298. <i>Mk. X.</i>	9299. <i>Mk. XII.</i>
“Nelson” class ... ..	2	—	10	4	2
“Royal Sovereign” class ... ..	—	2	4	1	—
“Queen Elizabeth” class ... ..	—	2	4	1	—
“Hood” ... ..	—	2	4	—	—
“Renown” class ... ..	—	2	4	1	—
“Tiger” ... ..	—	2	4	1	—
“Kent” class ... ..	1	—	6	2	2
“Australia” and “Canberra”	1	—	6	2	2
“London” class ... ..	1	—	6	2	2
“Dorsetshire” ... ..	1	—	6	2	2
“Norfolk” ... ..	1	—	6	2	2
“York” ... ..	1	—	6	2	2
“Enterprise” ... ..	—	2	—	—	—
“Courageous” ... ..	1	1	4	—	—
“Adventure” ... ..	1	—	4	—	1
“Amazon” ... ..	—	1	2	—	2
“Ambuscade” ... ..	—	1	2	—	2

2. Stocks of “M” type motors are kept at Chatham, and demands to complete to the allowances shown should be forwarded to that yard.

3. The spare motors are to be taken on charge in the Central Store Accounts as permanent stores for electrical and torpedo purposes, and motors in excess of the allowances on board any of the ships referred to should be returned to the storing yards.

### 3163.—Issued Confidentially.

#### 3167.—Shell, 8 in. and below, with Base Adapter—Watertightness.

(G. 7755/25.—16.12.1927.)

In order to ensure the watertightness of base adapter shell, 8 in. and below, filled by poured filling or cast blocks, it has been approved, in future, to fit a copper-asbestos washer under the adapter flange. This affects the design of shell and can only be applied to future manufacture.

2. As regards shell in which no provision has been made for the fitting of a copper-asbestos washer, it has been approved to render the adapters watertight by means of riveting over the joint of adapter and shell.

3. In addition, special cement will be used in future on the threads of the base adapter of the shell.

4. The following markings will be stamped on shell concerned, as applicable, viz. :—

(a) Symbol  $\diamond$  stamped under "S" on base (or body in the case of shell for fixed ammn.) denotes adapter secured with special cement.

*Note.*—This marking will not be shown when the design or Mark of shell already provides for sealing the adapter with special cement.

(b) Symbol  $\diamond$  stamped under "S" on base (or body in the case of shell for fixed ammn.) denotes adapter riveted.

5. Issues to H.M. ships of shell carrying these markings will be effected gradually.

6. The markings, where applicable, will be stamped with stamps of approximately the same size as those used for the base markings.

**3168.**—*Issued Confidentially.*

**\*3199.—Staff Return (Quarterly)—Amended Form.**

(C.E. 6469/27.—16.12.1927.)

3033/31

As from 1st January, 1928, the Quarterly Staff Return is to be rendered on Form E.40 (Estastaff), which will replace Form 1E.D. Supplies of the form should be obtained from the Superintendent, R.N. Store Depôt, West India Docks, E., and not from H.M. Stationery Office.

Form E.40 should be forwarded to the Secretary of the Admiralty (C.E. Branch) not later than the fifth day of January, April, July and October, and should not be sent direct to the Treasury.

Statements giving full details of any variation in the figures of Table I, as compared with the previous quarter's return, are to accompany the Staff Return. The particulars furnished should include Department, Name, Grade, Column of table affected, Date of entry (if addition), and Date of transfer or discharge (if reduction).

The following instructions which are supplementary to those shown on page 3 of Form E.40, should be noted :—

*Retired* Naval officers and pensioners who are paid on a civilian basis should be *included* in the return. Members of the Q.A.R.N.N.S. should not be included.

The classification of non-industrial staff in Table IV, Groups II (b), VII, VIII, IX and X is shown hereunder :—

**GROUP IIB.—OTHER EXECUTIVE.**

Civil Assistants.	}	Admiralty Headquarters.
Staff Officers.		
Librarian.		
Deputy Librarian.		
Principal Lady Superintendent.	}	Admiralty Headquarters and Outports.
Armament Supply Officers, etc.		
Naval Stores Officers, etc.		
Expense Accounts Officers, etc.		
Victualling Stores Officers, etc.		
Cashiers, Secretaries, etc.		
Assistant Accounts Officers, etc.		
Contract Officers, etc.		



## GROUP VI.—INSPECTORATE.

No entries under this heading.

## GROUP VII.—PROFESSIONAL, SCIENTIFIC AND TECHNICAL.

Members of the Royal Corps of Naval Constructors, Electrical Engineers, etc. :—

Examiners.	}	Admiralty Headquarters, Professional Departments.
Inspecting Officers.		
Engineering Assistants.		
Timber Inspectors.		
Ballistic Officers and Assistants.	}	Naval Ordnance Department.
Examiners.		
C.I.N.O.	}	C.I.N.O. Department.
Deputies and similar grades Examiners.		

I.N.O. and similar grades, unless receiving Naval pay, Woolwich, etc. :—

Technical Assistant.	}	Contract and Purchase Department.		
Assistant Technical Officer.				
Visiting Inspectors.				
Inspectors of Coal.				
Railway Transport Officer.				
Professional Accountants, etc.				
Technical Costs Officers, etc.				
Technical Assistants and Junior Technical Assistants.			}	Torpedo and Mining Department.
Director.				
Superintendent and Assistants.			}	Compass Department.
Civil Engineers.				
Surveyors.	}	Civil Engineer-in-Chief's Department.		
Surveyors of Lands, etc.				
Visiting Inspectors.				
Technical Assistants, etc.	}	Naval Stores Department.		
Chief Technical Officer at Admiralty Garage.				
Officer-in-Charge, Oil Fuel Depôts.				
Secretary, W/T Board.	}	R.N. Torpedo Factory, Greenock.		
Laboratory Managers, Naval Armament Depôts.				
Superintendent and Assistant Works Manager.				
Range Officer.				
Inspecting Torpedo Officer.				
Shop Manager.				
Designers.				
Superintendent and Assistant Manager.			}	R.N. Cordite Factory, Holton Heath.
Danger Building Officer.				
Works Officer.				
Assistant Inspector of Cotton.				
Chief Mechanical Engineer and Assistant.	}	S.T.E., Stokes Bay. Research and Design Department, Woolwich.		
Superintendent and Assistant.				
Superintendent, Assistants, etc.				
Scientific Assistants, etc.	}	Scientific and Technical Pools.		
Technical Assistants, etc.				
Technical Officers, etc.				
Engineers, etc.				
Professors.	}	R.N. Schools and Colleges.		
Demonstrators.				
Lecturers.				
Instructors.				
Masters, etc.				

GROUP VII.—PROFESSIONAL, SCIENTIFIC AND TECHNICAL—*continued.*

Astronomer Royal.	}	Royal Observatory,
Assistants and Junior Assistants.		Greenwich.
Superintendent and Assistants.		Nautical Almanac Office.
Pharmacists, etc.		R.N. Hospitals.
Chemists and Analysts.		Various Departments.
Surveyor of Stores.	}	Professional Departments.
Senior Foremen.		
Designers.	}	Admiralty Engineering
Testing Engineers.		Laboratory, West Drayton.
Cartographers.		Hydrographic Department.
Technical Examining Officers and Assistants.		Victualling Yards.
Shipping Master.		Royal Victoria Yard,
		Deptford.
Master.	}	Cable Ship 'Kilmun.'
1st and 2nd Officers.		

## GROUP VIII.—SUBORDINATE, SUPERVISORY AND TECHNICAL.

Inspectors of Trades.	}	Professional Departments.
Foremen of Trades.		
Assistant Costings Officers.		
Electrical Station Engineers.		
Draughtsmen.		
Superintending Engineering and Architectural Assistants.	}	Civil Engineer-in-Chief's
Engineering and Architectural Assistants.		Department
Draughtsmen.		
District Surveyors of Works.		
General Foremen and Foremen of Works.		
Modeller.		
Draughtsmen.	}	Hydrographic Department.
Chart Depôt Assistants, etc.		
Tracers.		Admiralty Headquarters and
		Outports.
Welfare (Nurse).		Admiralty Headquarters.
Custodian of Patterns and Assistant.		Contract and Purchase
		Department.
Principal Foremen, Senior Foremen, and Foremen of Storehouses.	}	Naval Stores Department.
Inspector of Storehousemen.		
Inspecting Officers of Central Storekeeping and Assistants.		
Foreman and Assistant Foreman Mechanic at Admiralty Garage.		
Foremen and Assistant Foremen of Laboratory.	}	Naval Armament Depôts.
Foremen and Assistant Foremen of Factory.		
Foremen and Inspectors of Fitters (Torpedo Depôts).		
Senior Foremen, Foremen, and Assistant Foremen of Storehouses.		
Torpedo Foremen.	}	R.N. Cordite Factory, Holton
Torpedo Assistant Foremen.		Heath.
Principal Foremen, Foremen and Assistant Foremen of Manufacture.		
Foremen and Assistant Foremen of Fitters, Electricians, Gas, Factory and Carpenters.		
Foremen and Inspectors of Chemical Plumbers.		
Foremen and Assistant Foremen of Works.		
Supervisors (Welfare).		
Climatic Hut Examiners.		

GROUP VIII.—SUBORDINATE, SUPERVISORY AND TECHNICAL—*continued.*

Superintending and Leading Measurers and Recorders.	Expense Accounts Department.
Shipping Master.	C.I.N.O. Department, Woolwich.
Curator of Drawings.	} Naval Construction Department.
Modellers.	
Torpedo Instructor.	Torpedo and Mining Department.
Experimenter.	} Haslar Experimental Works.
Record Keeper.	
Experimental Assistants.	Admiralty Engineering Laboratory, West Drayton.
Engineers.	} Victualling Yards.
Foremen and Inspectors of Storehouses.	
Meat Inspectors.	
Millers and Bakers.	
Leading Men.	
Chief Torpedo Observer.	} S.T.E., Stokes Bay.
Foreman of Experimental Workshop.	
Designing Draughtsman.	
Principal and Senior Artificers.	} Scientific and Technical Pools.
Artificers.	
Foremen of Trades.	
Kinematographer.	
Assistant Photographer.	
Laboratory Probationers and Assistants.	Various Departments.
Massage Sisters.	} R.N. Hospitals.
Masseuses.	
Store Matrons.	
Retired Boatswain.	
Engineers.	
	R.N. College, Dartmouth. Cable Ship "Kilmun."

GROUP IX.—MINOR AND MANIPULATIVE.

Photostat Operators and Photo Printers.	Admiralty Headquarters.
Photographic Operators.	Naval Construction Department.
Sunprinter.	H.M.S. "Vernon."
Timekeepers.	Outports.

GROUP X.—MESSENGERS, PORTERS, ETC.

Office Keeper.	} Admiralty Headquarters.
Housekeeper.	
Girl Messengers.	
Male Messengers.	} Admiralty Headquarters and Outports.
Packers.	
Charwomen.	
Laboratory Attendants and Analagous Grades.	

Officers on detached duty, Overseers, etc., should be included in the return from the establishment by which they are paid. Note 7 on page 3 of Form E. 40 refers to staff on loan to other Departments of State.

**3215.—Gun Mountings—Gyro Firing Gear.**

(G. 17194/27.—23.12.1927.)

Failures to fire in gyro firing have recently been reported from two ships. These have been attributed to bad electrical contact between the switch plate and the contact rollers of the gyro firing gear.

2. Attention is to be given to the following points in all ships equipped with this gear.

- (a) When fitting a new switch plate, care is to be taken that the insulation separating the two halves of this plate is not proud. If necessary, the insulation is to be rubbed down with fine emery. Similar treatment may be required if the insulation has swollen due to dampness or changes in temperature.
- (b) If the resistance across the roller contacts is too high, it is permissible to bend the spring arm slightly so as to make the rollers bear more heavily on the contact plate. Care must be taken that the extent of this adjustment is not excessive, or the balance of the gyro will be affected.

### 3222.—Submarines—Steaming Light Fittings.

*Dockyards and Overseers.*

(D. 17374/27.—23.12.1927.)

The present arrangement of steaming light fittings necessitates the removal of the screen and guard in order to replace a defective lamp, and it is therefore necessary to mark definitely the positions of the screen and guard relative to the body of the fitting, so that when fitted together it can easily be seen that the screen is in the proper position to cut off the light at the correct quarter without taking special observations. Dockyard officers and overseers should therefore arrange for this marking on steaming light fittings of submarines, so that the position of the screen relative to the body of the fitting is correctly indicated. A locking screw is provided to enable the screen to be maintained in the correct position.

### 3236.—Envelopes—Standardisation.

(Sta. 7058/27.—23.12.1927.)

It has been decided to adopt the following standard size small envelopes for general use in the Fleet and also in shore establishments:—

No. 1.  $9\frac{7}{8}$  in. by  $4\frac{7}{8}$  in.

No. 2.  $8\frac{7}{8}$  in. by  $3\frac{3}{4}$  in.

No. 4.  $5\frac{1}{2}$  in. by 3 in.

No. 5 (5 in. by 3 in.) and the 5 in. by 4 in. size envelopes, printed, "O.H.M.S.", will not be supplied in future, and the maximum possible use is to be made of the No. 4 envelope in lieu of the No. 2 envelope by folding the communication, where not too bulky. It is hoped to effect a considerable reduction in the expenditure of the No. 2 size envelope, and the co-operation of responsible officers is invited to assist in overcoming any initial difficulties due to the necessity of folding communications so as to fit the smaller envelope.

Apart from the saving this will effect in the cost of stationery, the sorting of correspondence in the Post Office would be facilitated by attention to methods of folding. Envelopes larger than  $8\frac{3}{4}$  in. by  $3\frac{3}{4}$  in. have to be date stamped by hand and sorted at separate tables, while packets the contents of which do not closely fit the envelopes give rise to trouble in the process of mechanical date stamping.

The larger size envelopes, 10 in. by 8 in. and 15 in. by 10 in., will continue to be supplied where necessary.

### 3249.—Issued Confidentially.

### 3260.—Electric Cables and Wires—Protection against Damage.

*Ships and Dockyards.*

(G. 17249/27.—30.12.1927.)

Where electric cables and wires are installed in positions where they are likely to receive injury, attention is drawn to the necessity of fitting guards *immediately* after the cables and wires have been installed. Recent experience has shown that a considerable time has been allowed to elapse after installation before the guards have been fitted, with the result that the cables and wires have received considerable injury.

2. Where deck tubes for single cables are employed, and in cases where it is considered advantageous, these deck tubes should be provided with a set so that the minimum length of free cable between the top of the deck tube and bulkhead or other structure may be obtained.

### 3265.—Local Purchases Abroad—Dutiable Articles.

(C.E.-in-C. 25569/26.—30.12.1927.)

Where contracts are made locally at Naval Establishments abroad for stores and materials subject to Customs or Excise duty, the following action is to be taken:—

- (a) It is to be ascertained whether, under the local Government's regulations, it is possible for supplies made to Naval Establishments to be free of the duty by way of exemption or drawback, and, if so, what are the necessary formalities.
- (b) If exemption cannot be obtained, it is to be left to the contractor to pay the duty, and it is to be indicated clearly in the tender forms and contract that the prices are to be inclusive of the duty.
- (c) If exemption from or drawback of duty can be obtained in respect of supplies to Naval Establishments, and if the necessary formalities are such as can be performed by the contractor supplying the goods, it is to be made a condition of the contract that the contractor shall take the necessary steps to obtain exemption from or drawback of duty, and in all such cases the contract price is to be exclusive of the duty.
- (d) Where the necessary formalities for obtaining drawback or exemption are such as can only be performed by an officer representing the Admiralty, it is to be indicated clearly on the tender forms and contract that the contractor is (or is not) to pay the duty, and that the prices are to be inclusive (or exclusive) of the duty, as the case may be.

2. Where exemption from or drawback of the duty can be obtained by direct action on the part of an officer representing the Admiralty, but not by the contractor, the necessary steps are to be taken by the proper officer. The contractor is to render to the proper officer such information as may be required by the local authorities to enable the amount of the duty to be recovered. The contract must be clear that the contractor will have no claim to such refund.

3. If drawback or exemption cannot be obtained either by the contractor or the proper officer, the circumstances with particulars of the claim are to be reported to the Admiralty.

4. These instructions do not apply to local purchases at the Cape of Good Hope Yard, as an agreement has been reached with the Union Government of South Africa whereby a sum of £100 will be paid to the Admiralty annually from the Consolidated Revenue Fund, in lieu of a refund of duties originally paid on goods purchased from open stocks in the Union of South Africa. This payment is to be divided equally between Vote 8, Section 2, Subhead J, and Vote 10, Subhead N (Appropriations in Aid).

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# 1928.

## \*3.—Dogs—Landing at Gibraltar.

(N./M.D.G. 13293/27.—6.1.1928.)

A dog may be imported into Gibraltar—

- (a) from the United Kingdom provided the animal is not undergoing a period of quarantine there;
- (b) from a place other than the United Kingdom where rabies is not endemic, but it must have been in such place for at least six months. If it has to pass through an area where rabies is endemic, it cannot be admitted until it has undergone six months' quarantine in the United Kingdom;

and in each case only upon a licence to be granted by the Governor.

2. Among the conditions for the grant of such a licence it has been laid down that an application for a licence to land a dog in Gibraltar should be made and a licence obtained before the dog leaves *country of shipment*; application for a licence must be made on a form, copies of which can be obtained from the Colonial Secretary, Gibraltar, giving full details as to breed, sex, age, colour, etc., and vessel in which the dog is to be sent, with approximate date of landing.

3. Before a licence is granted by the Governor the applicant must submit a veterinary certificate that the dog is free from disease, and has not come from a district scheduled on account of rabies.

4. The dog must be brought direct to Gibraltar from the country of shipment by a vessel which touches at no intermediate ports.

## 4.—*Issued Confidentially.*

## \*6.—Oil Pollution of Navigable Waters.

(N.S. Fuel 3847/27.—6.1.1928.)

In order to comply with the instructions laid down in A.F.O. 1173/27, it will be necessary to take steps to prevent oily refuse being discharged into the sea within 50 miles of any coast. No oily refuse should, therefore, be handed over to sullage contractors as their contracts do not cover the removal of refuse under such conditions. Similarly no oily refuse is to be placed in any dockyard sullage lighter or craft unless special arrangements have been made for it to be disposed of on shore or discharged into the sea 50 miles from any coast.

2. Experiments are being carried out at certain yards and establishments in connection with the treatment and disposal of oily refuse. Pending consideration and decision on the result of such experiments, arrangements should be made for disposal on shore of as much as practicable of the residue from cleaning tanks (e.g., oakum, sawdust, etc., saturated with oil fuel) the boilers of yard plant being utilized to the greatest extent possible in this connection.

3. Special arrangements will have to be made for the disposal of large accumulations, but before such accumulations are dealt with steps should be taken to ascertain that they have no commercial value, and the question should be referred to the Admiralty for decision.

(A.F.Os. 718/23 and 1173/27.)

**14.—8 in. Guns—Form of Tube Chamber—REPORT.**

(G. 18580/24.—6.1.1928.)

In order to reduce the necessity for reamering and to prevent the accumulation of debris at the front end of the tube chamber, which might prevent the tube going home, the tube chambers of 8 in. B.L. guns have been designed with a tapered front end.

2. It is possible that in this design the tubes may be more liable to split at the mouth, resulting in damage to the tube chamber.

3. On the completion of any 8 in. full calibre firing, the fired tubes should be examined and, if any serious mouth defects are observed, a report should be forwarded. This report should be accompanied by the fired tubes and, if necessary, by an impression of the tube chamber.

4. It is hoped to adopt this modification to tube chambers of other B.L. guns when experience has been gained with 8 in. guns.

**20.—Hydrophone Installations—Unauthorised Alterations.**

(S.D./G. 19363/27.—6.1.1928.)

Cases have recently occurred in which the standard wiring of hydrophone installations has been altered without Admiralty authority.

2. While it is realised that these alterations have been made in an endeavour to improve the installations in question, it is considered that this practice not only leads to duplication of experiments, but may well result in the hydrophone installations being rendered less effective than the standard.

3. Any suggestions for improving the standard installation should be forwarded through the usual channels, with a copy to the Captain A/S, Portland.

**57.—Foreign Consular Officers—Enquiries by.**

(M. 4353/27.—13.1.1928.)

The United States Navy Department are preparing a "Port Directory" for all ports of the world, and have issued to the U.S.A. Consular authorities a questionnaire calling for detailed information on the following subjects, viz. :—

Pilotage.	Harbour Regulations.
Salutes.	Shore Drills.
W/T.	Leave.
Signal stations.	Fuelling.
Officials and courtesies.	Dock and repair facilities.
Quarantine.	Cable communications.
Anchorage.	Etc., etc.

2. The Consular Officers have, in a number of cases, applied to local officials for the information required.

3. My Lords consider that such official enquiries are to be encouraged, and information of a non-confidential character should be supplied in all cases. A precedent is thus established for requests of a similar nature being made on our behalf, when information from unofficial sources is incomplete. It is preferable that information asked for should be supplied officially, thereby encouraging official enquiries rather than unofficial investigation.

4. It is, however, undesirable that information concerning Dockyards and Government supplies (particularly oil fuel) should be given to United States Consuls

5. Recent examples of these questionnaires which have been received in the Admiralty embody an enquiry for data for a naval air pilot. The attention of Commanders-in-Chief is drawn to the fact that the question of supplying such information is primarily a matter for the Air Ministry.

6. Commanders-in-Chief are to take steps to advise any Indian, Colonial or Dominion local authorities to whom these questionnaires may be addressed to refer them to their Government, in order that the desirability of communicating this information through diplomatic channels may be considered.

## 58.—Fisheries—Marking of Potting Gear.

(M. 4607.—13.1.1928.)

The following notice to fishermen regarding the marking of potting gear is applicable to the whole of the South Coast of England :—

### NOTICE TO FISHERMEN.

#### MARKING OF POTTING GEAR.

Owing to the difficulty that has hitherto been experienced by H.M. Ships in sighting fishermen's potting gear, the Ministry strongly advises that all pots should be marked with buoys of the type shown on the diagram (E.F.O. 131/27). In cases where a line of pots is strung together the line should be buoyed at each end.

Buoys of the type illustrated are in general use on other parts of the coast, and have been found effective in indicating clearly the position of fishing gear.

The Ministry has decided that after the 31st October, 1927, it will not recommend payment of any compensation in respect of damage to or loss of gear caused by H.M. Ships unless the gear is adequately marked by suitable buoys.

Ministry of Agriculture and Fisheries,  
September, 1927.

### 64.—*Issued Confidentially.*

## \*68.—Medical and Hospital Treatment of Persons within the Scope of the Workmen's Compensation Acts and Government Schemes of Compensation framed thereunder.

(C.E./C. (III) 9202/27.—13.1.1928.)

The following revised regulations governing the provision of medical attendance and hospital treatment in the case of civilian workpeople in Home Establishments, and such other persons as come within the scope of Workmen's Compensation Acts, or the Government Schemes of Compensation framed thereunder, are promulgated for information and guidance.

### I. *Medical Treatment.*

(a) In the case of workpeople injured by accident arising out of and in the course of their employment who have accepted the Government Scheme of Compensation, medical treatment at their own homes or at the surgery is provided at the expense of Navy Funds by Naval Medical Officers, or by surgeons and agents or private medical practitioners if the services of a Naval Medical Officer are not available.

(b) Workpeople injured by accident arising out of and in the course of their employment, who have not accepted or have withdrawn from the Government Scheme, are not entitled to medical treatment at the expense of Navy Funds, but receive such treatment from their "panel" doctors. In cases of emergency where it is necessary to call in a doctor to attend such an employee immediately after an accident, and a Naval Medical Officer is not available, the local surgeon and agent should be called in (or if a surgeon and agent is not available, a private medical practitioner), subject to the Admiralty's liability being restricted to the expense of affording only such medical treatment as is essential before the employee can be transferred to the medical care of his (or her) "panel" doctor. Any claims received by the Establishment in respect of cases of this nature should be referred to the Accountant General of the Navy for prior approval.

### II. *Hospital Treatment.*

(a) In the case of *Workpeople who have accepted the Government Scheme of Compensation*, hospital treatment will be afforded at the expense of Navy Funds *where accommodation is available in a Naval Hospital*. If it is necessary, however, in the case of an injury occurring at an establishment which has no ready access to a Naval Hospital, to send such an employee forthwith to the nearest civil hospital, the charges arising will be met out of Navy Funds.



(b) *Workpeople who do not come within the Government Scheme of Compensation* are not entitled to hospital treatment at the expense of Naval Funds either from Service or other sources. They should be admitted to a Naval Hospital only when their removal thereto immediately after the accident is a matter of urgent necessity; if so admitted, a charge of 2s. a day will be imposed. Yard craft employees in such circumstances are to be dealt with, as regards charge, as provided in their agreements, where such agreements provide for more favourable treatment. Where workpeople not coming within the Scheme are, in similar circumstances of emergency, sent to a civil hospital, the expenses arising therefrom will be met from Navy Funds as in the case of workpeople within the Scheme, but a charge of 2s. a day will be made, as provided above in the case of persons admitted to a Naval Hospital only in emergency.

(c) When any employee is admitted to a Naval Hospital for *diagnostic* purposes, no charge will be made (*vide* Instructions for Naval Hospitals, 1927, Art. 355).

(d) Claims for the maintenance of workpeople in civil hospitals will be dealt with by the Accountant General of the Navy, to whom they should be forwarded, together with particulars of any contribution to the hospital funds obtained from the workpeople themselves by the hospital authorities.

(e) The charge of 2s. a day referred to in (b) above will, where applicable, be made in all cases of *admission* to hospital subsequent to the date of this Order.

(A.F.O. 3039/28.)

### 83.—“Secondary Lighting” and “Emergency Lighting”— Definition of Terms.

(G. 17490/27.—13.1.1928.)

As doubt exists as to the meaning of the terms “Secondary Lighting” and “Emergency Lighting,” the following definitions have been approved and are promulgated for information and guidance.

2. *Secondary Lighting*.—The term “secondary lighting” includes all self-contained lamps. These may be either fixed or portable and include electric lamps, provided that they are independent of an external circuit, e.g., magazine lamps.

3. *Emergency Lighting*.—The term “emergency lighting” includes all electric lighting fed from circuits, which are provided to afford illumination in the event of the normal lighting arrangements failing. The circuit may be H.P. or L.P., temporary or permanent, and the source of supply may be from a generator or from a battery.

### 84.—Triplex Glass Scuttles in Conning Towers.

*Submarines “L” Class, “L 50” and earlier classes.*

(D. 17361/27.—13.1.1928.)

A case having recently occurred of the fracture of two triplex glass side scuttles in the conning tower of an “L” Class submarine, it has been decided that, in the “L,” “L 50,” and earlier classes of submarines, when glass conning tower scuttles, other than those fitted in the hatch covers, become defective, they are to be removed and the openings permanently blanked with metal plates.

### 85.—After Peaks of Twin Screw Minesweepers— Cement Washing.

(D. 307/28.—13.1.1928.)

The after peaks of all twin screw minesweepers which are being retained should be cement washed by the ship’s staff as opportunity offers.

### 103.—Telephone Systems at H.M. Dockyards and Naval Establishments.

(D.16966/27.—13.1.1928.)

Periodical investigations are to be made as to the necessity for the retention of telephone services already provided, and such telephones as may be no longer considered essential for official purposes are to be recovered.

2. A certificate is to be furnished on the forms D.152, which are to be rendered on 1st July in each year for all proposed alterations and additions, that action as above has been taken, and that all telephones already provided are essential for official purposes.

The certificate should still be furnished in the event of a "Nil" return being made for alterations and additions.

(*Home Dockyard Regulations, Art. 901, para. 17.*)

### 105.—Gun Mountings, Transferable—Electric Circuits, etc.

*Electrical and Gun Mounting Overseers and District and Electrical Engineers ; also all Dockyards.*

(G. 16693/27.—13.1.1928.)

When fitting cables on transferable gun mountings, great care is to be taken to avoid leading them over sharp corners.

2. While it is realised that in some cases cables must pass over sharp edges, there are often possibilities of avoiding the difficulty by selecting a slightly different route or of easing them by the fitting of a short length of bent plate.

3. The foregoing applies equally to cables supplied with the mountings by the gun mounting contractors and those supplied by the shipbuilders.

4. The Order is applicable to all new construction and to existing mountings when being rewired.

### 111.—Protective Mattresses—Instructions for Guidance in Manufacture, etc.—REPORTS.

(N.S. 16241/27.—13.1.1928.)

The following instructions are promulgated for guidance in the making up of protective mattresses, and are to be followed in all cases when manufacture of these articles becomes necessary.

2. The filling to be of Pattern 3 felt, hair, thick, dry, the sheets arranged so as to make a regular and uniform thickness of 4 in., and to be completely covered with a layer of asbestos sheeting,  $\frac{1}{4}$  in. thick, Pattern 18, the edges of the asbestos being drawn together with a long stitch of doubled Pattern 51 roping twine.

3. The outer covering to be of Merchant Navy canvas, grey, No. 4, and fitted with 6 No. canvas beackets, one at each corner and one midway between on each of the long sides. The beackets to be made from  $\frac{1}{4}$  breadth of canvas doubled to form a width of  $2\frac{1}{2}$  in., and cut 12 in. in length;  $1\frac{1}{2}$  in. of each end of the beacket to be well secured to the canvas cover, the distance between the inner points of security being 7 in.

4. The mattress is to be quilted with doubled, Pattern 51, roping twine, the stitches not to exceed  $1\frac{1}{4}$  in. in length. The quilting to consist of a row of stitches down the centre of mattress and along the diagonals of the two squares formed by the centre row of stitches.

5. Care must be taken to ensure that the felt used in the filling is in a dry condition.

### 118.—Cape Guardafui Wireless Station—D/F Bearings— REPORTS.

(M. 5175/27.—20.1.1928.)

Reports have been received stating that erroneous Wireless Bearings have been given by Cape Guardafui Wireless Station (Italian Somaliland).

Caution is, therefore, necessary in accepting the accuracy of such bearings.

H.M. ships obtaining bearings from this station are to furnish a special report to the Admiralty, as further information is required.

### 129.—Leather Scabbard, Bayonet No. 1, Mark II— Repairing Locket End.

(G. 17247/27.—20.1.1928.)

In future, when the tangs at the locket end of the leather scabbard are broken, they will be replaced by the fitting, sewing and glueing of new tangs, in accordance with drawing E.F.O. 136/27.

2. The repair will be carried out by Naval Armament Depôt Staff, as necessary.

### 132.—*Issued Confidentially.*

### 135.—Hydrophone Installations—Models UC and UD— Trials, etc., during Refit—REPORTS.

(S.D./G. 19272/27.—20.1.1928.)

The following action is to be taken during refits and half-yearly docking by all ships fitted with Hydrophone Installations, Models UC and UD. The work is to be done by ship's staff except where otherwise stated.

2. When docking at Home Yards the proposed dates of docking and of flooding dock are to be communicated to the Captain A/S, by the Dockyard Officer, a fortnight's notice being given when possible.

3. During the period of refit, the outboard face of the diaphragms of plate hydrophones should be thoroughly cleansed with petrol or paraffin. The diaphragms are *not* to be scraped or burnished.

A coat of red lead and gold size, mixed in the proportion of 2·5 ozs. finely ground red lead to  $\frac{1}{8}$  pint of gold size, is to be applied to the clean diaphragms.

4. All hydrophone circuits are to be tested for continuity and insulation. These tests will be carried out by Captain A/S's representative in cases where ships dock at Home Yards.

(*Note.*—If a megger or metrohm is used when testing the microphone for insulation the two leads to the microphone should be tested together, and not separately, so that a high voltage is not placed across the microphone.)

5. *Dockyard Work.*—The dockyard is responsible for the application to the diaphragms of a thin coat of anti-fouling composition, similar to that used on the ship's hull. This coat is to be carefully and evenly applied over the red lead, a small paint brush being used for this purpose.

6. *When a new Diaphragm is fitted.*—The rim and back edge of the diaphragm, *i.e.*, parts that come in contact with the moulded rubber washer, are to be painted with one good coat of anti-sulphuric paint.

7. The diaphragm, when fitted, should be flush with the outer skin, and the part of the moulded rubber which stands proud should be pared away flush with the diaphragm.

8. As for 3.

*Note.*—Paragraphs 6, 7 and 8 only apply to ships fitted with model UD outfit.

9. *Reports.*—A copy of the report on the state of the diaphragms, and electrical tests, in cases where ships dock at Home Yards, is to be forwarded by Captain A/S to the Director of Signal Department, and the ship concerned, through Captain (D) in the case of destroyers.

Reports are not required from ships on foreign stations.

### 140.—Aircraft Carriers—Modification to Width of Catamaran Fenders.

(D. 19244/27.—20.1.1928.)

The widths of the catamaran fenders to be provided in accordance with A.F.O. 2358/27 for the aircraft carriers "Courageous," "Glorious," "Furious," "Eagle" and "Hermes," were decided before the adoption of fixed palisades at the flying deck, as laid down in C.A.F.O. 2714/27.

2. The dockyards concerned should, if it has not already been done, investigate the question of whether any modification is necessary to the widths of these fenders on account of the fitting of the fixed palisades, having regard to the requisite clearances between the same and the upper works and rigging of the various types of auxiliary craft likely to be berthed alongside. If any alteration is necessary, drawings should be submitted for approval in connection with paragraph 4 (iv) of A.F.O. 2358/27, and should embody the following:—

- (a) A sketch showing various auxiliary craft in relation to the aircraft carrier when berthed alongside with the width of fender considered most suitable.
- (b) Details of fender proposed, the estimated weight being stated on the drawing.
- (c) Arrangements for stowage.

(A.F.O. 2358/27 and C.A.F.O. 2714/27.)

### 148.—Aluminium Silicon Alloys, etc.—Specification of Impurities.

(N.S./C.P. 19267/27.—20.1.1928.)

When demands or specifications are prepared for arranging purchase of raw materials or ingots of aluminium silicon and other similar types of materials, the specifications are to define clearly the total limits of impurities which will be allowed in such materials.

### 150.—Indian Tarred Cordage—Trials—REPORTS.

(N.S. 15358/27.—20.1.1928.)

Arrangements have been made for manufacture at Chatham of a quantity of 2½ in. and 3 in. H.L. tarred cordage from yarn manufactured from prime dressed Indian hemp. This cordage, except for a small portion, which will be marked with a yellow thread similar to other cordage manufactured at Chatham, will be marked with a combination of yellow and blue thread. The Indian cordage, which is marked with a yellow thread only, is to be specially labelled when issued, to ensure that it is identified as for trial.

2. All the above cordage is to be subjected to close examination during its use, but reports should only be forwarded in cases where the rope fails to come up to the usual standard. In cases of premature fracture the section of rope where breakage occurs is to be retained for production if desired.

3. Issues of this cordage from dockyards, including any issues that have already been made, are to be reported on Form D.366, and Chatham should inform other yards of any quantities of the rope for trial supplied to meet normal requirements.

(A.F.O. 2146/29.)

### 171.—Alterations in Ships and Equipment—Procedure for dealing with Proposals.

(M. 03189/27.—27.1.1928.)

In view of the large number of proposals for alterations in existing ships or equipment which are received from the Fleet, the following statement of Admiralty policy is promulgated for information and guidance.

2. The governing principle to be kept in view is that the Fleet should be kept efficient and up-to-date in its material. All departments and services concerned in the development of naval material are therefore encouraged to foster initial research and to press forward development and experimental work in the technical establishments as much as possible. Existing ships should as far as possible embody improvements in material that have reached the stage when final adoption in the Service is justified, which in ordinary cases will mean

- (a) That the improved equipment, etc., has been adequately tried out.
- (b) That it is not considered capable of being still further improved by prolonging research and development for a further reasonable period.
- (c) That the advantages possessed by the improved equipment, etc., over that previously in use are sufficient to outweigh the disadvantage of additional cost.

3. As, however, the expense directly or indirectly involved in altering existing material or changing existing equipment is generally much greater, whilst the advantage gained may often be less, than that involved if the improvements are embodied in new construction, it is highly important that proposals shall be scrutinized from the standpoint of the question whether full value will be obtained for the expenditure. The necessity for this careful scrutiny will be recognised if it is realised that in the present financial stringency, practically every service covered by the Navy Estimates is included at the cost of the exclusion, in whole or in part, of some other desirable service.

### 188.—Percussion Firing Gear—Locks “P,” “B,” and “Y,” 6 in., 4·7 in. and 4 in. Guns.

(G. 447/28.—27.1.1928.)

An inspection of the gear at two guns in one ship revealed the fact that the P.B. lock fired when the breech was closed.

2. Investigation showed that the nut securing the trigger bar to the trigger sear had been screwed down so tightly that the trigger sear was not free to move.

3. Attention is called to the necessity for ensuring that the trigger sear is free.

### 192.—Electric Cables—Damage.

(D. 1919/27.—27.1.1928.)

In a recent case where a portion of a ventilation trunk on one of H.M. ships had to be removed by burning, damage was caused to the insulation of certain electric cables owing to dirt in the trunk igniting and falling on the cables.

2. Every care should be taken in any similar circumstances to prevent any occurrence of this nature, and special steps taken to prevent damage to electric cables.

### 195.—Side Screens—REPORT.

*Aircraft Carriers.*

(D. 18090/27.—27.1.1928.)

The following is an extract from a letter which has been received from the Commanding Officer of H.M.S. “Eagle” :—

“That side screens in H.M.S. ‘Eagle’ may be abolished as being a useless expense.

“2. Experience has shown that whenever the sun is high enough for side screens to protect the side of an ordinary ship, ‘Eagle’s’ flying deck performs this function equally well. The edge of the flying deck, and the outer leach of the side screens, and the water-line, are, in fact, practically in one straight line.

“3. . . . recommended that the booms and rigging may be landed and removed from the fixture list and that the screens themselves may be brought to use on board in lieu of issuing new canvas.”

2. The above proposal has been approved in H.M.S. “Eagle,” and reports should be forwarded from other aircraft carriers on service as to the utility of and the necessity for the side screens fitted. Details of the arrangement of the side screens should accompany the reports.

## 197.—Submarine Cells—Distortion of Terminal Studs.

(D.100/28.—27.1.1928.)

Difficulty has been experienced in removing the bottom double-flanged nuts when refitting cells of submarine batteries, owing to the copper studs having been permanently stretched and the thread in consequence distorted. This trouble may be caused by the use of excessive force when tightening the top single flange nut or by the use of too soft a grade of copper.

2. This latter point has been taken up with the battery makers, and no trouble need be anticipated under this head in future.

3. Care should, however, be exercised in tightening the top single-flanged nuts on submarine batteries to avoid undue stress, and only sufficient force should be used to ensure a thoroughly good electrical connection between the flanges and the cell connector. It should be borne in mind that, although the nuts are suitable for a 1 in. Whitworth spanner, the thread is that of a standard  $\frac{3}{4}$  in. Whitworth screw, and is cut in a material weaker than steel.

4. The effort used in tightening should therefore not be the maximum possible with a 1 in. spanner, and in no case should any means of increasing the leverage be employed.

5. Should the cell connections not lie flat on the flanges of the bottom nuts owing to an appreciable difference of level between adjacent cells, they should be given the requisite set in a vice and never be forced down by means of the top nuts.

## \*228.—Indulgence Passages—Facilities.

(N. 3489/27.—3.2.1928.)

Indulgence passages cannot be granted outwards, or, as a rule, homewards, to the families of officers or ratings appointed to, serving in, or relieved from sea-going ships abroad.

2. Such families desiring to proceed abroad must do so at their own expense, and must make their own arrangements with the shipping company or agent.

3. Accommodation for naval indulgence passengers is very occasionally available in the homeward direction in transports, where the full allotment of accommodation is not required for entitled passengers, or indulgence passengers attached to the Service on whose behalf the transport is hired. Application regarding this possibility should be made to the local Superintending Sea Transport Officer.

4. A condition of the grant of indulgence passages is that no expense shall fall on public funds. Consequently such passages can only be allowed when there is spare accommodation in the transport which cannot be filled by passengers entitled to conveyance at Government expense, and upon payment by the passengers, prior to embarkation, of the cost of their messing.

5. In accordance with Articles 98 and 99 of the Regulations for H.M. Sea Transport Service, it is essential in all cases that there should be a formal application for the indulgence passage, that prior approval to the grant of the concession should be obtained, and that the messing charges should be paid before embarkation.

(A.F.O. 369/29.)

## 249.—Transmitting Stations—Enlargement.

“Hawkins” and Class.

(D. 15280/27.—3.2.1928.)

It has been decided that the transmitting stations in H.M. Ships of the “Hawkins” class are to be enlarged in accordance with sketch E.F.O. 2/28.

2. The work is to be carried out concurrently with the fitting of collective protection.

**264.—Local Purchases—Conditions of Contract.**

(C.P. 1483/28.—3.2.1928.)

It is observed from the periodical reports of local purchases that cases are occurring in which a firm's alternative conditions of sale accompanying their tender have been tacitly accepted by the local officers without objection. The terms of these commercial conditions are often contrary to the Admiralty general conditions in various particulars, and their acceptance prejudices enforcement of the authorised conditions.

2. Any tender, therefore, which is made subject to such independent conditions of sale should be accepted with a proviso to the effect that the order is placed subject only to the Admiralty general conditions attached to the tender form. In the event of a firm refusing to accept the order except on conditions differing from the usual Admiralty conditions, the case should be submitted to the Director of Contracts for decision, accompanied by a report indicating the views of the Head of the Establishment concerned as to the admissibility of the firm's conditions.

**317.—Issued Confidentially.****322.—2 pdr. Sub-calibres for 3 in., 20 cwt. Guns.***"C" Class Cruisers.*

(G. 18208/27.—10.2.1928.)

In view of the limited number of 2 pdr. sub-calibres for Q.F. 3 in. 20 cwt. guns available, arrangements should be made for sub-calibres of this description (together with the special ammunition supplied) in "C" class cruisers to be returned to store when the ships are placed in Reserve.

2. In the event of a "C" class cruiser relieving a ship with a similar armament abroad, the 2 pdr. sub-calibre guns will not be supplied before the vessel leaves England, but the vessel to be relieved should land the 2 pdr. sub-calibres Q.F. 3 in. 20 cwt. guns and ammunition on the station for issue to the relieving ship on arrival.

3. Ships leaving England with 2 pdr. sub-calibre H.A. guns should, however, be completed with practice ammunition before sailing.

**334.—Motor or Generator Shafts—Removal of Ball or Roller Bearings.***Ships concerned.*

(G. 12547/27.—10.2.1928.)

The practice of regularly removing ball races and roller bearings from motor or generator shafts is to be discontinued.

2. After once being fitted to the shaft, a bearing is not to be removed except under exceptional circumstances. When an armature is removed from a machine the bearing is to be retained on the shaft whenever possible.

**339.—W/T—Buzzer Inter-Communication and Remote Control Installations in Destroyers Fitted or being Fitted with Type 37.**

(N.S. 9982/27.—10.2.1928.)

The buzzer inter-communication and remote control installations in destroyers fitted, or being fitted with Type 37 sets, are to be brought up to date in accordance with Specification No. 9506.

2. Ships not already fitted in accordance with this specification are to insert an item in their next Alterations and Additions List, and are to demand such of the stores enumerated in List No. E. 100 (List of Naval Stores required for buzzer inter-communication purposes and remote control of W/T and R/T sets in destroyers) as are necessary, quoting this Order as authority.

3. W/T fitting-out specifications and establishments are not affected by this Order.

### 368.—Anti-Gas Courses for New Entry Officers.

(C. W. 95/28.—17.2.1928.)

The following arrangements regarding the provision of anti-gas courses for new-entry Officers have been approved:—

#### *Executive Officers.*

*As Acting Sub-Lieutenants:* To undergo the 4½ days' course during their period of course for rank of Lieutenant before or after the divisional courses or the technical courses at Portsmouth, and irrespective of whether or not they have already undergone anti-gas courses as Midshipmen.

(Arrangements to be made by Admiralty.)

#### *Engineer Officers.*

To undergo the course at the conclusion of the Keyham course.

(Arrangements to be made between Keyham and Anti-Gas School.)

#### *Instructor Officers.*

To undergo the course during the period of their courses at Portsmouth.

(Arrangements to be made locally.)

#### *Chaplains.*

To undergo the course when opportunity offers by their ships putting into a Home port for periodical leave or repair.

(Arrangements to be made between Ship and Anti-Gas School.)

#### *Medical Officers.*

To undergo the course at Tipnor during their course at Haslar.

(Arrangements to be made locally.)

#### *Accountant Officers.*

Paymaster Cadets to undergo the course during their period in the training ship.

(Arrangements to be made locally by Captain of training ship.)

Other Accountant Officers who have not undergone the course to do so when opportunity offers.

Officers stationed at home ports to take the first available opportunity.

Officers in seagoing ships to undergo the course if practicable when their ship puts into a home port for leave or repair.

#### *Schoolmasters.*

To undergo the course during their period of training in H.M.S. "Defiance."

(Arrangements to be made locally.)

#### *Royal Marine Officers.*

To undergo the course as Probationary Second Lieutenants during the Practical Military Course (Course D).

(Arrangements to be made locally.)

(A.F.O. 1894/25.)

### \*371.—Retired Officers, R.M.—Liability for Service, etc.

(C.W. 11068/27.—17.2.1928.)

In accordance with the policy of assimilating as far as possible the conditions of service of Officers, R.M., to those applicable to Officers, R.N., authority has been obtained to render all Retired Officers, R.M., including Warrant Officers, temporary officers and acting Warrant Officers retired with retired pay or gratuities, liable to be called out by Proclamation for service in time of war or emergency.

2. The Reserve of Officers, R.M., is abolished as from 3rd November, 1927.



3. Officers, R.M., who have been or who may in future be allowed to resign their commissions will be eligible, at the discretion of the Admiralty, to be placed on an Emergency List under conditions similar to those applicable to the list of Emergency Officers, R.N.

4. Retired Officers, R.M., recalled to service in war or emergency or voluntarily re-employed in time of peace, or who may be appointed to attend courses of instruction, will be dealt with as regards emoluments in the same manner as Retired Officers, R.N., similarly recalled or undergoing instruction.

### \*382.—Native Ratings—Pay, Conditions of Service, etc.

(N. 3206/27.—17.2.1928.)

The current regulations regarding the pay, conditions of service, etc., of African and Asiatic Native ratings, except Chinese, are promulgated herewith for information and guidance.

#### GENERAL.

2. *Engagements, Registration, and Records of Service.*—The engagements and re-engagements of Native ratings (including Domestic) are to be non-continuous service and for a period of three years, if the services of the rating are so long required, except for Seedies on the East Indies Station who will be required to engage or re-engage for two years only.

The services of all Native *Domestics* are recorded at the Admiralty in the Department of the Accountant-General of the Navy. These men should sign the ordinary non-continuous service engagement (Form S.56) which should be forwarded to the Accountant-General with Return S.52, and their services should be recorded on the ordinary Service Certificate (Form S.459). The first note on the back of Form S.56 should be altered in manuscript to limit the period of service to three years when this form is signed by Native Domestic.

The registration and records of service of Native ratings *other than Domestic* should be kept locally as determined by the Commander-in-Chief. The special Natives' Engagement Form and Certificate Book should be used.

No record is kept of the services of Chinese ratings.

3. *Advancements* will be made in vacancies only by the Commanding Officer as provided in Appendix XVII, Part 1, K.R. and A.I.

4. *Good Conduct Badges.*—Badge pay is payable at the rate laid down for natives in Appendix XVII, Part 3, K.R. and A.I.

#### PENSIONS, ETC.

5. *Natives entered before 1st January, 1904.* (i) *Long Service.*—A special scale of pensions is applicable to non-European Native ratings (British subjects) who are eligible for the award of long service pensions (Articles 385 and 1980 K.R. and A.I.) and is operative as from 1st April, 1919. The basic rate awarded is three farthings a day for each year of pensionable service with additions in respect of good conduct badges and medal, character and petty time, as under present Regulations.

(ii) *Disability.*—Non-European Native ratings (British subjects) who are eligible under existing Regulations (Article 385, K.R. and A.I., and Section III, paragraph 4, page 167, Navy List Appendix) will, in the event of their being invalidated, be awarded compensation (pension or gratuity) at one-half of the rates allowed to Europeans discharged in similar circumstances.

6. *Natives entered on or after 1st January, 1904.*—Under Article 385 of the K.R. and A.I. these ratings, even if British subjects, were ineligible for the award of any compensation whatsoever in respect of service. It has been decided, however, that in future men of colour (British subjects), other than Europeans, may, at the discretion of the Admiralty, be awarded gratuities at the following rates and under the conditions specified:—

(i) *Long Service.*—A gratuity at the rate of 15s. a year for each complete year of qualifying service, together with a rank addition of £1 and 10s. for each year as Petty Officer or Leading Rate respectively, the award being conditional upon the completion of 22 years' service as for Naval ratings generally.

- (ii) *Disability (Non-attributable)*.—Subject to a minimum period of 6 years' service being rendered, a gratuity on a scale similar to the above, except that the rank additions of £1 and 10s. a year will be allowed only for each complete year of service rendered in the capacity of Petty Officer and/or Leading Rate after 14 years' total service.
- (iii) *Attributable Invaliding*.—The award of compensation to any Native rating who may be invalided on account of injury or disability certified to be attributable to the conditions of service will be at one-half of the Disablement Element rate ordinarily allowable to white ratings invalided in similar circumstances.

7. When Native ratings are invalided from the Service, whether for attributable or non-attributable disability, full particulars of their disability (on Form D.145) should be forwarded to the Accountant-General of the Navy, accompanied by a *certified* copy of their Service Certificate or Certificate Book, as the case may be. In all cases of application for pension or invaliding compensation, full particulars of the men's services are necessary, in order to obviate unnecessary correspondence and delay.

8. *Long Service and Good Conduct Medal and Gratuity*.—Under Article 534, clause 16, and Article 385 of the K.R. and A.I., men of colour who entered the Service on or after 1st January, 1904, were ineligible for the award of the good conduct medal, as no service can count for this purpose which does not reckon for pension. It has been decided, however, to grant the medal *without gratuity* to all Native ratings (including Chinese), whether British subjects or not, who were qualified or might qualify for the medal by service and character under the provisions of Article 534. Awards made in such circumstances will *not* carry any gratuity or other allowance.

Native ratings who are eligible for the award of the Good Conduct Gratuity (*e.g.*, certain Officers' Stewards and Cooks entered before 1st January, 1904), will be granted a lump sum of £10 with the award of the Good Conduct Medal. An additional gratuity at the rate of £1 a year for each year of qualifying service subsequent to the award of the medal will be paid on discharge to pension.

Applications in respect of men recommended should be forwarded to the Accountant-General of the Navy on Form S.218, accompanied by certified copies of their Service Certificates, or Certificate Books, as the case may be.

9. *Grog and Grog Money*.—Rum is not to be issued to Native ratings; grog money is to be paid at the rate of 1 anna a day on the East Indies Station and in other places where the rupee is current, and 1d. a day on other stations.

10. *Lodging, Provision and Leave Allowance*.—A consolidated allowance, covering provision allowance or leave allowance and lodging allowance, is payable to ratings on the East Indies Station, and other places where the rupee is current, at the daily rate of 1 rupee. For Natives detained on shore in India, however, the allowance is to be at the daily rate of 1 rupee 4 annas, and in Ceylon at the daily rate of 1 rupee 25 cents.

On the Africa Station the rate of consolidated allowance is to be 2s. per diem. Elsewhere Natives will receive 1s. 6d. per diem.

11. *Natives on Passage*.—Lowest class passages are to be provided for all Native ratings.

12. *Kit and Kit Upkeep Allowance*.—Special kits for Native ratings are laid down in the Uniform Regulations, and a free issue, in kind, of the articles included in the appropriate special kit may be made to each man on first entry. Ratings re-engaging after a period of absence are not entitled to a second free issue of kit or gratuity in lieu.

Bedding is to be supplied on loan, *vide* Article 1869 (4), K.R. and A.I.

Native ratings are entitled to kit upkeep allowance at special rates, which are promulgated from time to time in Admiralty Fleet Orders, with the rates of Kit Upkeep Allowance payable in the Fleet generally. On the East Indies Station and other places where the rupee is current, Kit Upkeep Allowance is to be paid in rupees, and the issuing prices for clothing for Native ratings in those places are also to be converted to rupees at the rate of 1s. 4d. to the rupee.

13. The substantive pay of Native ratings (except Kroomen and Seedies, and those enumerated in paragraph 14) is fixed by the respective Commanders-in-Chief, in accordance with Article 1592 of the K.R. and A.I.

## SEEDIES.

(In places where the rupee is current.)

	Daily Rate.						Rising by 1 anna a day biennially
	Minimum.			Maximum.			
	Rupees.	Annas.		Rupees.	Annas.		
Seedie ... ..	—	12		1	1		}
2nd Tindal ... ..	1	2		1	4		
Tindal ... ..	1	5		1	10		
Head Tindal... ..	1	11		1	14		
Seedie Stoker ... ..	1	0		1	5		
2nd Stoker Tindal ... ..	1	6		1	8		
Stoker Tindal ... ..	1	9		1	14		

For rates of pay of Seedies on Stations where the rupee is not current and for Kroomen, *see* Appendix XVII, Part 1, K.R. and A.I.

## OFFICERS' STEWARDS AND COOKS (NATIVES).

14. The undermentioned rates of pay have been fixed with a view to rendering private pay unnecessary:—

## AFRICA STATION.

	Rating.	Daily Rate.	
		s.	d.
Officers' Steward or Cook, 3rd Class...	...	2	0
After 2 years as such	...	3	0
„ 3 „ „	...	3	3
„ 6 „ „	...	3	6
Officers' Steward or Cook, 2nd Class	...	4	0
After 3 years as such	...	4	3
Officers' Steward or Cook, 1st Class	...	5	4
After 3 years as such	...	5	8
„ 6 „ „	...	6	0
Officers' Chief Steward or Cook	...	7	0
After 3 years as such	...	7	6
„ 6 „ „	...	8	0

## EAST INDIES STATION AND OTHER PLACES WHERE THE RUPEE IS CURRENT.

Ratings Entered, or Re-entered after a break in Service, after 31st May, 1927.

	Rating.	Daily Rate.	
		Rupees.	Annas.
Officers' Steward or Cook, 3rd Class	...	1	2
After 2 years as such	...	1	7
„ 3 „ „	...	1	10
„ 6 „ „	...	1	13
Officers' Steward or Cook, 2nd Class	...	2	0
After 3 years as such	...	2	3
Officers' Steward or Cook, 1st Class	...	2	10
After 3 years as such	...	2	15
„ 6 „ „	...	3	4
Officers' Chief Steward or Cook	...	3	15
After 3 years as such	...	4	7
„ 6 „ „	...	4	15

*Ratings now Serving who Entered on or before 31st May, 1927.*

	Rating.	Daily Rate.	
		Rupees.	Annas.
Officers' Steward or Cook, 3rd Class	... ..	1	6
After 2 years as such	... ..	2	0
" 3 " "	... ..	2	3
" 6 " "	... ..	2	6
Officers' Steward or Cook, 2nd Class	... ..	2	11
After 3 years as such	... ..	2	14
Officers' Steward or Cook, 1st Class	... ..	3	10
After 3 years as such	... ..	3	13
" 6 " "	... ..	4	0
Officers' Chief Steward or Cook	... ..	4	11
After 3 years as such	... ..	5	0
" 6 " "	... ..	5	5

In view of their higher rates of pay, Native Domestics should normally be of a higher standard than Seedies or Kroomen.

### 387.—Breech Mechanisms—Modifications to B.L. 6 in., Mark VII, Carriers, Screws, Breech, and Vents Axial.

*H.M.S. "Tiger" and China Gunboats only*

(G 8402/25.—17.2.1928.)

To prevent excessive wear on the carrier pintle in 6 in. B.L. Guns, Mark VII, the component and spare carriers and screws, breech, and new Mark II sleeves vent axial supplied, are to be modified, in accordance with Instructional Print N.O.D. 2148/6.

2. A star will be added to the mark of the carriers and screws, breech, after modification.

3. The necessary mechanisms, carriers, etc., are under modification in ordnance factories, and when available the exchange will be effected by R.N. Armament Depôts concerned.

4. The articles released should be retained in store at R.N. Armament Depôts for the present.

(A.F.O. 826/26.)

### 392.—Issued Confidentially.

### 405.—Admiralty Motor Transport—Employment for Service Functions and Recreational Services.

(N.S.M.T. 621/27.—17.2.1928.)

Where Admiralty motor transport is authorised to be used for the purpose of carrying stores or personnel in connection with recreational or Service functions, e.g., Naval, Marine and Inter-Service sports, Bisley and Port rifle meetings, etc., the following rates are to be charged :—

3 ton lorries	... ..	1s. for each mile	} No charge to be made for waiting time.
30 cwt lorries	... ..	10d. " " "	
1 ton trucks and 15 cwt. tenders	... ..	8½d. " " "	
Vans	... ..	7d. " " "	

Motor cars and other classes of vehicles not included in the foregoing categories are to continue to be charged for at the existing hourly rates.

2. The employment of motor transport on recreational or Service functions is to be subject to the following conditions :—

- (a) The grant of concessionary rates will not be allowed to create a vested interest in the provision of Service transport for such purposes, but will apply only where transport, maintained solely for Service reasons, is available.
- (b) No extra duty pay of drivers or other personnel is involved.
- (c) The transport required would otherwise be unemployed.
- (d) The normal half days, holidays and Sundays of the drivers are not curtailed thereby.
- (e) Fractions of a mile will be counted as a mile.
- (f) The charges will be calculated on the distance from and to the garage.
- (g) In any instance in which the time taken appears to be unduly long in comparison with the mileage run, the officer authorising the use of the vehicle is to investigate the matter with a view to the charges being adjusted to an "hourly rate," if the circumstances justify such a course. Particulars of such instances are to be reported in the Quarterly Return D.536. Fractions of an hour will be counted as an hour, and the times will be those of starting from and returning to the garage.

3. The utmost care is to be taken that all motor transport work performed in connection with recreational or Service functions is dealt with as a repayment service, and the officer in charge of the particular establishment to which the vehicle is attached is responsible not only for authorising the use of the vehicle, but also for ensuring that the necessary steps are taken to recover payment.

4. Sub-paragraph (b), Clause III, of paragraph 72, A.F.O. 3158/26 is cancelled.

(A.F.Os. 3158/26 and 2908/28.)

## 421.—Economy Labels—Use.

(Sta. 5026/28.—17.2.1928.)

The following instructions, which embody all those now in force in regard to the use of economy labels, are promulgated for the information of all concerned :—

### UNFRANKED ECONOMY LABELS.

1. *Ordinary unfranked* economy labels are supplied in two sizes (4½ in. by 3 in. and 7 in. by 4½ in.), and may be used with envelopes of all sizes where this method of securing the envelope is considered to be sufficient.

### OFFICIAL PAID ECONOMY LABELS.

2. The use of economy labels, small size, bearing the "Official paid" imprint, is to be restricted to envelopes, sizes No. 1 (9½ in. by 4½ in.), No. 2 (8½ in. by 3½ in.), No. 4 (5½ in. by 3½ in.), No. 5 (5 in. by 3 in.) and 5 in. by 4 in.

3. "Official paid" economy labels are intended solely for sealing and addressing official envelopes. They are *not* to be used for the following purposes :—

- (i) On envelopes larger than No. 1 size.
- (ii) On packets sent by parcel post.
- (iii) On private envelopes or with private correspondence.
- (iv) In the manner of postage stamps.
- (v) On packets addressed to members of the general public.

4. The following precautions are to be taken to prevent the misuse of "Official paid" economy labels :—

- (i) The main stocks are to be kept under lock and key.
- (ii) Ready use supplies are to be issued to responsible members of the staff who make up letters for the post, and these supplies are to be kept locked up at night and when not being drawn upon for official use.
- (iii) Registers of letters posted are to be kept.

### GENERAL INFORMATION.

5. When the labels are used with bag-shaped envelopes, the flap of the envelope should be on the right, and the label affixed parallel to the longer edge of the envelope with the address reading from left to right, *i.e.*, towards the flap.

6. When economy labels are used with ordinary envelopes with gummed flaps, the flaps are not to be stuck, but are to be closed by means of the label, thus permitting the repeated use of the envelope. Economy labels are never to be used on the address side of the envelopes.

7. Economy labels are not to be used with envelopes which contain confidential matter, two envelopes being used in such cases, the inner one being sealed and marked confidential. Economy labels are not to be used with letters addressed to members of the general public *nor for correspondence abroad*.

8. A very large saving of envelopes can be effected by folding forms and formal transmitting letters in such a way that the economy label can be used as a postal wrapper, rendering an envelope unnecessary. This practice is to be adopted wherever possible, but as a rule it should not be adopted for a form printed on both sides or where the form is such as to require to be safeguarded by the use of an envelope.

9. In order that incoming envelopes may be re-used, care is to be taken in opening, and the economy label is to be severed with the least possible injury to the envelope.

10. An economy label addressed as follows :—

The Accountant General of the Navy,  
(Marriage Allowance and Allotments Branch),  
Admiralty,  
Cornwall House,  
Stamford Street,  
London, S.E.1,

for use with envelopes covering communications regarding allotments and marriage allowances, is available for use in H.M. Establishments and H.M. Ships in home waters. The established number of the label is S.532, B.78. The labels are supplied on demand addressed to the R.N. Store Office, West India Docks. Demands should be restricted to the absolute minimum numbers required.

## 422 — Office Machinery—Annual Census—REPORT.

*All Ships, Fleet and other Naval Shore Establishments, Warship Production Superintendents and all Overseers.*

(Sta. 6939/27.—17.2.1928.)

In order that a complete record of all typewriters, duplicators and other office machinery in the Fleet and in shore establishments may be maintained, reports are to be forwarded annually giving particulars of these machines in use or on charge on 1st January of each year. These reports, which are to be forwarded to the Secretary of the Admiralty (Stationery Branch) as soon as possible after 1st January, are to give the following information :—

- (i) Name of ship, establishment, office or department.
- (ii) Makers' names and full description, size, etc., of all typewriters, and also of all duplicators and other office machinery as detailed in paragraph 4 of this Order. The factory number of each machine is to be shown.
- (iii) Statement showing whether the machines are in full use and whether by centralising typing work or by re-allocating the typewriters, etc., any of the machines can be surrendered.

*Note (a).*—Where the number of typewriters is not fixed by Establishment, the retention of a typewriter is not justified unless it can be employed for a minimum period of 4 hours per diem.

*(b)* Before any machine is included in the reports, both its existence and factory number must be verified by actual inspection. Reports must not be compiled from existing records.

*(c)* If a factory number is prefixed by index letters, the index letters as well as the number should be quoted.

2. The reports are also to include similar information for machines which may have been removed from charge in the accounts or have been sent for repair and not returned during the whole of the preceding year for subsequent annual returns. The reason for the removal and destination are to be shown against each machine. These machines are to be shown separately in the reports.

3. Reports from dockyards and large establishments are to show the allocation of each machine.

4. These reports are to give particulars of the machines as indicated in the following list, a "nil" return being furnished when not any of these articles are on charge or in use :—

- Press copying machines. (Roneo, etc.).
- Duplicators. (State make, size, and whether flat or rotary.)
- Motabradors. (Envelope openers.)
- Envelope-closing and franking machines.
- Note-folding machines.
- Multi-post stamp affixers.
- Electric photo copiers.
- Photostats.
- True-to-scale tables.
- Gammeters.
- Roneotype machines.
- Dictaphones.
- Roneophones.
- Linotypes.
- Printing presses. (In addition to factory number state size, and whether hand or power driven.)
- Litho presses and machines. (In addition to factory number state size, and whether hand or power driven.)
- Wire stitching machines.
- Guillotines. (In addition to factory number, state length of knife.)
- Addressograph machines.
- Calculating machines.
- Adding machines. } (State if hand-worked or electrically driven.)

5. If the position of the factory number on any type of machine is not known, application for this information should be made to the Secretary of the Admiralty (Stationery Branch.)

6. All typewriters, etc., surplus to requirements are to be returned to the Superintendent, R.N. Store Depôt, Royal Victoria Yard, Deptford, London, S.E.8, by Ships in Home Waters and Naval Establishments at Home and Abroad, and through the Naval Store Officer of the nearest Dockyard by Ships Abroad.

7. Reports are to be forwarded through the respective Senior Officers and Superintendents.

8. On previous occasions, various small detached services failed to supply the information. It is desired that Commanders-in-Chief and Senior Officers will bring this Order specially to the notice of any detached services under their command.

### **\*435.—Reserve Fleet Working Parties—Re-entry of Invalidated Ratings and Disability Pensioners.**

(N. 214.—24.2.1928.)

Invalidated ratings may be re-entered for duty in Reserve Fleet working parties without prior Admiralty approval, provided that they are in all respects fit, have been absent from the Service for less than five years, and are not in receipt of disability pensions.

2. If they have been absent from the Service for five years or more, or if they are disability pensioners, the special authority of the Admiralty for their re-entry is to be sought in accordance with Article 394, Clauses 2 and 5, King's Regulations and Admiralty Instructions.

(*K.R. and A.I., Art. 394.*)

441. }  
443. } *Issued Confidentially.*

**456.—S/T Oscillators.**

(N.S. 10374/27.—24.2.1928.)

The following arrangements are to be made for the repair or replacement of S/T oscillators :—

(a) All American oscillators or British oscillators bearing serial numbers below 56 :—

- (i) Any D.C. coils for these oscillators which become defective should be repaired by the Dockyards concerned.
- (ii) The repair of serious defects, such as pitted diaphragms, is not considered economic, and any of these oscillators which develop such defects should be replaced by those bearing serial numbers above 55.

(b) Oscillators bearing serial numbers above 55.

Arrangements have been made for the following spare coils to be purchased for delivery to Portsmouth, and issue, without demand, to the services shown :—

1st Submarine Flotilla (H.M.S. "Cyclops ")	2	220	volt,	Patt. 4279A	coils.
2nd Submarine Flotilla (H.M.S. "Lucia ")	2	220	"	"	4279A "
5th Submarine Flotilla (H.M.S. "Dolphin ")	1	220	"	"	4279A "
		100	"	"	4278A "
6th Submarine Flotilla (H.M.S. "Vulcan ")	1	100	"	"	4278A "
A/S Flotilla (Senior Officers ship) ... ..	1	100	"	"	4278A "

The coils are to be carried in the ships named.

2. In view of the despatch of 12 spare oscillators, Pattern 4251, to Hong Kong in 1924, no spares are being supplied for submarines on the China Station fitted with S/T. When it is found necessary to replace the entire oscillator by a new one, the one removed should be carefully stripped and the parts available for use as spares returned to store. If necessary, reconditioning as in paragraph 1 (a) above should be resorted to.

3. As much use as possible should be made of spare parts which may become available, either as mentioned in paragraph 2 above or by the disposal of a vessel fitted with S/T.

**474.—Examinations—Fees not Payable to Invigilators.**

(C.E. 787/28.—24.2.1928.)

Extra remuneration is not payable to Naval and civilian officers for serving as invigilators at examinations conducted by or for the Admiralty.

**493.—Royal Military Prison, Aldershot—Prisoners returning to Service.**

(N.L. 646.—2.3.1928.)

The following routine is to be observed respecting ratings who have served a sentence of imprisonment at the Royal Military Prison, Aldershot, and are to return to the Service on release :—

- (i) Shortly before the expiration of the sentence of a prisoner who is to return to the Service, the Commandant of the Prison will apply to the man's depôt for the provision of an escort by the date of release. The Commodore of the Depôt of the man's Port Division will be responsible for making arrangements (a) to return a prisoner whose period of absence has not exceeded 60 days to his ship, and (b) to take to depôt a prisoner whose sentence has exceeded 60 days.
- (ii) In the case of a Devonport rating, the Commandant of Aldershot Prison will enquire from the Commodore, Portsmouth Barracks, in the first instance, whether there is any Service opportunity to clear the prisoner *via* Portsmouth to his ship or depôt, to save travelling expenses. If the Commodore, Portsmouth Barracks, replies that there is no such opportunity, the Commandant at Aldershot Prison will obtain an escort from Devonport and send the prisoner direct to Devonport.



**495.—Private Effects—Customs Declaration.**

(N.S. 2319/28.—2.3.1928.)

The Customs authorities have called attention to the fact that, in many instances, the owners of private effects sent home from abroad have failed to declare on Customs Form 2B, certain items included in the list of articles which must be declared, e.g., pianos, gramophones, etc. Care is to be taken that all such items are shown in future, as owners render themselves liable to penalties if incorrect declarations are sent forward, and, in any case, delay and inconvenience result.

**\*497.—Civilian Dental Mechanics—Pay and Conditions of Service.**

(P.L./M.D.G. 3412/27.—2.3.1928.)

A limited number of dental mechanics are employed in a civilian capacity for service with H.M. Naval Forces under the following conditions:—

*Entry.*—Applications for employment should be made in writing to the Commodore, Royal Naval Barracks, Chatham. Candidates should state their age and experience as dental mechanics, and are required to furnish satisfactory evidence of good character and testimonials from recent employers as to proficiency and general conduct. If there is a suitable vacancy, approved candidates will be required to pass a medical examination as to their physical fitness and to submit themselves to a practical test as to their ability.

The test examination will be held at the Royal Naval Barracks, Chatham, and will not exceed one week, during which period, or such portion thereof as may be necessary to determine the candidate's suitability, the candidate will receive pay at the lowest rate, viz. :—£3 10s. per week of 47 hours.

The decision of the Senior Dental Officer as to the candidate's suitability will be final, and if recommended for employment the candidate will be entered by the Commodore, R.N. Barracks, Chatham, Form D.5 being used as a contract for service.

*Period of Engagement.*—The period of engagement will be for three months certain from original date of entry and subject to 14 days' written notice on either side thereafter. It is to be distinctly understood, however, that in case of misconduct or failure to obey all lawful orders of officers under whom he may be serving at the time the dental mechanic will render himself liable to immediate discharge.

Dental mechanics required for service abroad will, so far as possible, be selected from those employed at home who volunteer for foreign service. The selected candidates will be required to complete the usual agreement applicable to workmen employed by the Admiralty at establishments abroad, and will be eligible for similar allowances. The normal period of a foreign service engagement will be three years.

*Hours of Duty.*—Civilian dental mechanics are required to work 47 hours per week.

Weekdays (except Saturdays): 7.30 a.m. till noon; 1 p.m. till 5 p.m.  
Saturdays: 7.30 a.m. till noon.

These hours may, however, be so arranged as to suit the convenience of the depôt.

*Leave.*—Leave with pay may be granted by the Commanding Officer, subject to the exigencies of H.M. Service, as follows:—

After six months' service, six working days' leave plus one day for each subsequent month served, exclusive of the paid holidays granted to the workmen employed at Admiralty Industrial Establishments.

Leave may be accumulated during any one year from the date of taking up the appointment, but any leave not taken during the year will be forfeited.

Civilian Dental Mechanics serving abroad who, for Service reasons, may have been prevented from taking, whilst so serving, annual leave accruing to them, may be permitted to take the unexpired portion of such leave (within a maximum of two months) after their return from abroad, providing no extra expense to the Crown will be caused thereby.

All leave is subject to the prior approval of the Senior Dental Officer, who may recommend that such leave, or any portion thereof, be withheld, if in his opinion the applicant is undeserving through bad timekeeping or for other sufficient reason.

During such leave the dental mechanics will receive full pay.

*Pay and Allowances.*—The inclusive pay of the dental mechanics is as follows :—

	Weekly rate of pay.		Annual Increment.
	Minimum.	Maximum.	
	£ s. d.	£ s. d.	s. d.
Chief Dental Mechanic .. .. .	4 15 0	5 0 0	2 6 per week.
Dental Mechanic, Class I .. .. .	4 4 0	4 10 0	2 0 per week.
Dental Mechanic, Class II .. .. .	3 10 0	4 0 0	2 0 per week.

Bonus and allowances will not be payable in addition to the above rates of pay, nor will service accommodation or victualling be granted.

Dental mechanics will receive the minimum rate of pay of a dental mechanic, Class II, on entry, and on advancement to a higher grade will be eligible to receive the minimum pay of that grade. Increments will be granted annually until the maximum rate of the grade is reached. The grant of an increment will, however, be subject to the recommendation of the Senior Dental Officer who will be required to certify that the mechanic has given continuously satisfactory service during the preceding twelve months.

Dental mechanics will be graded Class II on first entry and will be eligible for advancement to Class I in vacancies after six months' satisfactory service if recommended by the Senior Dental Officer.

In the event of the position of Chief Dental Mechanic becoming vacant the position may be filled either by selection from the dental mechanics, Class I, if recommended, or by direct entry.

*Travelling Expenses.*—Travelling expenses to take up an appointment in connection with the test examination or for the purpose of leave will not be allowed. In the event of a dental mechanic being required to travel on duty, he will be allowed the usual travelling facilities accorded to H.M. dockyard employees.

*Insurance.*—Dental mechanics employed in Great Britain are insurable under the National Health Insurance Act, the Widows', Orphans' and Old Age Contributory Pensions Act and the Unemployment Insurance Acts, and deductions will be made from their pay in accordance with these Acts.

*Sickness, Accidents and Injuries.*—Minor ailments not necessitating absence from duty may, as a privilege, be treated by the Medical Officer of the establishment.

In the event of a dental mechanic being unable, through sickness, to be present for duty, the Senior Dental Officer is to be immediately informed, and a Medical Certificate is to be forwarded to him without delay, showing the nature of the illness and its probable duration. Men absent for this cause will receive the benefits to which they may be entitled under the National Health Insurance Act.

The Commanding Officer will decide whether the post should be kept open or not. A reasonable period will be allowed according to the circumstances.

Any dental mechanic employed at an establishment at home who may be hurt in the execution of his duty will be paid hurt pay in accordance with the Workmen's Compensation Act or in accordance with the Treasury Scheme if he has contracted out of the Act. In the event of an attributable injury being sustained during service abroad, hurt pay will be paid under the general conditions prescribed for employees at establishments abroad. Injured persons who have contracted out of the Act will receive treatment from the Naval Medical Officer.

### 500.—Firing Circuits for Turret Guns—Wiring Connections from Pistols in Officer's Cabinet.

*H.M. Ships of "Royal Sovereign," "Queen Elizabeth," "Iron Duke" and "Repulse" classes, "Hood" and "Tiger," Dockyards concerned.*

(G. 19240/27.—2.3.1928.)

The diagram D.T.M.145/27 (E.F.O. 11/28) shows the method of connecting the firing circuits from the pistols in the officer's hood to the gunlayer's change-over switches in the turrets of the above-mentioned ships.

2. Certain ships have the circuits already connected in this manner, whereas others have the ends of the circuits hanging loose at the interceptors. The latter ships are therefore to forward demands to the dockyard for the number of three-way connection boxes, Pattern 4161, and change-over switches, Pattern 5096, required to comply with the arrangements shown in the diagram.

3. The work of fitting the connection boxes and switches is to be carried out by the ships' staffs except in cases where the ships are in hand for refit, in which case the work should be carried out by the dockyards.

4. The change-over switch, Pattern 5096, is to be used as an "on" and "off" switch. The spare gland should therefore be blanked and the engraving on the cover altered accordingly.

### 507.—W/T—Type 45/2—Suspension of Purchase and Fitting.

*Ships and Dockyards concerned.*

(S.D./G. 03036/28.—2.3.1928.)

It has been approved to defer purchase and fitting of the Type 45-2 transmitter sets for the followingships pending experimental developments:—

"Valiant," "Ramillies," "Hood," "Barham," "Royal Oak," "Tiger," "Malaya," "Resolution," "Repulse."

2. The appropriate item inserted in ships' alterations and additions lists should be allowed to stand in such lists pending further instructions.

### 509.—Issued Confidentially.

### 511.—Brown-Curtis Turbines—Spare or replace Turbine Nozzle Castings.

(D. 537/28.—2.3.1928.)

Defects having been found, due to the formation of rust between the boundary nozzle plate and the casting, steps are to be taken in future when ordering spare or replace nozzle castings for Brown-Curtis turbines to omit the steel division plates adjacent to the ends of the castings and to modify the dimensions of the castings as necessary to maintain the original nozzle area. Further, in cases where the original design indicates thin tongues of cast iron liable to fracture they should be rounded off as shown on diagram E.F.O. 17/28.

2. The makers should be instructed to indicate, when tendering, their procedure regarding heat treatment of nozzle plates and castings and to submit:—

- (a) Proposed condition of plates in respect to heat treatment prior to casting in.
- (b) Proposed procedure for annealing the completed casting after manufacture.

(A.F.O. 1550/29.)

### 518.—Weighing Anchor by Hand—Substitution of Flexible Steel Wire Rope for Hemp in Catting Purchases.

(N.S. 14594/26.—2.3.1928.)

It has been approved to replace hemp hawsers fitted in catting purchases (*vide* Rigging Warrant, page 65, line 2) by hawsers of 2½ in. flexible steel wire, 6 × 24 construction, in battleships, battle cruisers, aircraft carriers, and cruisers generally, with the exception of cruisers of "D," "C" and earlier classes. The question of the design and provision of iron blocks for use with the steel wire purchases is under consideration.

2. In the case of ships already in commission, the replacement will be effected only when the existing hawsers are defected and when such occasion arises, ships should include the fitting of two steel wire hawsers of suitable length as an item of "alterations and additions."

3. The following revised Establishment of the fitted hawsers indicated, will apply to all vessels referred to above when fitted with the steel wire catting purchases:—

	<i>Present Allowance.</i> ( <i>Boatswains' Establishment, page 26, lines 20 and 21, and page 40, lines 11 and 12.</i> )	<i>Revised Allowance.</i>
S.W. hawsers, 2½ in. ... ..	2	1 additional to the catting purchases.
S.W. hawsers, 1½ in. ... ..	1	Nil (A).
Manila hawsers, 6 in. (113 fms.) ... ..	Nil	1 } (B).
Manila hawsers, 5 in. (113 fms.) ... ..	Nil	1 }

(A) The allowance of 300 fms. of 1½ in. S.W. rope for towing Pattern VII targets, etc. (*vide* Boatswains' Establishment, page 26, line 6) will remain as at present.

(B) Supply should not be made to ships in which these are already carried in excess of allowance by Establishment.

4. Hawsers held in excess of the revised allowance may be retained on board until they become unserviceable, when replacement will not be made.

### 555.—Replace Parts of Machinery and Electrical Equipment Chargeable to Vote 8/III (Subheads E and H).

*Dockyards at Home, Abroad, West India Docks, and Admiralty Overseers.*

(D. 18593/27.—2.3.1928.)

In order to facilitate the supply of replace parts of machinery and electrical equipment chargeable to Vote 8/III (Subheads E and H), it has been decided to adopt the following procedure:—

- (i) All requisitions from yards abroad and the Admiralty Overseer, Colombo, for supply of replace parts referred to above are to be forwarded direct to the Director of Dockyards, Admiralty.

- (ii) Full particulars of the requirement are to be furnished in duplicate, and should include the name of the makers and the number of the engine or other unit for which the part is required. It should be definitely stated whether the number is that of the contractors or the Admiralty. In the case of parts for Vote 8/III/H machinery the D.150 number should also be quoted.

Any dimensions, sketches, or other information necessary to ensure supply of the correct articles, etc., and also to enable competitive tenders to be invited whenever possible, are to be furnished. Where possible, the makers and Admiralty drawing number should be stated.

Special care is to be taken to ensure that full and correct particulars of the parts required are furnished, as expeditious supply cannot be effected if the particulars supplied in the requisition are incomplete or ambiguous.

- (iii) In the case of replace parts for H.M. ships, etc., it should be stated in the requisition whether the gear is required to be consigned direct to the ship, etc., for which demanded, or whether it is to be consigned to a dockyard, and if the latter, the name of the dockyard and professional department requiring the gear should be furnished.
- (iv) In cases of urgency where it is essential to forward requisitions by telegram, as much as possible of the particulars detailed in clauses (ii) and (iii) should be included in the telegram.
- (v) Upon receipt of the requisitions at the Admiralty the duplicate copy of the requisition will be referred to one of the home yards, where such a course is practicable and advantageous. Arrangements are then to be made by the yard concerned for supply of the items requisitioned by either of the following courses:—

(a) Allocation from stock.

(b) Manufacture in the yard, where this can be economically carried out.

(c) By purchase.

In other cases the supply will be arranged direct by Admiralty as heretofore.

- (vi) Where purchase is made by a yard it should be arranged in accordance with the instructions contained in Articles 715 and 902 of the Home Dockyard Regulations, and also as follows:—

(a) If the size and weight of the package will be within the limits of parcel post, quotation should be at firm's works, and the cost of postage claimed as an extra supported by post office receipt.

(b) If above the limits of parcel post, quotation should be f.o.r. at nearest siding to contractor's works.

(c) When sent by parcel post the package should be despatched to its destination abroad as soon as passed by the overseer.

(d) When too large for parcel post, full particulars of markings, dimensions and weight of packages as soon as passed by the overseer, together with a reference to the yard, local purchase and date of order, should be sent by the overseer to the Superintendent, R.N. Store Office, West India Docks, who will then furnish the contractors with details as to Government marks, port markings, etc., together with a Railway Consignment Form D.80, indicating thereon whether the packages are to be consigned at Government or public rates, and will requisition the Director of Stores to arrange freight. In due course the contractors will receive from the Director of Sea Transport final shipping instructions, and will complete the Form D.80 and despatch the goods. A copy of the final shipping instructions will also be sent by the Director of Sea Transport to the overseer concerned.

If there is an early opportunity of shipment by free freight, e.g., R.F.A. "Bacchus" to Malta, contractors and overseer concerned will receive their final instructions from the Superintendent, R.N. Store Office, West India Docks.

*Invoices.*—As soon as despatch from contractors' works has been effected, the overseer officially accepting the gear should sign certificate "A" on the ordinary invoice Form D.55, adding to certificate "A" the words, "and have been delivered and despatched to . . . ." and should forward to the Accountant-General of the Navy the invoice portion (pages 3 and 4) and return to the contractor the "Please receive" portion (pages 1 and 2) duly received.

The Accountant-General after payment will send the invoice(s) to the Superintendent, R.N. Store Office, West India Docks, who is to enter the gear on account of receipt, and at once invoice it on Form D.66 or S.134D. An advance invoice is, however, to be sent at the same time as freight is requisitioned.

(vii) Copies of orders placed in accordance with these instructions are to be distributed as follows:—

- (a) Superintendent, R.N. Store Office, West India Docks;
- (b) Overseer concerned (omitting prices);
- (c) Requisitioning yard, and
- (d) Consignee.

The Superintendent, West India Docks, is also to be informed as to the destination to which the gear is to be consigned (*vide* clause (iii) of these instructions), also the vote and subhead to which the cost is chargeable together with the name and address of the overseer.

(A.F.O. 1173/28.)

## 556.—Naval Stores—Affixing Valuation Tallies.

(N.S. 6738/27.—2.3.1928.)

The arrangements in regard to affixing tallies to stores on Vote 8/II charge, and the information to be shown thereon are to be as follows:—

- (a) As a general rule, the date of receipt only is required to be inserted on vouchers for the purpose of valuing stores for which prices are not provided in the Naval Rate Book. The tallies on the stores are, therefore, to show only the dates when received or placed on stock ledger charge, except as indicated in paragraph (b).
- (b) In addition to the dates of receipt or return to store charge, particulars as to values are to be inserted on the tallies in the following instances:—
  - (i) Serviceable stores (Rate Book) on charge at prices other than the full Rate Book prices, e.g., stores in a worn serviceable condition, or on charge at reduced values for other reasons.
  - (ii) Repairable stores (Rate Book) when on charge at other than the flat rate allowance for repairs, e.g., Boats, Anchors, Chain Cable, etc.
  - (iii) Stores (Rate Book) on charge under their original denomination at "arisings values."
  - (iv) Stores of the same or similar descriptions for which prices are not shown in the Rate Book, and which have been received on the same date, but at different values.
  - (v) Stores set aside for sale.

2. All tallies, whether showing values or not, should indicate whether the articles are on charge at "arisings values," "special values" (i.e., professional values, cost prices, etc.), or "sale values."

3. The Lists of Stores giving details of the annual revision of values, compiled in the Expense Accounts Departments, are to be referred to the Naval Store Departments for information and for correcting tallies where amendments in the values are necessary.

4. These instructions do not apply to tallies which are affixed to articles for special storekeeping purposes not connected with the valuation, e.g., tallies indicating particulars to be reproduced on the issuing or other documents.

## 567.—Advanced Engineering Course at R.N. College, Greenwich—Syllabus.

(C.W. 1284/28.—9.3.1928.)

### MATHEMATICS.

FIRST YEAR.—Six periods per week.

SECOND YEAR.—Three periods per week in Christmas and Easter terms.

*Algebra and Theory of Equations.*—General properties of the roots of an equation. Real and imaginary roots. Numerical solution of algebraic and transcendental equations, e.g.,  $\tan x = mx$ ,  $\cos nx \cosh nx = 1$ , etc. Partial fractions. Infinite series. Binomial, exponential and logarithmic series. Hyperbolic functions. Determinants: properties and applications.

*Trigonometry.*—General treatment of circular functions. Wave motion. Amplitude, period, phase, lead and lag. Composition of S.H.M., of the same and different periods; beats; damped oscillations. Graphs of  $Ae^{-\alpha t} \sin(\omega t + \beta)$ ;  $(A + Bt)e^{-\alpha t}$ ;  $Ae^{\alpha t} + Be^{-\alpha t}$ . Interpretation of  $e^{i\alpha}$ . Demoiivre's Theorem. Vectors.

*Analytical Geometry.*—Straight line and circle. Elementary treatment of conics. Curve tracing. Tangents and normals. Form of curve near origin and at infinity. Asymptotes. Curvature, involute and evolute, envelopes, with applications to mechanisms. Properties of the cycloid, catenary, tractrix, with applications. Polar co-ordinates. Polar curves, with reference to cams, etc. Geometry in three dimensions. Co-ordinates. Direction cosines. Straight line, plane, and sphere. Equations of conicoids in simple form. Surfaces generated by motion of a straight line under given conditions. The helicoid and cylinder.

*Differential Calculus.*—General rules for differentiation. Repeated differentiation. The operator D. Formation of differential equations. Taylor's and Maclaurin's Theorems, with applications to small changes, maxima and minima, indeterminate forms, and expansions in series.

$$\text{Partial differentiation} \quad \frac{\partial^2 U}{\partial x \partial y} = \frac{\partial^2 U}{\partial y \partial x}$$

Total differential. Maxima and minima of functions of two or more variables.

*Integral Calculus.*—General methods of integration. Definite integrals. Approximate methods of integration. Area swept out by a moving line. Planimeters. Double and triple integration. Volumes and surfaces. Centre of gravity. Moment of inertia; parallel axes; product of inertia; momental ellipsoid; principal axes of inertia.

*Differential Equations.*—Equations of the first order; variables separable. linear equation. Equations of higher order;  $\frac{d^2 x}{dt^2} = f(x)$ ; linear equation with constant coefficients. Applications to statics and dynamics, with special reference to free and forced oscillations, governor of turbine, whirling shafts.

*Dynamics.*—Newton's Laws of Motion; rectilinear motion under various laws of force; resisted motion. Curvilinear motion; angular velocity; tangential and

normal acceleration; radial and transverse acceleration. Oscillations, free and forced; damping; springs; small and finite vibrations of a simple pendulum.

*Dynamics of a System of Particles.*—Equations of motion in two dimensions; motion of the centre of gravity; motion relative to the centre of gravity. Conservation of linear and angular momentum; conservation of energy; impulsive forces. Motion of chains.

*Dynamics of a Rigid Body in Two Dimensions.*—Instantaneous centre. Compound pendulum; centre of percussion; pressure on the support. Motion of spheres, cylinders, cones, etc.; rolling and sliding contact. Impulsive motion. Illustrative examples.

*Dynamics of a Particle in Three Dimensions.*—Motion on a surface; pressure on the surface. Conical pendulum; steady motion; stability.

*Dynamics of a Rigid Body in Three Dimensions.*—Translation and rotation; instantaneous axis. Vector property of angular momentum. Dynamical equations of motion. Body with one point fixed. Motion relative to the centre of gravity. Steady motion. Precession. Oscillations about steady motion; stability. Motion due to impulses. Illustrative examples.

## APPLIED MECHANICS.

FIRST YEAR.—Six periods per week, of which two are spent in Laboratory.

*Operations with Units.*—Definitions, quantities, ratios and rates. Conversion of units in formulæ. Mechanical dimensions. Derivation of units for force, energy, power, etc., in M.L.T. system.

*Kinematics.*—Constant and variable acceleration; graphic and analytical treatments. Tangential and centripetal accelerations of point moving in a curved path. Simple harmonic motion, phase diagram.

*Kinetics.*—Mass, momentum and moment of momentum. The principles of conservation in isolated system. The six general equations for force and rate of change of momentum.

*The Rigid Body.*—Instantaneous centre and axis. Translation and rotation. The six degrees of freedom. Centre of mass; first and second moments of mass; moments of inertia; principal axes; products of inertia. The compound pendulum. Centre of impact.

*Rotation about an Axis fixed in Direction.*—Torque and power. Flywheel energy. Fluctuation of energy in relation to the crank-effort diagram. Centrifugal stresses in spoke and in ring.

*Balancing of Rotors.*—Bearing forces associated with centripetal actions. Conditions for static and for dynamic balance. Analytical and graphic treatments. Balancing machines.

*Balancing of Engines.*—Accelerations of piston rod and connecting rod masses. Primary and secondary actions. Yarrow-Schlick-Tweedy system. Comparison of internal-combustion engines with different numbers of cranks.

*Governors.*—Conditions of stability in spring-controlled types. The Wilson-Hartnell diagram. Friction, sensitivity and frequency of oscillation. Inclined disc and other types of tachometer and governor.

*Stress.*—Simple tension or compression, actions on inclined planes. Complex stress. Principal planes and stresses. Bulk and shear stresses.

*Elasticity.*—Definitions of strains of different types. The elastic constants; E, C, K and Poisson's ratio.

*Torsion.*—Circular and non-circular shafts, strength and stiffness. Helical springs. Resilience.

*Beams.*—Shearing forces and bending moments with different loadings. Distribution of bending and shearing stresses. Curvature, slope and deflection. Coach springs and other beams with varying sections. Continuous beams; Clapeyron's equation and Wilson's method. Long and short struts.



*Frames and Structures.*—Plane and space frames with different types of bracing. Cranes. Deflections of simply-firm frames. Redundant frames. Suspension bridges. Examples of the common catenary in Service problems. Arched ribs and domes. Stresses in curved steam-pipes.

SECOND YEAR. FIRST TERM—Six periods per week.

#### STRENGTH OF MATERIALS.

*Principles of Similarity.*—Stabilities of large and small objects. Weight, strength and stiffness of structures and of machines, engines and turbines. Specific tenacities of materials. Utility ratios for beams of different types. Dimensional equations.

*Elasticity under Complex Stress.*—General forms of Hooke's Law. Elastic limit and yield point under complex stress.

*Flat Plates with Lateral Pressure.*—Stresses and deflections in elastic flexure. Circular plates. Approximations for non-circular.

*Expansion of Circular Tubes.*—Internal pressure on thin tube. Lamé's equations for thick tubes. Investigation of elastic limit and of bursting pressure. Shrinkage stresses and allowances.

*Rotating Discs and Turbine Wheels.*—General equations. Profile of disc with uniform stresses. Stress distributions in uniform disc. Stresses in discs of given profile. Shrinkage allowances. Radial stresses when at rest. Temperature effects.

*Discontinuity Stresses.*—Bending stresses in a sharply curved beam. Stresses near to circular and other openings in flat plates. Notch brittleness. Hardness. Influence of speed of blow in tensile and bending tests.

*Fatigue.*—Range of stress and endurance. Fatigue limit; relation to tensile strength. Variation of fatigue strength with character of alternating or pulsating cycle of stress. Comparison of mild and high-tensile steels. Hysteretic heating in metals. Acceleration of fatigue by corrosive or erosive actions. Creep of metals at high temperatures.

SECOND YEAR. SECOND TERM—Seven periods per week, of which two are spent in Laboratory.

*Natural and Forced Vibrations of Simple Elastic System.*—Motions in natural vibration with damping forces varying in different ways. Energy of vibration. Forces required to produce given harmonic motion. Phase diagrams. Amplitudes produced by given harmonic forces. Transient actions associated with forced vibrations. Rate of growth of resonant vibrations.

*Calculation of Frequencies of Natural Vibration.*—Rigorous methods applied to shafts, shallow beams and mechanisms such as that of the engine-indicator. Energy methods applied to deeper beams and to transverse vibrations of turbine discs.

*Vibration of Shafts.*—Whirling amplitudes and phase displacements. Comparison of static and dynamic unbalance. Critical speeds for uniform shaft with and without thrust and torque. Distributions of torsional amplitude and moment in shafts carrying propellers, gears and engines. Degree of magnification of harmonically applied moments.

*Gyro Actions.*—Precession. Moments to produce and to maintain precession. Actions of gyros with two or with three degrees of freedom. Ship-stabiliser.

SECOND YEAR. THIRD TERM—Eight periods per week, of which two are spent in Laboratory.

*Hydrostatics.*—Fluid pressure. Forces on submerged surfaces. Buoyancy, changes of draught and trim. Stability, metacentric height, metacentric diagram, rolling.

*Hydraulics.*—Bernoulli's theorem, Venturi meter and Pitot tube. Nozzles, orifices and measuring notches. Vortices and sprayer nozzle. Vortex theory of action of aerofoils, turbine blades, etc. Losses of hydraulic head at enlargements in pipes, bends, valves, etc. D'Arcy's formula for pipe resistance. Power and speed of working of rams.

*Turbine Machinery.*—Centrifugal pump and fan. Froude brake. Pelton wheel, Thomson and Francis turbines. Principles of similarity and specific speed.

*Viscosity and Fluid Resistance.*—Viscometers. Poiseuille's formula. Resistance of pipes. Critical speed. Reynold's number.

*Lubrication.*—Viscous motion in lubricating film in bearings. Pressure distribution in film, and frictional resistance. Journal and thrust bearings.

*Ship Resistance and Propulsion.*—Skin friction. Wave motion and form resistance. Estimation of power for propulsion. Propellers. Hydraulic speed transformers. Steering.

## PHYSICS.

SECOND YEAR.—Four periods per week, of which two are spent in Laboratory.

### FIRST TERM.

Revision of Electrical Laws and Principles, methods of measurement and measuring instruments.

*Self and Mutual Induction.*—Phenomena. Definitions of self inductance (L.) and mutual inductance (M). Units. Calculation of L and M in simple cases, Measurement of L and M.

*Condensers.*—Properties. Definition of capacity (C). Units. Calculation of C. Measurement of C. Properties of dielectric, dielectric constant and dielectric strength. Construction of condensers. Application of constant D.P. to a circuit consisting of resistance, inductance and capacity in series. Equation for the current at any instant; form of current-time curve.

*Alternating Quantities.*—Simple harmonic quantities. Wave forms. Definitions of amplitude, wave length and frequency. Mean and root mean square values. Form factor. Harmonics; Fourier's series. Sine wave assumption. Vectors and vector diagrams. Addition, multiplication and rate of change of alternating quantities of sine form.

Application of an alternating D.P. ( $v = V \sin \omega t$ ) to a circuit consisting of resistance, inductance and capacity in series. Solution for current at any instant. Current time curves. Definitions of impedance and reactance. Expressions for the power; mean power and power factor. Working and idle components of current and E.M.F. Impedances in series and parallel. Resonance. Improvement of power factor. Current and power in the circuit when the applied D.P. is not of sine wave form. A.C. measuring instruments. Ammeters, voltmeters, wattmeters and power factor meters.

*Laboratory.*—Revision of D.C. testing. Measurement of inductance and capacity. A.C. measurements.

### SECOND TERM.

*Alternators.*—General principles of construction. Armature windings; single, two- and three-phase; star and mesh connections. Calculation of E.M.F.; winding factor. Synchronous impedance and regulation. Kapp's diagram. Alternators in parallel. Methods of synchronising. Synchrosopes. Hunting and methods of prevention. Measurement of power in polyphase circuits.

*Transformers.*—General principles of construction. Theory of action. Vector diagram. Regulation. Losses. Condition for maximum efficiency. Types of transformer and their uses. Transformers in parallel.

*Laboratory.*—Testing of single, two- and three-phase alternators, and of transformers.

### THIRD TERM.

*A.C. Motors. Induction Motor.*—General principles of construction. Theory of gliding field. Construction of stator and rotor. Squirrel cage and wound rotors. Theory of induction motor, vector diagram and circle diagram. Methods of starting. Characteristics. Methods of speed control. Uses. Single phase induction motor.

*Synchronous Motor.*—Construction and theory of action. Vector diagram. Characteristics and uses.

*Commutator Motors.*—Series motor; its construction, action and uses. Repulsion motor.

*Electrical Propulsion of Ships.*—Discussion of methods ; their advantages and disadvantages.

*Laboratory.*—Testing of induction, synchronous and series motors.

## CHEMISTRY AND METALLURGY.

FIRST YEAR. FIRST TERM—Four periods per week, of which three are spent in Laboratory.

### APPLIED CHEMISTRY.

*Mineral Oils.*—Crude petroleum ; paraffin and asphalt base oils. Refining of crudes of each type. Production of motor spirits, vaporising and burning oils, Diesel and heavy fuel oils. Treatment of heavy distillate oils for production of mineral lubricants. Cylinder oil stocks ; filtered cylinder oils. Motor fuels from "cracking" processes and natural gas. Distillation of bituminous materials for the production of liquid fuels, etc.—shale, cannel, coal. High temperature and low temperature products from coal. Synthetic fuels.

*Fatty Oils.*—Composition ; saponification of oils. Drying and non-drying oils. Paints and varnishes.

*Lubricating Oils.*—Mineral and fatty oils. Blended lubricants. Chemical and physical characters in relation to lubrication. Specifications and tests.

*Switch and Transformer Oils.*

FIRST YEAR. SECOND TERM—Four periods per week, of which three are spent in Laboratory.

### FUEL.

*Classification and Characters* of principal solid, liquid and gaseous fuels.

*Calorific Value.*

*Combustion.*—Theoretical air supply. Control of combustion by analysis of flue (or exhaust) gases. Continuous CO<sub>2</sub> recorders.

*Solid Fuels.*—Coal ; general characters of commercial coals and their suitability for different uses. Effect of moisture and ash in practice. Preparation for market (screening, washing, etc.). Deterioration during storage and spontaneous ignition. Powdered coal as boiler fuel.

*Liquid Fuels.*—Residual oils (heavy fuel oils) for heating and steam raising. Oils for heavy oil engines. Characters and specifications for Diesel fuels. Vaporising oils. Fuels of high vapour pressure. Motor fuels. Ignition point, detonation and pre-ignition. Composition in relation to detonation, etc. Explosive range.

Special attention is given to the reasons for the inclusion of the various clauses in accepted specifications for oil and fuel products, and, in the laboratory, to the examination of these by standard methods in compliance with official and other specifications.

## METALLURGY.

FIRST YEAR. THIRD TERM—Four periods per week, of which two are spent in Laboratory.

SECOND YEAR. FIRST TERM—Four periods per week, of which two are spent in Laboratory.

### STEEL.

(a) *Influence* of carbon, silicon, manganese, sulphur, phosphorus, slag and gases. Specifications.

(b) *Steel Castings, Iron Castings and Semi-steel Castings.*—Compositions, heat treatments, mechanical properties. Casting temperatures, chill and centrifugal castings.

(c) *Steel Ingots.*—Sizes, moulds, solidification, heterogeneity.

(d) *Forging.*—Billets, rolled bars, reeled bars, drop forging and forging, cold drawn steels. Forging of pinions, crankshafts, axles, etc. Compositions, microstructures and mechanical properties.

(e) *Heat Treatments.*—Normalising, annealing, hardening, toughening, case hardening. Influence of soaking, cooling. Effect of mass. Compositions, microstructures and mechanical properties.

## ALLOYS STEELS.

(a) *Nickel, Chrome, Nickel-Chrome, Chrome-Vanadium Steels.*—Forging, laminations, heat treatments, machining properties, corrosion tests, compositions, microstructures and mechanical properties. Applications.

(b) *Molybdenum, Manganese, Silicon and Tungsten Steels.*—Constitution and mechanical properties.

*Defective Material.*

(a) Failures due to composition, segregation, slag streaks, hair cracks, ghosts. Due to heat treatment, burnt and overheated steels. Surface defects, grinding and machining.

(b) Cracks; their detection and origin. Types of cracks.

General classification of composition, heat treatment, and mechanical properties to meet various specifications.

## NON-FERROUS ALLOYS.

*Aluminium Alloys.*—Aluminium-copper, aluminium-zinc, aluminium-silicon, "Y" alloy, duralumin, sand and die castings. Uses of various alloys, heat treatments. Influence of impurities.

*Copper Alloys.*—Brasses, bronzes, phosphor bronzes, manganese bronze, Admiralty gun metal. Casting temperatures, heat treatments, cold working, rolling, forging and extruding. Influence of impurities.

*Miscellaneous Alloys.*—Nickel-chromium, Monel metal, Constantan, nickel silvers, solders.

*Bearing Metals.*—Structures of bearing metals. Bronze and lead bronze bearings, white metal, cast iron bearings. Classification tests, and the applications of bearing metals.

*Defective non-ferrous Material.*

(a) Defects in castings, stampings, segregation, porosity, blowholes and dross. Defective heat treatment.

(b) General classification of composition, heat treatment and mechanical properties to meet various specifications.

## PRACTICAL COURSES.

*Applied Chemistry and Fuel.*—The laboratory work comprises the distillation of crude petroleums, tars, etc., for the preparation of specimens of commercial products; the examination of fuels, lubricants, etc., by the recognised standard methods in accordance with Admiralty and other specifications.

*Metallurgy.*—The practical work will comprise: (a) The examination for the normal constituents of pig and cast irons, iron-carbon and alloys steels. The heat treatments of normalisation, annealing, hardening and toughening of iron-carbon and alloy steels, correlated with their respective microstructures and mechanical properties. Detection of faulty heat treatments. The examination of service failures.

(b) The production of brasses, bronzes, and aluminium alloys, their heat treatments, microstructures and mechanical properties, etc.

## PRACTICAL ENGINEERING.

FIRST YEAR.—One period per week.

SECOND YEAR.—One period per week.

Modern naval engineering developments in respect to boilers, propelling machinery, and auxiliary engines and appliances. Reasons influencing their adoption, and details of their design, method of operation, economy, upkeep and maintenance. Fuels, methods of storing and burning same.

Theory and practice of lubrication, methods of application and cooling. Transmission of power to propellers by different types of gearing and relative economy. Measurement of torque and thrust. Variable speed gears. Internal combustion engines; details of construction; fuels suitable. Main and auxiliary

machinery specifications. Trials. Workshop methods used in the construction of machinery and special engineering processes, including the drawing, extrusion, pressing and spinning of metals, stamping methods, plate and machine moulding, systems of welding, etc.

Interchangeability of parts in principle and practice with reference to rapid and economical repair. Provision of spare parts. Principles of mass production, including the use of jigs and fixtures and methods of gauging.

An outline of the principles and practice of industrial engineering, including estimates of cost and time and the method of payment by results.

#### DESIGN.

FIRST YEAR.—Six periods per week.

SECOND YEAR. FIRST TERM—Five periods per week.

SECOND YEAR. SECOND TERM—Eight periods per week.

SECOND YEAR. THIRD TERM—Twelve periods per week.

The lectures will cover the detailed design of the principal parts of a modern propelling machinery installation, including boilers, turbines, transmission gear, condensers, propeller and propeller shafting and steam pipes. Drawings of these details for a selected installation will be prepared, together with drawings showing the general arrangement of the propelling machinery in the vessel.

#### THERMODYNAMICS.

FIRST YEAR.—Two periods per week.

SECOND YEAR.—Two periods per week during Christmas and Easter Terms.

The laws of gases and vapours, condenser problems, air pumps. The properties of steam and its behaviour under varying conditions.

Multistage evaporators, feed heaters, etc.

The second law of thermodynamics, reversible and irreversible operations, entropy and the use of temperature; entropy and total heat; entropy diagrams, theoretical efficiency of different cycles in use or proposed.

Flow of steam through orifices, nozzle efficiencies, under and over expansion, supersaturated flow, flow under small differences of pressure, flow through pipes.

Steam turbines, calculation of work done, torque, thrust, etc.; height ratios stage efficiency, internal efficiency and efficiency ratio; reheat factor, practical values; theory of labyrinth packing.

Boiler trial analyses; natural and forced draught, meters; mercury vapour plant, regenerators, high pressure boilers.

Injectors and ejectors, air extraction plants.

Refrigeration, expansion cylinders and valves, wet and dry refrigeration. Application of  $T\phi$  and  $H\phi$  diagrams, pre-cooling, oxygen plant.

Air compressors, staging, effect of clearance, volumetric efficiency, air motors, pre-heating.

Gas and oil engine cycles, nature of explosions in gaseous mixtures, deductions from indicator diagrams,  $T\phi$  diagrams, variable specific heat theories.

### \*573.—Naval Discipline Act—Jurisdiction on Shore.

(N.L. 639/28.—9.3.1928.)

The following canteens, sailors' homes and places of recreation in the United Kingdom have been prescribed by the Admiralty under the provisions of Section 46 of the Naval Discipline Act:—

#### GREENOCK.

*Sailors' Rest*, No. 1 Dock Breast.

#### GLASGOW.

*All Y.M.C.A. Hostels and Establishments*

## ORKNEYS.

*Royal Naval Canteen, Lyness.*

## INVERGORDON.

*Naval Recreation Ground and Recreation Rooms.*

*Y.M.C.A. Building.*

## ROSYTH AND SOUTH QUEENSFERRY.

*Y.M.C.A. Building, Ferry Toll Road, Rosyth.*

*Y.M.C.A. Hut, South Queensferry.*

*Men's Recreation Club and Grounds, Rosyth.*

*Royal Naval Hospital Grounds, South Queensferry.*

*Dalmeny Football Grounds.*

## EDINBURGH.

*Sailors', Soldiers' and Airmen's Institute, East Register Street.*

*Y.M.C.A. Building, 14, South Street, Andrew Street.*

*Salvation Army Naval and Army Home, 21, South Street, Andrew Street.*

*Royal Navy Association and Club, 12, Albany Street.*

## HARWICH.

*Salvation Army Home, Church Street.*

## SHEERNESS.

*"Welcome" Home, High Street, Blue Town.*

## CHATHAM.

*Salvation Army Naval and Military Home, The Brook.*

*Annexe to the Salvation Army Naval and Military Home, The Brook.*

*Royal Sailors' Home.*

*Navy House, Clover Street.*

## DOVER.

*Missions to Seamen, facing Commercial Quay.*

*Soldiers' and Sailors' Home, 157, Snargate Street.*

## PORTSMOUTH.

*Y.M.C.A. Soldiers' and Sailors' Institute, High Street.*

*Royal Sailors' Rest, Commercial Road.*

*Royal Sailors' Home Club, Queen Street, Portsea.*

*Trafalgar Institute, Edinburgh Road, Landport.*

*Salvation Army Home, Queen Street, Portsea.*

*Duchess of Albany Home, Edinburgh Road, Landport.*

*United Services Recreation Ground (Officers').*

*United Services Recreation Ground (Men's).*

*Royal Naval Barracks Recreation Ground, Pitt Street.*

## GOSPORT.

*Soldiers' and Sailors' Home, Clarence Square.*

*H.M.S. "Fisgard's" Recreation Ground, Hardway.*

*Recreation Ground, Haslar.*

*St. Vincent Recreation Ground.*

## PORTLAND.

*Royal Naval Canteen and the adjoining Recreation Ground.*

*Officers' Recreation Club and Ground, Castle Road.*

*Salvation Army Home, Castletown.*

## WEYMOUTH.

*White Ensign Club, at corner of St. Nicholas and Bury Streets, near St. Thomas Street.*

*Sailors' Rest, The Quay, near Weymouth Pier.*

*East Memorial Sailors' Home, King Street, opposite Weymouth Railway Station.*

*Salvation Army Home, School Street.*

## PLYMOUTH.

*Royal Sailors' Rest*, Fore Street, Devonport.

*"Welcome" Sailors' and Soldiers' Home*, Fore Street, Devonport.

*Salvation Army Naval and Military Home*, Catherine Street, Devonport.

*Royal Sailors' Club*, Morice Square, Devonport.

*All Y.M.C.A. Huts and Establishments*.

*The Mayflower Hostel Sailors' Rest* (British and Foreign Sailors' Society), The Octagon, Plymouth.

## FALMOUTH.

*Royal Cornwall Sailors' Home and Hospital*, Grove Place.

## QUEENSTOWN.

*The Soldiers' Home and Sailors' Rest*, 7, West Beach.

## CORK.

*Royal Cork Sailors' Home*, Merchants' Quay.

(*Naval Discipline Act, Section 46.*)

577. } *Issued Confidentially.*  
578. }

## 582.—Breech Mechanism, 15 in. Guns, Mark I—Lever, Hand, Operating Lock.

(G. 15800/27.—9.3.1928.)

When adjusting the hand operating gear by means of the eccentric bush in the hand lever, care should be taken to ensure that the travel of the lever, with the lock in the closed position, is limited by the roller on the lever bearing against the cam surface on the crank axis pin. The travel should not be limited by the lock or carrier; and, if necessary, the latter should be cleared away.

2. A catch for retaining the hand lever in the closed position is being fitted by the Naval Armament Depôts, in accordance with Instructional Print N.O.D.2130/32A, the drawing having been amended to show a slight modification to the carrier, the catch plunger and the hand lever, to ensure the latter being retained at the full limit of its travel.

3. Carriers which have already been modified to N.O.D. 2130/32 should have the further slight modification referred to above carried out by naval armament depôts in accordance with Instructional Print N.O.D. 2130/62.

## 591.—Electrical Motors—Temperatures—REPORTS.

*H.M. Ships.*

(G. 16945/27.—9.3.1928.)

With reference to the safe limits of temperatures in electrical machines experience has shown that unless the temperature of the windings approaches 190° F., it is improbable that damage will be caused to the insulation.

2. Reports are to be rendered by ships' officers in cases where damage to insulation has occurred in machines in which the temperatures attained have been less than 190° F.

3. The reports should include the following particulars:—
- (i) Maker's name, maker's number, and the duty of the motor.
  - (ii) The exact nature of the damage.
  - (iii) The cause to which the damage is attributed.
  - (iv) The number and particulars of defects which have occurred in the machine reported upon within the previous two years, or since its installation in the ship, together with the dates of occurrence of such defects, and by whom they were made good.
  - (v) The maximum temperature attained as measured by thermometer, together with the approximate duration of continuous operation to which the machine is usually subject, and the frequency of such operation.
  - (vi) Particulars of overloads (if any) to which the machine is subjected.
  - (vii) The temperature at the bearings.

### 593.—Hydrophone Diaphragms.

(D. 1544/28.—9.3.1928.)

Attention is drawn to the care necessary, when dockyard workmen or Naval ratings are scraping the outer bottoms of vessels in dock, to prevent the possibility of the hydrophone diaphragms being inadvertently damaged.

### 597.—Hydrophone Cables, Bungs, Packing Glands.

(N.S. 2556/28.—9.3.1928.)

Where replacements of hydrophone cables, carcase bungs, or carcase cover plate packing glands become necessary, both new cable (from hydrophone to junction box) and bungs or gland packings are to be fitted.

2. For Mark IV plate hydrophone, the combination is:—

Cable, Pattern 7148, with bung, Pattern 315;

and for Mark V plate hydrophone:—

Cable, Pattern 7148, with gland packing, Pattern 316.

### 600.—“Weekes” Type Special Fuses for Henderson Alternating Panels.

“Kent,” “London,” “Dorsetshire” and “York” Classes.

(N.S. 14481/27.—9.3.1928.)

“Weekes” type special fuses for Henderson alternating panels should be treated as “consumable” stores, and a first supply to each of the above vessels arranged as follows:—

“Weekes,” Type 69, 5 amps. ... ..	3
“Weekes,” Type D.B., 1.5 amps. ... ..	18

2. These quantities are sufficient for one complete replacement per ship.

3. Arrangements should be made for requirements to be purchased locally.

4. *Chatham*.—Twenty sets should be provided for despatch to Hong Kong with the “Kent” class reserve stocks.

### 611.—O.U. 5390/27, Pamphlet on the Passage of H.M. Ships through the Panama Canal—Issue.

(S. 4287/27.—9.3.1928.)

A pamphlet O.U. 5390/27, entitled “Passage of H.M. Ships through the Panama Canal”—has been issued. It consists mainly of a summary of the reports of the Commanding Officers of the bulged ships, “Hood,” “Repulse,” and “Renown,” and incorporates the experience gained during the passage of these ships through the Canal. Particulars regarding the leading features of the Canal and its equipment, and other information relating to the transit, have also been added. The book has been prepared for the general guidance of Commanding Officers of H.M. vessels (particularly ships fitted with bulges) which may have to pass through the Canal.



2. A copy of O.U. 5390/27 should be applied for whenever the transit of the Canal is decided on, and returned to the Superintendent, R.N. Store Dépôt, Deptford, when no longer required after the passage.

3. As the Rules and Regulations quoted therein are liable to variation from time to time, it is desirable to obtain from the Canal Authorities (before the time of transit if possible) a set of the latest Regulations and other published information governing the transit of the Canal.

4. During the passage it is requested that the information in the pamphlet be compared, as far as practicable, with the actual arrangements existing, and, if any correction or amplification appears to be desirable, the details should be reported to the Admiralty, in order that the necessary amendments may be made.

5. This pamphlet supersedes O.U. 5211—Panama Canal, 1913—(formerly issued to ships making the passage), which is to be regarded as cancelled, and any copies held should be destroyed.

### 618.—Fire Precautions when Burning or Welding Operations are undertaken Below Decks.

*All Dockyards.*

(D./N.L. 43/28.—9.3.1928.)

A fire occurred recently in one of H.M. ships, under the following circumstances:—

Dockyard workmen were at work in connection with the anti-gas arrangements of the transmitting station. Welders were employed filling a 6 in. circular hole in the watertight bulkhead between Upper B. Space and the Medical Store (Fore Medical Flat). Welders were actually in Upper B. Space while a dockyard shipwright was stationed in the Medical Store to supervise operations from that side.

The Medical Store had been cleared of all important stores while the dockyard men were employed in the vicinity, but a quantity of tow, empty bottles, etc., had been left in place. The tow was ignited by hot slag from the welding, and quickly got beyond the control of the dockyard man stationed in the Medical Store.

2. When burning or welding operations are being undertaken in spaces below decks, a quantity of water or sand, in buckets, should be kept ready to hand in addition to the usual precautions taken to prevent fire in such circumstances.

### 625.—Royal Marines—Annual Range Courses Afloat.

(N./G.D. 2559/28.—16.3.1928.)

As a result of the issue of Amendments No. 5 (Appendix I) to Small Arms Training, Vol. II, 1924, the following courses are to be fired by Royal Marines serving afloat. The revised courses are to be adopted as from 1st April, 1928, or from the date of receipt of this Order, whichever is the later:—

#### ANNUAL RANGE COURSES.

A.—*All marksmen and 1st class shots who qualified as such in their previous weapon training course.*

Table B, Part I.

Table B, Part II.

Table B, Part III, Practices 13, 14, 15.

B.—*All 2nd and 3rd class shots who qualified as such in their previous weapon training course, and any N.C.O. or Marine who has not fired a course for more than 2 years.*

Table A, Part V.

Table B, Part I.

Table B, Part II.

If time is not available for Courses A or B to be carried out the following short Course C is to be fired :—

C.—*Short course.*

Table B, Part I, Practice I.  
Table B, Part II.

D.—*Lewis gunners' qualifying course.*

Table A, Part VII.  
Table B, Part III.  
Table B, Part IV.

Lewis gunners are to qualify in accordance with the instructions at present laid down in Syllabus of Training, Royal Marines, Section V, Reference "K" (5).

E.—*Lewis gunners' requalifying course.*

Table B, Part I.  
Table B, Part II.  
Table B, Part III.  
Table B, Part IV.

Ammunition from the pool may be used at the discretion of Commanders-in-Chief or Flag Officers Commanding Squadrons for light automatic instructional practices before firing Table B, Part III, of Course E.

**\*633.—Tropical Allowance to Switchboard Watchkeepers.**

(N.P. (II) 2818/27.—16.3.1928.)

Tropical allowance is payable to main control switchboard watchkeepers in cruisers of the "Carlisle" and "D" classes in view of the position of the main control switchboard in those ships.

(*K.R. and A.I., Art. 1642.*)

**634.—Claims for Work done by Naval Ratings and Royal Marines on behalf of Private Individuals, Dominion, Colonial, Dependent or Foreign Governments—Charge for Marriage Allowance.**

(N.P. (II). 290/28.—16.3.1928.)

The charge for marriage allowance in connection with the formulation of claims for work done by Naval ratings and Royal Marines for private individuals, Dominion, Colonial, Dependent or Foreign Governments is to continue, until further notice, to be levied at the rate of 9d. a day in respect of all Naval ratings and Royal Marines (whether married or single), but not boys, employed upon a job.

(*K.R. and A.I., Art. 1771.*)

**641.—Issued Confidentially.**

**645.—Motors, Director Receiver Lining-up Clutch—  
Modifications.**

"Nelson," "Kent," and later classes.

(G. 17231/27.—16.3.1928.)

To facilitate the engagement of the lining-up clutch on the motor housings of director receivers, the clutches should be modified as shown in the diagram D.T.M. 9/28 (E.F.O. 25/28), two of the dogs of the clutch being cut away and the other two being reduced in size and the edges rounded.

2. This modification is being embodied in future construction, and should be carried out, as convenient, by ships' staffs to existing instruments.

**656.—Home Port and Storing Yard.***Vessels of the Royal Australian Navy in Home Waters.*

(N.S. 0178/27.—16.3.1928.)

Portsmouth is to be regarded as the Home Port and Storing Yard (Naval, Victualling and Armament Stores) for all vessels of the Royal Australian Navy under construction or completion in this country, or temporarily attached to the Home Fleet.

**662.—Issued Confidentially.****670.—S.1148(g)—Ship's Narrative, Section (XIII), Ballistic Information—Amendment.**

(G. 2736/28.—16.3.1928.)

To simplify the work of checking M.V.s used in practices, and the investigation of comparative ranging of ships in concentration firings, the following information is to be inserted on Form S. 1148 (g) :—

Table for "Sights."

(a) Column 5.—The temperature for which the M.V. is deduced is to be inserted under the heading "M.V. deduced."

(b) Remarks column.—The "normal" temperature of the director sight and of the gun sights for the charge used, is to be noted, and details of any further allowances made.

2. Space for this information will be provided in the next reprint of Form S. 1148 (g).

**696.—Gun Mountings, 4 in. H.A., III and S.I.—Recuperators.**

(G. 3092/28.—23.3.1928.)

In the course of service, a deposit is liable to be formed in the recuperators of 4 in. S.I. and H.A., III mountings when charged with oil. This deposit, if not removed, will cause corrosion, and may affect the satisfactory functioning of the mountings.

2. The recuperators of these mountings should be stripped down for examination at intervals not exceeding six months, and any deposit found in the cylinders or on the rods should be removed. The same oil may be used again after careful straining.

**698.—Practice Projectiles, B.L. or Q.F., 4 in. Heavy—Grouping and Supply to H.M. Ships.**

(G./G.D. 4409/25.—23.3.1928.)

It has been found that in firing various types of practice projectiles, B.L. or Q.F., 4 in. heavy (for separate loading), sufficient ballistic variations occur to necessitate the segregation of these projectiles into several groups.

2. The extent of the ballistic differences has already been notified by Admiralty Fleet Orders, and will be embodied in the new range tables.

3. It is essential that for any one day firing a ship should have sufficient practice projectiles of identical ranging qualities to use throughout.

Similarly, in arranging for concentration practices, it is essential that individual ships of a flotilla or division should be able to demand and be supplied with a sufficient number of practice projectiles of identical ranging qualities to enable similar projectiles to be used by the whole concentration.

4. All stocks at Naval Armament Depôts at home and abroad are to be separated into the following categories, viz. :—

- (a) H.E. and H.E.N.T. shell, weighted H.E.S.
- (b) C.P., weighted P.S., and S.A.P., weighted H.E.S.
- (c) Solid shot, Marks III and IV, N.T.

5. In order to avoid complications in the allocation and supply of projectiles to various firings all requirements for sea-going ships will be met until further notice from category (a), categories (b) and (c) being used for Gunnery School firings.

(A.F.O. 281/27.)

### **701.—Supply Breakers for Steam and Diesel-driven Dynamoes— Overload and Time Lag Settings.**

*H.M.S. "Hood" and earlier Ships, and H.M. Ships "Nelson" and "Rodney" and later Ships.*

(S. 1310/28.—23.3.1928.)

In order to reduce to a minimum the risk of a complete temporary cessation of the electric supply, the overload releases and time lags of the supply breakers for both steam and Diesel-driven dynamoes should be set as follows :—

"Hood" and earlier ships ... Overload releases to be set at 55 per cent. above the normal full load current of the generator to which the supply breaker is connected. Retarders to be set at 60 seconds.

"Nelson," "Rodney" and later ships. Overload releases to be set at 80 per cent. above the normal full load current of the generator to which the supply breaker is connected. Retarders to be set at 10 seconds.

The retarder settings specified are those marked on the supply breakers fitted in the respective ships.

### **703.—India-rubber Eyepieces for Gun Sighting Telescopes.**

(N.S. 2426/28.—23.3.1928.)

It has been found that india-rubber eyepieces for gun sighting telescopes are liable to distortion and deterioration if kept in the boxes with the telescopes. They should, therefore, be removed from the boxes and stowed separately, as far as possible under the conditions laid down for the storage of rubber articles, either in the Engineering Department or the Naval Store Department (for custody only) as may be convenient.

### **705.—Navigation Bow Lanterns—Replacement of Coloured Shades—REPORT.**

(N.S. 9152/27.—23.3.1928.)

In order to improve the performance of bow navigation lanterns (large and small types) of Admiralty patterns, all existing red and green shades, Patterns 3730, 3731, 29 and 30 used with these lanterns are to be replaced with shades having a greater light transmission value. The new shades will be known as *Improved Pattern 3730, etc.*, and will be so marked on the brass binding.

2. All H.M. ships, auxiliaries, yard craft, etc., of over 40 tons gross, using lanterns of the patterns referred to should forward demands at once to storing yards for the necessary improved shades, indicating on the demand the number of each pattern shade required under each of the following headings :—

- (a) Shades required to replace those now fitted in lanterns which are actually in use as main bow lights burning *oil*.
- (b) Shades required to replace those in lanterns carried for secondary lighting.
- (c) Shades required to replace those in lanterns in use as mainlights using electric adaptor.
- (d) Shades required to replace those carried as spare.

As soon as improved shades are received and fitted, all old ones should be returned to the nearest dockyard.

The shades in lanterns in use by craft under 40 tons gross should only be replaced by the improved type as old ones become broken or defective.

3. The shades in all lanterns in stock at yards should, where possible, be replaced by the improved type prior to issue.

4. The improved shades are being purchased for delivery at Portsmouth and are to be distributed from that yard after examination and test, *pro rata* to the following quantities, which should be regarded as first dues to the yards concerned :—

Yard.	Pattern Number.			
	3724C	3723C	23	24
Chatham ... ..	30	30	100	100
Sheerness ... ..	20	20	50	50
Portsmouth ... ..	50	50	200	200
Devonport ... ..	50	50	200	200
Gibraltar ... ..	30	30	50	50
Malta ... ..	50	50	200	200
Bermuda ... ..	20	20	30	30
Cape ... ..	20	20	30	30
Trincomali ... ..	20	20	30	30
Hong Kong... ..	30	30	100	100

Care should be taken to ensure that stocks of the old and improved pattern shades are stowed separately. Future annual or other demands should show the stock, issues, etc., of old and improved shades separately. The improved shades should be issued from the various yards as they become available in order of priority indicated in paragraphs 2 and 3, H.M. ships, etc., in reserve being supplied after those in full commission under each of the headings. As it is only possible to obtain delivery of about 50–80 improved shades per week, it will be some time before the complete change over to improved shades can be effected.

Pending receipt of sufficient improved shades the old ones should continue to be issued and used.

5. Old type shades of all patterns returned are to be dealt with as follows :—

*Home Yards, Malta and Gibraltar.*—To be taken on B.14 charge (if in good condition) at P.V. of 6d. each and subsequently transferred to Portsmouth by free freight.

*All other Yards.*—To be received at no value and destroyed locally, the binding being dealt with as old metal.

*Portsmouth only.*—Old type shades should, on receipt, be tested in comparison with the standard shades of 13–18 per cent. transmission value, which are available at the yard, and a report should be forwarded each quarter showing the number of shades received, the extent to which examination has been carried out and the number of each pattern found to be up to the required standard of light transmission value. The satisfactory shades should be kept separate from those found unsatisfactory, and proposals should be forwarded in regard to marking same “Improved” on the binding or otherwise, so that they can be identified permanently as suitable for use. Instructions as to disposal of all old type shades will be issued later.

**714.—Local Purchases.**

(C.P./C. (I) 3437/27.—23.3.1928.)

In no circumstances is cancellation of, or any modification in, accepted tenders to be allowed without prior Admiralty approval.

**729.—Issued Confidentially.****741.—Tube-Ready Lamp Circuits—Alternative Method of fitting the Automatic Switch where the Cables are Led on to the Tubes adjacent to the Central Pivot.**

*Flotilla Leaders "Scott" and "Shakespeare" Classes, and Destroyers of "V," "W" and Repeat "W" Classes, and Dockyards concerned.*

(G. 18737/27.—30.3.1928.)

The drawing (E.F.O. 26/28) shows an alternative position for fitting the two-way automatic change-over switch to the torpedo tubes in the above-mentioned vessels.

2. The position of the two-way automatic change-over switch shown on E.F.O. 16/26, has been found unsatisfactory in vessels where the cables are led on to the tubes adjacent to the centre pivot, due to the cables fouling the switches. The alternative method shown in (E.F.O. 26/28) is therefore to be worked to in vessels of the above-mentioned classes similarly affected, where the work of fitting the switches is not already completed, and in vessels already fitted where it is found necessary to alter the position of the switches due to the latter fouling the cables.

**742.** } *Issued Confidentially.*  
**744.** }

**747.—Gun Mountings—3·7 in. Howitzer Equipments—Drag Ropes.**

*Gunnery Schools, R.M. Divisions and Portsmouth Yard.*

(G. 2985/28.—30.3.1928.)

It has been found that with drag ropes as supplied with the 3·7 in. howitzer equipments the men on the pole obstruct the two rear numbers on the inside of the drag ropes and arrangements are to be made to splice in 2 ft. of rope between the chain and the rear loop of each drag rope.

2. For the equipments Nos. 1-16 already delivered the necessary work is to be carried out by ship's staffs and establishments concerned. For the remaining equipments arrangements will be made to modify drag ropes before delivery from Woolwich.

**749.—Issued Confidentially.**

### 752.—Forbes Logs—Replacement of Lead Cased Cables to Junction Box by New Pattern Tough Rubber filled Cables.

(G. 4518/28.—30.3.1928.)

A case has occurred where a ship's Forbes log has been put out of action due to the flooding of the compartment. This was caused by the gland round the tube leaking, and the high speed of the ship forced the tube aft and caused a leak on the fore side. Subsequently, water was found in the junction box on the platform deck. This had been forced up the inside of the lead cased cable.

2. In order to avoid a recurrence of this defect in these logs, the lead cased cables from the log to the junction box are to be replaced by the following new pattern tough rubber filled cables as soon as quantities of the cables become available, which should be about June, 1928 :—

Forbes log, Pattern 9623.

Chernikeef log, Pattern 9621.

3. The work is to be carried out by the ship's staff.

### 758.—Wireless Telegraph Power Boards and Charging Boards—Introduction of New Pattern Ammeters and Voltmeters for Replacement purposes.

(N.S. 2528/28.—30.3.1928.)

In order to facilitate replacement of  $4\frac{1}{2}$  in. dial, moving-coil, projecting type ammeters and voltmeters, of hitherto non-standard patterns, fitted in certain existing power boards and charging boards, the following instruments have been standardised and allotted pattern numbers :—

<i>Patt. No.</i>	<i>Description of Instrument.</i>
7553	Ammeter, $4\frac{1}{2}$ in. dial, moving coil, 0-7·5 amps.
7554	Ammeter, $4\frac{1}{2}$ in. dial, moving coil, 0-12 amps.
7555	Ammeter, $4\frac{1}{2}$ in. dial, moving coil, 0-20 amps.
7556	Ammeter, $4\frac{1}{2}$ in. dial, moving coil, 0-30 amps. (instrument only).
7556A	Shunt for.
7557	Ammeter, $4\frac{1}{2}$ in. dial, moving coil, 0-50 amps. (instrument only).
7557A	Shunt for.
7559	Ammeter, $4\frac{1}{2}$ in. dial, moving coil, 0-200 amps. (instrument only).
(The shunt for Pattern 7559 ammeter is Pattern 455B.)	
7576	Voltmeter, $4\frac{1}{2}$ in. dial, moving coil, 0-12 volts.
7577	Voltmeter, $4\frac{1}{2}$ in. dial, moving coil, 0-500 volts.

2. The new pattern articles will not be added to the Establishment of Stores (excepting in the component part list), but small stocks are being purchased for retention in Portsmouth Dockyard for issue for replacement purposes as necessary. Also, for the more commonly used patterns, namely, Patterns 7555 and 7557 ammeters and Pattern 7576 voltmeter, one of each is being supplied to Malta and Hong Kong Dockyards respectively.

3. The new pattern instruments are suitable for the replacement of the  $4\frac{1}{2}$  in. dial ammeters and voltmeters in the boards indicated below :—

<i>Pattern.</i>	<i>Instrument.</i>	<i>Where used.</i>	
7553	Ammeter ...	Type 105, Patt. 8281 board, main supply ...	1 No.
7554	Ammeter ...	Type 104, Patt. 7672 board, main supply ...	1 „
7555	Ammeter ...	Type 43, Patt. 7676 board 2E, supply ...	1 „
7556	Ammeter ...	Type 47, Patt. 8293 board 2R, D.C., middle ...	3 „
7557	Ammeter ...	Patt. 6723 board 2F, charging, upper ...	2 „
		Patt. 6349 board 2G, charging, upper ...	3 „
		Patt. 5419 board 2K, charging, upper ...	2 „
		Patt. 6722 board 2L, charging, upper ...	3 „
7559	Ammeter ...	Type 47, Patt. 8293 board 2R, D.C., middle ...	2 „
7576	Voltmeter ...	Each board 2F, 2G, 2K and 2L, charging, upper.	1 „
7577	Voltmeter ...	Type 43, Patt. 7676 board 2E, supply ...	1 „

4. Ships fitted with boards listed in the previous paragraph are to retain instruments already fitted, but when returning defective instruments the appropriate standard pattern article is to be demanded in replacement.

5. In several of the early deliveries of charging boards manufactured by Messrs. Whipp & Bourne, Ltd., and Messrs. General Electric Co., Ltd., there will be found certain  $4\frac{1}{2}$  in. dial instruments in which the fixing holes are of a radius which differs by  $\frac{1}{16}$  in. from that of the standard instruments. In such instances new fixing holes should be drilled and tapped in the boards as found necessary when standard instruments are being fitted as replacements.

6. Any ammeter or voltmeter taken from one of the existing boards for replacement by one of the new instruments should, when being repaired, be marked with the appropriate pattern number as listed in paragraph 3. It is not necessary for the ammeters to be calibrated with any particular shunt, as all shunts of the same range are interchangeable and are designed to have a drop of 75 millivolts on full load current.

### **777.—Electrical Energy—Provision of Facilities for Supplying Ships from Shore.**

*All Dockyards.*

(D. 4114/28.—30.3.1928.)

Items are occasionally inserted in yard machinery proposals for mains or machinery for the supply of electric lighting and power to ships from shore, without adequate evidence being afforded as to the actual necessity for such mains or plant, particularly when the supply is considered on an economic basis.

2. These facilities are provided principally for the purposes indicated in A.F.O. 2124/23, viz. :—

(i) In cases where the ship is unable to run her own generating plant and a supply of electrical energy is essential, either for ship or dockyard requirements.

(ii) In cases where it has been definitely ascertained that such supply would be more economical than for the electric energy to be generated by the plant in the ship.

3. It is not intended to provide shore supply facilities at all berthing positions of such capacity as to meet the maximum possible demand at all these points. The cost of doing so would not be warranted, and it is only necessary to make such reasonable provision for the above services at the more important berthing positions as experience may show to be required.

4. Prior to any item being inserted in the Yard Machinery proposals, relating to mains or machinery for the supply of electric light and power from shore to H.M. vessels, permission is to be obtained separately in advance from the Admiralty for the inclusion of any such item, giving in full detail reasons showing the necessity of such item, and instancing cases of inability to meet demands, where such have occurred.

5. The request for permission should be forwarded through the Commanders in-Chief of the Port, who should express an opinion as to whether the proposal is necessary in conjunction with existing facilities for the reasonable requirements of the Fleet as regards supply of electric light and power from the shore to H.M. Vessels.

6. All such requests should be forwarded to the Admiralty for approval not later than 1st July in each year.

(A.F.O 2124/23.)



### 803.—W/T and V/S Signalling Apparatus—Fitting in H.M. Ships in Home Dockyards—Responsibility for Inspection.

(S.D/G. 18939/27.—5.4.1928.)

The Captain, H.M. Signal School, Portsmouth, is responsible for the technical inspection of the work of fitting W/T and V/S signalling apparatus in all new construction and ships undergoing reconstruction, and in the cases of large repair (D.2), when ships have been destored or alterations and additions have been carried out, affecting signalling apparatus. The Captain, H.M. Signal School, is also responsible for the inspection of similar work in ships commissioned for trials or for service from dockyard control. The Form D.448 applicable to the above cases will be signed by the Captain, H.M. Signal School, Portsmouth, as provided on the form.

2. In the event of Signal School officers not being available for inspection of any particular item, the Captain, H.M. Signal School, has authority to delegate the work to the appropriate Port W/T Officer, and to communicate direct with him on the matter.

3. In the case of ships in commission (including those in special, reduced, or reserve commission) undergoing refit, the responsibility for the inspection of alterations and additions carried out by dockyard lies with the Port W/T Officer, and for the inspection of defects made good, with the Commanding Officer.

Vessels which are under the charge of Vice-Admiral Commanding, Reserve Fleet, or the senior officers, Reserve Fleet, at other ports, which are allowed a care and maintenance party instead of a reserve complement proper will be treated as in reserve commission for the purposes of this paragraph, unless they are definitely paid off into dockyard control, in which case the provisions of paragraph 1 will apply.

At Portsmouth the duty of Port W/T Officer is carried out by an officer of the Signal School, at Chatham and Devonport by W/T Officers in these Commands, assisted if necessary on V/S matters by the officer appointed for supervision of V/S ratings awaiting draft.

4. In the event of Port W/T Officers being unable to carry out the work for any reason, reference should be made by them direct to the Captain, H.M. Signal School, for assistance or advice.

5. No ship can be considered to be in all respects fit and ready for sea if the W/T sets have not been tested and tuned. In all cases therefore, Commanding Officers are responsible that all apparatus has been tested and tuned before a ship leaves the port.

6. Commanding Officers are at liberty to call on the Port W/T Officer for technical assistance beyond the powers of ship's officers whenever required (*vide* para. 2-5 above).

7. In order that there may be no doubt as to the application of this order in particular cases, Port W/T Officers are to inform the Captain, H.M. Signal School, weekly, of the progress of all work in hand, showing those items which are being inspected by Port W/T Officers, and those in which inspection by Signal School is assumed.

#### 8. Summary.

Ship or vessel in	Occasion.	Responsible for technical inspection of W/T and V/S work, and tuning on completion.
Contractors' hands ... ..	All occasions.	Captain, H.M. Signal School.
Dockyard control ... ..	All occasions.	Captain, H.M. Signal School.
Commission (including commission in Reserve).	Large repair— (i) A and A's. (ii) Defects.	Captain, H.M. Signal School. Commanding Officer.
Commission (including commission in Reserve).	Refits— (i) A and A. (ii) Defects.	Port W/T Officer. Commanding Officer.
Commission (including commission in Reserve).	Proceeding to sea.	(As to readiness for sea.) Commanding Officer.

## 805.—Turbine Reduction Gearing—REPORT.

(D.18615/27.—5.4.1928.)

Isolated cases having occurred of gearing defects in the older ships, attention is called to the fact that the older designs are more liable to develop defects owing to the lower standard of cutting and heat treatment of the material obtaining in the earlier stages of the use of gears and the rapid production necessary under war conditions. The teeth of turbine gear wheels and pinions should be kept accordingly under careful observation, close attention being given to any burring or pitting of the teeth or other signs of excessive or uneven wear of the driving surfaces and to any symptoms of distress of the material. In particular, examination should be made by ship's staff on each occasion before the ship is taken in hand for refit in order that any further survey or other necessary action can be taken while the ship is in Dockyard hands.

2. The result of each examination, with a detailed description of the nature and extent of any defects discovered, is to be kept, and a special report should be made when the circumstances are considered to warrant it.

3. In a recent case in which failure of teeth developed, enquiry showed that particulars of earlier defects and symptoms of weakness were not known to ship's officers. Care is to be taken to keep permanent records of any defects in the Engineer Officer's Note Book (*vide* Article 563 of Engineering Manual) to ensure that the necessary close attention is given to the frequent examination of parts whose behaviour may be in any way under suspicion.

## 808.—Motor Sounding Machines—Operating Instructions also Provision of Chemical Tubes.

(N.S. 3488/28.—5.4.1928.)

Exhaustive tests to investigate the cause of bad cuts in Kelvin motor sounding machine tubes have recently been completed; these show that provided the instructions contained in Seamanship Manual, Vol. I, page 131 of 1926 Edition, and page 139 of 1922 Edition are strictly complied with, good clean cuts should almost invariably be obtained. The chief cause of bad cuts appears to be the too sudden application of the sounding machine brakes causing a sudden jerk to the wires and tubes. On the other hand, if too much wire is allowed to run out after the lead has reached the bottom, bad cuts are likely to be obtained. The motor machine must not be braked by means of the motor switch but by the brake wheel. The brake must be applied the moment the sinker takes the bottom, but as far as possible without jerking.

2. Re-coated sealax tubes have been found to give as good results as new tubes.

3. *Age of Tubes.*—Experiments have shown that a gradual change takes place in the chemical composition and in the gelatine with age—and that owing to the hardening action which undoubtedly occurs, tubes should be returned to the makers for refilling after 18 months, dating from their issue from the works of Messrs. Kelvin, Bottomley & Baird, Ltd. Ships should therefore return any such tubes to the nearest Naval Store Officer for refilling, drawing new ones in lieu.

4. *Demands to Replenish Stocks, etc.*—In order to meet the new age limit imposed on chemical tubes in this Order, arrangements are to be made as follows:—

*All Yards.*—Chemical tubes in store over 18 months old should be depreciated in value to the price of used tubes, and in the case of yards abroad, should be sent to England for refilling. Instructions at present in force ordering the sale of used tubes returned should be regarded as cancelled, and tubes to be returned by ships under the new age limit as well as all future returns of used tubes should be taken on charge for refilling.

*Foreign Yards.*—Demands are to be forwarded quarterly immediately after the first day of each quarter, providing at Malta and Gibraltar for six months' estimated issues plus six months' reserve, and at other yards abroad, six months' estimated issues plus nine months' reserve.

*Home Yards.*—Orders for supplies are to be placed quarterly on 1st March, 1st June, 1st September and 1st December to complete stocks to four months' estimated issues plus three months' reserve.

*Chatham only.*—Further orders are to be placed when necessary to meet requirements for yards abroad so as to ensure that new tubes are always shipped. The foreign yard reserve of filled tubes maintained at Chatham is to be abolished, and an equivalent additional number of used tubes available for refilling is to be maintained in lieu.

The necessary notations should be made in yard copies of Reserve Memoranda.

### 810.—New Searchlight Carbons—Method of Assigning Pattern Numbers.

(N.S. 3308/28.—5.4.1928.)

It has been decided that Pattern Nos. 8701 to 8900 shall be reserved for future types of searchlight carbons and these will be allocated to new carbons according to the following procedure :—

Every carbon upon its inception will be assigned one of these pattern numbers which will be retained throughout its history. The pattern number will be followed by the suffix X or T according to whether the carbon is in the experimental or tentative stage. When the carbon has reached the standard stage the suffix will be dropped.

2. The pattern numbers so allocated will not be included in the Rate Book until they have reached the tentative stage, and are being proposed for large scale trials at sea.

### 816.—Technical Co-ordinating Committee on General Stores and on Textiles and Clothing—Provision of Patterns.

(N.S/C.P. 11607/27.—5.4.1928.)

In connection with the preparation of Government Department Specifications by the above Committees, it has been agreed that as a general rule the whole of the sealed patterns required under a particular specification shall be provided by one or other Service.

2. Where the Admiralty have agreed to provide the patterns for all Services, purchase of the whole of the patterns required will normally be made under the Vote of the Admiralty Department mainly interested in the group.

3. When the patterns have been finally approved and are distributed, those for other Admiralty Departments and for other Services will be issued on repayment, claims being raised by the Department to whose Vote cost was first charged.

4. Where convenient the place of delivery and of final assembly for acceptance of the patterns will be the Admiralty Pattern Rooms, but in some instances this may be arranged at a Dockyard or Victualling Yard.

5. The responsibility for the patterns rests with the Sub-Committee preparing the specification. The Instructions to Sub-Committees lay down that representatives will take steps to ensure that they express the views of their Service, and provision is made for co-option of additional members where necessary to ensure this. In special instances arrangements will be made for the co-option or attendance of a Surveyor of Stores from one of the Dockyards.

6. Final acceptance will be by the Sub-Committee, and for the purpose of payment to Contractors, certificate of quantity will be given by the Admiralty Pattern Keeper (or by the usual accounting officer where delivery and assembly is at a Yard or Dépôt) and certificate of quality, etc., by the Chairman of the Sub-Committee who will be responsible that all necessary examination has been carried

out, and that representatives of all Admiralty Departments and of other Services concerned have agreed to accept the patterns.

7. After acceptance of patterns by the Sub-Committee arrangements will be made by the Chairman of the Sub-Committee for the Admiralty patterns to be signed and sealed at either the Pattern Rooms, or a Naval Establishment by the officer normally responsible for signing or by a technical Admiralty member of the Sub-Committee according to convenience. Signing of patterns for other Services will be arranged by the representatives concerned on the Sub-Committee.

### 891.—Fire Control Tables—Repair.

(N.S. 14200/27.—13.4.1928.)

Repairs to fire control tables beyond the capacity of ships' staffs have hitherto been carried out by Messrs. Elliott Bros., and while this procedure will still remain in force so far as the Admiralty pattern fire control tables are concerned, it has been decided that necessary repairs to the Dreyer fire control tables shall be carried out in the dockyard by yard staff or dealt with by Messrs. Elliott Bros. (A.F.O. 976/26) and repaired by contract, at the discretion of yard officers.

2. The tables are "Fixtures" and should be dealt with on defect lists.

3. All requisitions for repairs to fire control tables should be put forward by ship without delay and should be considered by yard as urgent.

4. Boxes of spare parts are supplied with Marks IV, IV\* and V, Dreyer, fire control tables. The boxes will be dealt with as "Sea Stores" and are to be retained in the central store. The instructions in regard to accounting for spares for the Admiralty pattern fire control tables in "Nelson" and "Kent" classes, etc., are also to be followed in dealing with the spares for Dreyer fire control tables. Lists showing the standard contents of boxes for the latter tables will be promulgated later.

5. The following ships which are fitted with Mark IV\* tables, at present have no boxes of spares on board, and arrangements have been made for purchase from Messrs. Elliott Bros. (London), Ltd., and delivery as shown:—

H.M.S. "Queen Elizabeth"	} Chatham.
" Warspite "	
" Valiant "	
" Marlborough "	
" Barham "	} Portsmouth.
" Tiger "	
" Revenge "	

(A.F.O. 976/26.)

### 900.—Canvas Cots—Returns.

(N.S. 3228/28.—13.4.1928.)

Stocks of canvas cots being sufficient to meet anticipated requirements for a considerable period, any future returns of these articles in a repairable condition should be disposed of.

### 902.—Overhead Fans—Method of Accounting.

(N.S./D. 13474/27.—13.4.1928.)

It has been decided, in order to secure uniformity in accounting at all yards, that overhead fans and regulators will be provided, in future, as Naval Stores under Vote 8, Sec. II F., and should be included in the Torpedo Warrant Officer's Fixture List.

2. The spares provided will continue to be dealt with as sea stores.

919.—*Issued Confidentially.***\*921.—Paymaster Cadets—Training on Entry and Syllabus of Instruction.**

(C. W. 3184/28.—20.4.1928.)

## GENERAL PROVISIONS.

There are two entries of Paymaster Cadets annually, viz., on 1st January (examination in November), and 1st September (examination in June).

2. The approved course of instruction is divided into two periods of approximately thirteen weeks each, and is carried out in one of H.M. ships. The instruction is mainly theoretical but where opportunity occurs practical instruction is given, especially in the second period.

3. Concurrently with instruction in the duties of an Accountant Officer, Paymaster Cadets receive disciplinary training and instruction in physical training and the rudiments of gunnery, torpedo, seamanship, pilotage, signals and engineering, with a view to familiarising them with the Service, its customs, and the working of one of H.M. ships. They also receive instruction in French from a qualified teacher. Seagoing training in the seagoing tender attached to the training ship is also given.

## ROUTINE OF INSTRUCTION.

4. The time spent on each subject during each week is approximately as follows:—

	<i>First Period.</i>	<i>Second Period.</i>
Accountant Officer's duties ...	17 hours	17 hours
Gunnery ... ..	4 "	3 "
Torpedo ... ..	1½ "	1½ "
Seamanship ... ..	2 "	2 "
Pilotage ... ..	1 "	1 "
Signals ... ..	2½ "	2½ "
Engineering ... ..	—	1 "
French ... ..	1½ "	1½ "
Physical Training ... ..	2 "	2 "
Total ... ..	31½ hours	31½ hours

The above includes approximately 1½ hours' instruction before breakfast, and 2 hours' preparation in accountant work in the evening, and admits of two half-holidays a week.

## SENIORITY ON PASSING OUT.

5. At the end of the six months' training Paymaster Cadets are examined in the following subjects, marks being allotted as shown:—

Accountant Officer's Duties—		
Ship's office work ... ..	...	150
Victualling ... ..	...	150
Captain's office ... ..	...	150
Central Stores ... ..	...	100
Coding and Cyphering ... ..	...	100
Seamanship ... ..	...	50
*Torpedo ... ..	...	50
Gunnery ... ..	...	50
*Pilotage ... ..	...	50
Signals ... ..	...	50
*Engineering ... ..	...	50
French ... ..	...	50
Officer-like qualities ... ..	...	100
Total ... ..	...	1,100

\* Examination to be oral.

6. The order of seniority on advancement to Paymaster Midshipman is determined by the order of merit in this examination.

7. As a further incentive to obtaining the maximum advantage from their training, Paymaster Cadets, on passing out of the training ship, will be allowed to gain time towards their seniority in the confirmed rank of Paymaster Sub-Lieutenant, as follows:—

- (a) For a 1st class certificate, i.e., 80 per cent. or over of the allotted maximum of marks at the passing out examination—two months.
- (b) For a 2nd class certificate, i.e., 70 per cent. and under 80 per cent. of the allotted maximum—one month.

The time so gained will be taken into account when their seniority as Paymaster Sub-Lieutenant is adjusted, in conjunction with any time gained at the examination for that rank. (*See Article 301, Clause 2 (b), K.R. and A.I.*)

#### REPORT AT END OF TRAINING.

8. At the end of the six months' training, a report is to be forwarded to the Admiralty stating:—

- (a) The dates when the Paymaster Cadets joined and when they were discharged.
- (b) The average number of hours devoted to each subject.
- (c) Any circumstances which materially interfered with the routine of their instruction.
- (d) Any suggestions for improving their system of training.
- (e) The results of the examinations, accompanied by copies of all examination papers set by the Officers of the ship.

#### SYLLABUS.

9. The following syllabus of instruction is carried out:—

##### *Accountant Officer's Duties.*

*Ship's Office.*—Instructions for maintaining and rendering the ledger; regulations concerning payments, allotments, remittances, postal orders, and ship's office returns.

*Victualling.*—Regulations concerning the issue and accounting for provisions and clothing, with practical experience of the routine of issue and books used.

*Captain's Office.*—Correspondence; registration; pack system; certificates; punishments; requests and alterations; returns; practical experience of the general routine of a Captain's Office.

*Central Stores.*—Methods of obtaining stores; stowage; cataloguing; posting stock and value ledgers; issue of stores and accounting.

*Coding, etc.*—Coding instructions; use of codes and cyphers in force, practical work under supervision.

*Typewriting.*—Practical instruction; care of machines.

##### *Gunnery.*

Field training as much as possible. General grounding in modern fire control. Two days' instruction in miniature rifle and pistol shooting at R.N. Gunnery School. Titles and general functions of the Heads of the various gunnery departments at the Admiralty and in H.M. dockyards. Organisation of the gunnery department. Non-substantive ratings—pay and qualifications. Periodical gunnery reports. Gunnery records. Store accounts. H.M.S. "Excellent," etc.

##### *Torpedo.*

Titles and general functions of the Heads of the various torpedo departments at the Admiralty and in H.M. dockyards. General knowledge of the torpedo department, and the ranks and ratings therein. Periodical torpedo reports. Torpedo records. Store accounts. H.M.S. "Vernon," etc. Supply and distribution of electricity. General idea of a modern torpedo, submerged tubes and torpedo control. Explanation of controlling and burning searchlights. Telephones and how to use them.

*Pilotage.*

Elementary instruction on the following:—Magnetic and gyro compasses. Variation and deviation. Shaping course and allowance for current. Mercator's chart. Chart sets and accompanying publications. Information obtained from sights. Fixing by terrestrial objects. Explanation of tides and winds. Winds and currents of the North Atlantic. Weather and forecasting. Chronometers. Also practical instruction on the bridge and at the sounding machine.

*Seamanship.*

Construction of a service boat; the names of the fittings, etc., in connection with boat work; hoisting and lowering boats; boat pulling; rigging of Service boats for sail; a good knowledge of boat sailing. Midshipman of the picket boat (during Dog Watches); the principal duties of the Officer of the watch at sea, and in harbour. Bends and hitches; knots and splices (in hemp only); purchases and tackles; sheers and derricks; rule of the road; compass and helm; general principles of anchor work; general principles of evolutions; rough outline of the organisation of a ship's company for messing, leave, quarter bill and evolutions. Discipline—dealing with men, defaulters, requestmen, complaints.

*Signals.*

Making and reading semaphore and morse (no signs); reading flashing; the colours and meanings of flags and pendants (naval code); how to signal time, distance, speed and numbers; forming and disposing signals.

*Engineering.*

General knowledge of the ranks and ratings in the engine room department. Duties of Engineer's Writer and Regulating Chief Stoker. Visits to the engine room. CO<sub>2</sub> plant; ventilation; steam for domestic purposes, lighting, heating, meat room, bakery and laundry; engine room register and CO<sub>2</sub> log. Particulars inserted in the ship's book. Periodical reports Defect lists. Coaling, oiling and watering.

*Foreign Language.*

*French.*—Revision of the grammar. Reproduction, oral and written, of passages read aloud. Study of idiom. Translation from French into English and *vice versa*.

An oral test will be included in the examination.

*Anti-gas Course.*

Paymaster Cadets undergo a week's anti-gas course during their period in the training ship.

### **\*925.—Dominion Navies—Distinction between Transfer and Loan.**

(N. 891/28.—20.4.1928.)

Applications are being received in considerable numbers from ratings who desire to serve in the Royal Australian Navy or other Dominion Forces.

2. It should be understood that such service may take two forms:—

- (i) Loan, the rating being lent to the Dominion Force for a certain fixed period. At the end of this time he returns to the Royal Navy to complete his normal engagement, and his service with the Dominion counts as Naval Service in all respects.
- (ii) Transfer, when the rating definitely severs all connection with the Royal Navy, and enters into a new engagement under the Dominion. A rating who transfers forfeits all service for Imperial pension purposes.

3. When ratings are required for loan, the Home Ports are informed and ratings are chosen who are immediately available at the ports. Requests from ratings to be lent are to be forwarded to the depôts and not to the Admiralty. The depôts are to compile a list of such ratings in order that their requests may be considered if they happen to be available when volunteers are called for.

4. Applications for permanent transfer may be forwarded to the Admiralty, when they will be referred for consideration by the Dominion authorities concerned provided that the applicants can be spared from the Royal Navy and have good reasons for desiring to be transferred.

5. In referring to ratings who have been discharged from the Royal Navy to Dominion Navies, and in the preparation of reports of such discharges (*e.g.*, Forms S.161) care is to be taken to ensure the correct use of the terms "lent" and "transferred."

927. }  
 940. } *Issued Confidentially.*  
 941. }

#### 944.—Replace Parts of Diesel Engines of Mirrlees Type— Manufacture.

*H.M. Ships and Shore Establishments.*

(D. 17131/27.—20.4.1928.)

Future requirements of replace parts (with the exception of Albany pumps springs and piston rings) of all Diesel engines of Mirrlees A.H.S type, 150, 175 and 200 kilowatts, installed in H.M. ships and shore establishments, will be met by manufacture at Portsmouth Dockyard.

2. The above instructions also apply to the undermentioned Diesel engines at the shore establishments named, and to any Mirrlees sets that may be subsequently installed on shore:—

Naval Armament Depôt, Crombie (2 sets), 200 kw.  
 H.M. Dockyard, Rosyth (1 set), 200 kw.  
 Port Edgar Base (3 sets), 200 kw.  
 H.M. Dockyard, Hong Kong (1 set), 200 kw.  
 Fuel Oil Depôt, Invergordon (2 sets), 250 b.h.p.  
 Fuel Oil Depôt, Killingholme (2 sets), 400 and 300 b.h.p.  
 Fuel Oil Depôt, Medway (1 set), 400 b.h.p.

3. *H.M. Ships.*—As requirements arise, items should be inserted on defect lists (Form S.340, D.275), giving full details as to the parts required, together with drawing numbers, etc. The lists should be forwarded direct to Portsmouth Yard through the usual channel, accompanied by full particulars as to the degree of urgency, and the address to which the replace parts should be forwarded. The manufacture of the parts required is to be proceeded with, and estimates of cost and time required, forwarded in the usual manner. On completion and despatch of the items, the Commanding Officer of the ship concerned should be supplied with full particulars as to route and case number, etc.

4. *Shore Establishments.*—The dockyards or establishments concerned are to forward copies of all available detail drawings to Portsmouth Yard for guidance. In requisitioning replace parts the yard or establishment concerned should quote the maker's drawing number, and furnish any additional information required for manufacturing purposes; also state the degree of urgency and the time by which the replace parts are required to be delivered.

5. Requirements of springs and piston rings are to be dealt with by dockyards or repair establishments, tenders being obtained direct from Messrs. Mirrlees, Bickerton & Day, and recognised makers of these specialities.



Requirements of Albany pumps should be obtained from the actual makers, *i.e.*, Messrs. Albany Engineering Co., the price should not exceed £40 per pump except under special circumstances.

## 970.—Electrical Apparatus—Dimensions of Drawings.

(D. 1791/28.—20.4.1928.)

With reference to paragraph 8 of B.E.S.A. Specification No. 308/1927, and in order to ensure uniformity of practice in the Admiralty, dockyards and manufacturers' works in the preparation of all drawings dealing with electrical apparatus, the following procedure should be worked to in future:—

### DIMENSIONS OF DRAWINGS.

*High Power Electrical Apparatus.*—1. All new drawings should be dimensioned in fractions of an inch, viz:  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{8}$ ,  $\frac{1}{16}$ ,  $\frac{1}{32}$ , and their multiples throughout, with the following exceptions:—

- (a) Wire and sheet gauges should be shown in decimals of an inch, in accordance with current standards.
- (b) Small drilled holes for which wire gauge drills are required should be designated by the decimal diameter of the drill in accordance with the current standards for such drills.
- (c) Where such accuracy is required as to necessitate the insertion of tolerances, such dimensions and the tolerances should be shown in decimals of an inch.
- (d) Drawings which are amplifications of drawings published in B.E.S.A. Specifications should be dimensioned on the lines of the B.E.S.A. drawings.

2. References should be made where necessary to the recognised standard fits of machined parts, the nomenclature and symbols used being as recommended by the B.E.S.A. Specification No. 164 of 1924. In such cases the actual tolerances need not be stated since they are given in the relevant tables. In those cases where no reference is made and no tolerance is given, the allowable variation from the figured dimension is to be that laid down in the B.E.S.A. specifications which may be applicable, *e.g.*, those for rolled or drawn sections.

3. Dimensions should rarely be used containing smaller fractions than  $\frac{1}{16}$  in., and all dimensions less than  $\frac{1}{16}$  in. should as far as possible be shown in decimals of an inch (in most cases, except for standard tolerances and gauges, as in 1 (a), (b) and (c) to the nearest  $\frac{1}{100}$  in. only). Measurements in 64ths should never be used except where it is necessary to show half a 32nd dimension which has been unavoidable. Dimensions involving thousandths of an inch should only be used where a high degree of accuracy is essential.

Fine subdivision of the larger dimensions is to be avoided as a general rule, and only in exceptional cases should the following rule be departed from:—

Dimensions over 12 in. to be given to the nearest  $\frac{1}{8}$  in.

Dimensions between 12 in. and 6 in. to be given to the nearest  $\frac{1}{16}$  in.

Dimensions below 6 in. to be given to the nearest  $\frac{1}{32}$  in.

In general, care is to be taken to keep dimensions in as simple a form as possible, the smaller fractions and numerous figures only being used where unavoidable.

4. Revisions of existing drawings are to be carried out on the lines of the original dimensioning, even if the revisions eventually necessitate a new drawing, except where exact decimal equivalents of fractions are shown (e.g., .375, .0625). In such cases the fractional dimensions should be inserted.

A change in the system in such a case would probably lead to a loss of interchangeability of parts.

Should, however, the revised drawing represent such a departure from the original design that interchangeability of parts is no longer to be contemplated, the new system of dimensioning is to be followed.

*Low Power Apparatus.*—Drawings should be dimensioned in decimals, in accordance with Clause 7 (c) of B.E.S.A. Specification No. 308/1927, except as follows:—

- (a) *Wire and Sheet Metal.*—The gauge number and its decimal equivalent should be stated.
- (b) *Holes.*—The drill size, in fractions of an inch, or drill number with its diameter in decimals should be stated
- (c) *Sheet and tube insulation, rubber cord and similar materials.*—The trade dimensions (usually given in fractions of an inch) should be stated where known.

References should be made where necessary to the recognised standard fits of machined parts, the nomenclature and symbols used being as recommended by the B.E.S.A. Specification No. 164/1924. The actual tolerances need not be stated since they are given in the relevant tables.

## 997.—Torpedo Tubes, A.W.—Gauges for Testing Firing Gear, Powder and Cordite Impulse.

*Yard and Ships Concerned.*

(G. 3467/28.—27.4.1928.)

Various changes in the composition of the fleet and modifications to the torpedo tubes of existing ships have necessitated a revision of the previous authorised issue of sets for testing firing gear in ships fitted with powder or cordite discharge of torpedoes.

2. On receipt of demands from the vessels and establishments concerned supply will now be made by Portsmouth Yard of the following gear:—

- (a) Modified 3 pdr. cartridge cases fitted with adaptors.
- (b) Plate gauges.

For use with sets of gear for testing blow of strikers of A.W. torpedo tubes and for measuring the protrusion of the strikers.

3. Issue will be made as shown below :—

<i>Ship or Establishment.</i>	<i>No. of Cartridge Cases with Adaptors.</i>	<i>No. of Plate Gauges</i>
" Berwick "	...	1
" Cornwall "	...	1
" Cumberland "	...	1
" Kent "	...	1
" Suffolk "	...	1
*" Emerald "	...	1
*" Enterprise "	...	1
*" Despatch "	...	1
*" Delhi "	...	1
*" Dunedin "	...	1
*" Durban "	...	1
*" Danae "	...	1
*" Dauntless "	...	1
*" Dragon "	...	1
*" Cairo "	...	1
*" Calcutta "	...	1
*" Capetown "	...	1
*" Carlisle "	...	1
*" Colombo "	...	1
*" Cardiff "	...	1
*" Ceres "	...	1
*" Coventry "	...	1
*" Curacoa "	...	1
*" Curlew "	...	1
*" Caledon "	...	1
*" Calypso "	...	1
*" Caradoc "	...	1
" Champion "	...	1
" Montrose " (leader of 1st Flotilla)	...	1
" Stuart " (leader of 2nd Flotilla)	...	1
" Keppel " (leader of 3rd Flotilla)	...	1
" Broke " (leader of 4th Flotilla)	...	1
" Wallace " (leader of 5th Flotilla)	...	1
" Campbell " (leader of 6th Flotilla)	...	1
" Bruce " (leader of 8th Flotilla)	...	1
" Seymour " (leader in Reserve, Portsmouth)	...	1
" Malcolm " (leader in Reserve, Nore)	...	1
" Douglas " (Captain (S. I).)	...	1
*" Greenwich "	...	1
*" Sandhurst "	...	1
*" Vernon "	...	1
*" Defiance "	...	1

\* Issue previously authorised in 1923, and ships already supplied with these gauges should not forward demand.

4. It will be borne in mind that the gear referred to in paragraph 2 is for use with the testing gear already supplied to all ships mentioned in paragraph 3 to test the strength of blow of striker in guns, the supply of this gear being as follows :—

Gauges for testing blow of striker, small...	...	1 per vessel.
Coppers for	...	100 "
Adaptor gauges, eccentricity and testing blow of striker, small	...	1 "

5. All flotilla leaders not included in the list of vessels in paragraph 3 should return the plate gauges and cartridge cases with adaptors to Portsmouth Dockyard quoting this A.F.O. as authority.

6. Yards in which H.M. Ships " Diligence," " Hecla," " Dido " and " Woolwich " were de-stored should arrange also to return the plate gauges and cartridge cases to Portsmouth Dockyard quoting this A.F.O. as authority.

7. In the event of any flotilla leader referred to in paragraph 3 relinquishing the position of Captain D's ship the portions of the testing set referred to in paragraph 2 (a) and (b) are to be transferred to the vessel taking over Captain D's ship and the Admiralty (D.T.M.) is to be informed through the usual channels.

### 1000.—Torpedo Order Lamp Boxes—Modification—REPORTS.

*"L" Class Submarines, "K.26," "X.1," and "Oberon" Class.*

(G. 5753/28.—27.4.1928.)

With reference to the Torpedo Order Lamp Boxes fitted in the above-mentioned submarines for transmitting orders between the control room and tube positions, the order "Flood" at present shown on the transmitters in the control room and the corresponding indicators in the lamp boxes at the tube positions is to be altered to the words "Blow up."

2. Vessels concerned are to forward a demand to their refitting yards for the necessary name plates required to effect this alteration, giving the dimensions of the plates and the number required, and are to fit them in position when supplied. The modification is to be carried out in both the transmitters and the corresponding indicators at the tube positions.

3. A report should be forwarded when the alteration has been effected.

### 1009.—Electrical Equipment—Requests for Spare Gear.

(D. 4785/28.—27.4.1928.)

Future requests for spare gear for electrical machinery items on H.M. ships are to be accompanied by a statement as to—

(a) Whether the spares are additional to those shown in the ship's copy of part O.U. 6137/27;

(b) Whether the spares are in substitution for those shown in the ship's copy of part O.U. 6137/27;

and the action being taken regarding the defective gear.

2. The full electrical particulars of the machine for which the spare gear is required should accompany the request, and should these not agree with those shown in ship's copy of part O.U. 6137/27, the necessary amendments should be forwarded in accordance with A.F.O. 1328/27.

3. On receipt of spare gear the necessary amendments should be made to the ship's copy of part O.U. 6137, and the action taken in accordance with A.F.O. 1328/27.

(A.F.O. 1328/27.)

### 1010.—Emergency Electrical Supply Arrangements—REPORTS.

*Ships Taken in Hand for Large Repairs or D.2 Refits.*

(D. 6637/28.—27.4.1928.)

The equipment approved for emergency electrical supply arrangements in existing ships is detailed in A.F.O. 2809/25.

2. In order that such arrangements should be efficient at the conclusion of large refits, the following procedure is to be adopted:—

A joint report is to be forwarded to the Admiralty by the dockyard and ship's officers when a ship is taken in hand for large repairs, giving the following information with regard to flexible emergency electrical cables on board:—

(a) Pattern of cable, length of cable, service for which fitted.

(b) Which cables are serviceable and which unserviceable.

(c) Type of end connection fitted.

(d) Stowage position.

(e) Cables not hitherto fitted, but which are required to complete equipment.

3. The cables referred to in paragraph 2 are to be returned to the Naval Store Officer prior to paying off on a report of survey for repair and renovation as approved by the Admiralty. The cables are to be tallied before return to facilitate replacement when returned to the ship after survey.

4. An item is also to be inserted on the defect list to cover the necessary dockyard work in re-installing the cables in normal stowage positions at the conclusion of the refit.

Emergency arrangements for ships building are dealt with separately in the Building Specification, Part IIA.

(A.F.O. 2809/25.)

## **1012.—Confined Spaces, Pipe Systems, Closed Vessels, etc.— Danger from Explosive Gases on opening.**

(E.-in-C./N.L. 563/28.—27.4.1928.)

An explosion from the brine side of a CO<sub>2</sub> evaporator recently occurred in one of H.M. ships, causing injury to one of the personnel. A valve in the brine system had been removed from the top of the evaporator, and a lighted candle was employed for illuminating the work, with the result that the explosive gas in the brine system flashed from the open pipe end. The accident is, therefore, directly attributable to the improper use of a naked light in contravention of Article 149, clause 5, of Engineering Manual.

2. In general, any compartment or vessel which has been closed from the atmosphere for a length of time should be regarded as liable to contain explosive gases, and the precautions as laid down in Article 350 of the Engineering Manual should be observed. Attention is also drawn to Article 149, clause 5, and Article 203 clause 2.

3. Engineer Officers are to take steps to ensure that all ratings are familiar with these orders and that the organisation of the engine room department provides for the orders being strictly complied with.

## **\*1045.—R.N. Personnel Transferred or on Loan to New Zealand Naval Forces—Pay, etc., Arrangements.**

(N.P. (I) 4196/27.—4.5.1928.)

### **A.—OFFICERS AND MEN OF THE ROYAL NAVY AND ROYAL MARINES ABOUT TO TAKE SERVICE IN THE NEW ZEALAND NAVAL FORCES.**

The Pay Accounts of officers and ratings selected for service in the New Zealand Naval Forces are to be closed on the date immediately preceding that of the commencement of their New Zealand appointment or engagement, and balances are to be paid in full up to that date by the Accountant Officers of their ships or R.M. Divisions prior to transfer. Transfer Lists (S.45) are then to be forwarded without delay, direct to the High Commissioner for New Zealand, 415, Strand, London, W.C.2, and duplicates are to be sent to the Accountant-General of the Navy (Branch 11A in the case of officers, Branch 18B in the case of men).

2. In order that officers and ratings definitely transferred, or on loan to the New Zealand Naval Forces, may have an opportunity to revise their contributions to their dependants on being placed on New Zealand rates of pay, and to avoid hardship through a break in the continuity of payment to the dependants by reason of the officer's or man's transfer, the allotment (and any allowances in force in respect of ratings) at the time of transfer will not necessarily be discontinued, and any adjustments or stoppages are to be left for arrangement between the Accountant-General and the New Zealand Government.

3. The allotments of officers and ratings selected for service in the New Zealand Naval Forces are not, therefore, to be regarded as stopped on transfer, but particulars of the allotment should be shown on the Transfer List forwarded to the High Commissioner for New Zealand and Accountant-General as for transfers in the Royal Navy.

4. Forms of engagement, signed by ratings on permanent transfer to the New Zealand Naval Forces, and Forms of Agreement signed in triplicate by volunteers for voluntary loan from the Active List of the Royal Navy, are to be forwarded to the High Commissioner for New Zealand, 415, Strand, London, W.C.2, for counter-signature, on behalf of the Dominion Government, and disposal. The duplicates of the latter form will be returned for enclosure in the men's Service Certificates, and the triplicates forwarded to the Accountant-General of the Navy (Branch 9), Admiralty, Cornwall House, Stamford Street, S.E.1. Forms of Agreement are not to be completed in the case of officers, but it is to be understood that officers who volunteer for loan to the New Zealand Division of the Royal Navy, accept, *ipso facto*, the conditions promulgated in Admiralty Fleet Orders from time to time with regard to service in the New Zealand Naval Forces.

5. Particulars of men lent or transferred should be reported on Form S.161 to the Registry of Personnel.

**B.—OFFICERS AND MEN OF THE ROYAL NAVY AND ROYAL MARINES RETURNING FROM SERVICE IN THE NEW ZEALAND NAVAL FORCES.**

6. Officers of the Royal Navy returning from the New Zealand Naval Forces for reversion to the Royal Navy, are to be borne nominally on the books of H.M.S. "Victory," for disciplinary purposes only, from the date of arrival in England to the date of expiration of their New Zealand leave. Payment will be made to them direct by the High Commissioner for New Zealand, London, who will forward a Transfer List to H.M.S. "Victory," showing the period for which such officers are to be borne nominally on that Depôt's books, a notation being made that payment will be effected direct by the High Commissioner for New Zealand for such period.

7. Officers of the Royal Marines, however, are to be borne *for pay* on separate lists on the books of their respective R.M. Divisions. They should be credited with pay at New Zealand rates for the period of passage home and for any New Zealand leave due, and charged with any allotments, in accordance with the particulars given on the Transfer Lists accompanying the officers. Settlement of pay accounts is to be made as provided for in the case of men in paragraph 8.

8. Men returning for reversion to the Royal Navy and Royal Marines are to be entered on separate lists on the books of their respective Depôts or R.M. Divisions, credited with pay at New Zealand rates for the period of passage home plus any New Zealand leave due, and charged with any allotments, in accordance with particulars appearing on the Transfer Lists accompanying the men. Complete settlement of pay accounts at New Zealand rates of pay is to be made by the Depôts or R.M. Divisions, and the totals of the relative folios shown separately in the Ledger Abstract. When men return to England, the date of ceasing pay at New Zealand rates is to be inserted by the Depôts or R.M. Divisions, on Form S.214, except in the case of invalids (*see* paragraph 12).

*NOTE.—The procedure outlined in paragraphs 6, 7 and 8 relates to personnel who return to England by freight ship. Where one of H.M. ships of the New Zealand Division returns to England to refit, etc., personnel for reversion to the R.N. and R.M. will be borne on the books of that ship until the expiration of the leave, etc., due, unless the ship is sailing before the leave, etc., expires, in which case personnel will then be dealt with as in paragraphs 6, 7 and 8.*

9. *Allotments.*—Naval and Marine personnel who are utilising the allotment system are to be afforded, at the earliest opportunity, facilities for varying their allotment commitments in the light of their requirements upon reverting to R.N. and R.M. rates of pay, subject to the limits prescribed by Article 1756, clause 3 (a), King's Regulations and Admiralty Instructions.

With a view to ensuring continuity of support of wives and other dependants, men of the R.N. and R.M. returning to England whose dependants are residing abroad should, upon first appearance in Depôt, be encouraged to declare (*with prospective effect where New Zealand pay is still being credited*) new or revised allotments in their favour.

10. *Marriage Allowance*.—If a Naval rating claims to be entitled to Navy Marriage Allowance in respect of a wife and/or children residing abroad, a report upon such of the following points as may be applicable in his case should be forwarded at the same time as the Allotment Declaration:—

- (i) Present address of wife.
- (ii) Whether she is following him to this country and, if so, the approximate date of arrival.
- (iii) If she is not proceeding to this country, the reason for remaining abroad.
- (iv) Names and ages of his children under 14.
- (v) Name and address of guardian of children if motherless.

*Naval Ratings and Royal Marines invalided from the New Zealand Naval Forces.*

11. On arrival in England, invalids from the New Zealand Naval Forces are medically surveyed, and as a result of the survey they may be:—

- (a) invalided forthwith, i.e., at the next fortnightly medical survey;
- (b) regarded as fit for duty; or
- (c) sent to hospital for treatment if there is a reasonable probability of their ultimate return to duty.

New Zealand rates of pay should be credited in the ledger of the Dépôt or R.M. Division in which the invalids are received, up to and including the date of medical survey on arrival, and thereafter on the following basis:—

- Men in category (a) to receive 28 days' invaliding leave, followed by the amount of Foreign Service leave due, these periods being reckoned after the date of the fortnightly medical survey, i.e., New Zealand rates to be continuous until the expiration of the Foreign Service leave;
- (b) To receive New Zealand rates from the date of arrival to the date of the expiration of the Foreign Service leave due;
- (c) To receive New Zealand rates to the date of medical survey on arrival, R.N. rates whilst under treatment in hospital, and New Zealand rates during Foreign Service leave due, taken after treatment in hospital; if the man be invalided after a period in hospital at R.N. rates of pay, he should then receive 28 days' invaliding leave plus any Foreign Service leave due, both at New Zealand rates of pay.

12. All cases of Naval ratings and Royal Marines invalided home from loan with the New Zealand Naval Forces are to be reported to the Accountant-General of the Navy (Branch 10), accompanied by Form S.214, and a complete copy of the man's pay account as from the date of re-entry for pay on R.N. or R.M. ledgers, to the date of final invaliding or reversion to the R.N. or R.M. Action will then be taken by the Admiralty to inform the High Commissioner for New Zealand of the date on which the man ceased to receive New Zealand rates of pay.

**C.—PASSAGES OF ROYAL NAVAL AND ROYAL MARINE OFFICERS AND THEIR FAMILIES.**

13. Officers of the Royal Navy lent for service with the New Zealand Naval Forces are granted a free passage to and from New Zealand, unless proceeding by ship-of-war, except as provided for in paragraph 17.

14. Officers travelling overseas on duty, in such special cases as may be approved by the Naval Board, may receive the passage money and be allowed to make their own arrangements for passage, provided that, except where otherwise approved, such officers shall travel by the cheapest and most direct route. Where in exceptional circumstances approval to travel by another route is given at an officer's own request, the additional expense thus incurred must be borne by such officer. In every case, shipping company's first class vouchers must be produced for the full sum advanced.

15. The Government of New Zealand offer free passages out and home to wives and families of all Naval officers who are loaned for service under that Government for a period of three years, but no free or assisted passages are allowed for servants (male or female). The appointment on loan from the Royal Navy of junior officers will generally be only for a term of two years, and passages for wives and families will not in these circumstances be granted.

16. Should an officer's service in the New Zealand Naval Forces be terminated owing to his misconduct or unsatisfactory service, or should an officer voluntarily withdraw from service in the New Zealand Naval Forces, prior to the completion of the period for which lent, the Government do not hold themselves responsible for his return passage, nor for those of his wife and family.

17. Should private reasons necessitate the return of an officer's wife and family prior to the completion of his period of service, passage-money will not, as a general rule, be paid until the completion of the officer's service. A portion, however, may be advanced on application being made, the amount being dependent on the length of service which the officer has already completed in the New Zealand Naval Forces. In urgent cases of ill-health, necessitating the earlier return of a wife or member of an officer's family, on the production of satisfactory medical evidence in support of the application for return passages, the Naval Board may authorise the full payment of passage money at the time the passages are ordered.

18. The term "children" is to be understood to include only such sons as are under 16 at the date of the commencement of the passage, whether outward or homeward, and unmarried daughters dependent on and residing with their fathers. An exception to this rule will be permitted in the case of sons over 16 years of age who, by reason of physical or mental infirmity, are necessarily dependent on their parents.

19. Passages of adopted children are not allowable except under special circumstances, with the approval of the Naval Board.

20. The Government do not accept any liability for the passage to the United Kingdom, or elsewhere, of the wife and family of an officer who has married during his period of service in the New Zealand Naval Forces.

21. Paragraph 14, so far as applicable, is to be regarded as governing also passages of wives and families of officers.

*Note.*—Owing to the shortage of housing accommodation in the Dominion, the New Zealand Government advise that officers should not arrange for their wives and families to go out until they have settled as to accommodation.

#### D.—RATES OF PAY AND ALLOWANCES PAYABLE TO OFFICERS.

22. The daily rates of pay and allowances now payable to officers by the New Zealand Government are the same as the standard (1919) Royal Navy rates, with the following exceptions:—

##### SUBORDINATE AND COMMISSIONED OFFICERS.

Rank or Relative Rank.	New Zealand Rate.	Royal Navy Rate (Standard).
<i>Executive and Accountant Branches.</i>		
	£ s. d.	In lieu of. £ s. d.
Cadet (sea-going) ... ..	0 5 0	0 4 0
Midshipman ... ..	0 6 0	0 5 0
Sub-Lieutenant ... ..	0 11 0	0 10 0
Lieutenant on promotion ... ..	0 18 6	0 17 0
<i>Medical Branch.</i>		
Surgeon-Lieutenant, on entry ... ..	1 8 0	1 4 0
After 3 years ... ..	1 12 0	1 9 0
Surgeon Lt.-Commander, on promotion ... ..	1 18 0	1 15 0
After 3 years ... ..	2 3 0	1 17 0
Surgeon-Commander, on promotion ... ..	2 8 0	2 5 0
After 3 years ... ..	2 12 0	2 9 0
After 6 years ... ..	2 16 0	2 13 0
After 9 years ... ..	3 0 0	2 17 0
<i>Instructor Branch.</i>		
Instructor-Lieutenant on entry ... ..	1 1 0	1 0 0



## WARRANT OFFICERS.

The following are the New Zealand rates :—

	Mechanical Branches. (Column A).	Non-Mechanical Branches. (Column B).
	Rate per diem. £ s. d.	Rate per diem. £ s. d.
Warrant Officer ... ..	0 16 0	0 15 0
After 3 years ... ..	0 17 0	0 16 0
After 6 years ... ..	0 18 0	0 17 0
After 9 years ... ..	0 18 6	0 17 6
Commissioned Officer from Warrant Rank ...	1 1 0	1 0 0
After 3 years ... ..	1 3 0	1 2 0
After 6 years ... ..	1 4 0	1 3 0
After 9 years ... ..	1 6 0	1 5 0

The Mechanical Branch (Column A) includes the ranks of Warrant Engineer, Warrant Mechanician, Warrant Shipwright, Warrant Electrician, and Warrant Ordnance Officer; and commissioned ranks of these branches.

The Non-mechanical Branch (Column B) includes the ranks of Gunner, Gunner (T), Boatswain, Signal Boatswain, Warrant Telegraphist, Warrant Wardmaster, Warrant Master-at-arms, Warrant Writer, Warrant Victualling Officer, and Warrant Instructor in Cookery; and commissioned ranks of these branches.

## SCHOOLMASTER BRANCH.

	Rate per diem £ s. d.
Probationary Schoolmaster ... ..	0 12 6
Schoolmaster (warrant officer) :—	
After one year from entry, or on confirmation, if later ... ..	0 13 0
After two years from entry ... ..	0 13 6
And thence by annual increments of 6d. a day to... ..	0 19 6
Schoolmaster (commissioned officer from warrant rank) :—	
On promotion ... ..	1 0 0
And thence by annual increments of 6d. a day to... ..	1 5 0

Promotion to the rank of commissioned officer from warrant rank to be made (if the officer has not already been specially selected for promotion to senior master) after fifteen years from entry, provided that the officer is recommended and qualified by examination.

## Senior Masters :—

To receive pay according to their seniority on the schoolmasters' scale, with an addition of 3s. a day.

## Headmasters :—

## Lieutenant :—

On promotion ... ..	1 8 0
After three years ... ..	1 9 0
After six years ... ..	1 10 0

## Lieutenant-Commander :—

On promotion ... ..	1 12 0
After three years ... ..	1 16 0

(A.F.O. 2088/28.)

(K.R. and A.I., Arts. 1734 (9e) and 1735 (4).)

## 1062.—Magazines and Shell Rooms—Stowage for Drill Shell, Cartridges, etc.

*“ Kent,” “ London ” and “ Dorsetshire ” Classes.*

(G. 14478/26.—4.5.1928.)

It has been decided to supply 8 in. dummy wooden projectiles to ships of the above classes for use in pusher hoists and for loading into the guns.

2. The allowance of these projectiles is to be 5 per gun, or a total of 40 per ship.

3. On account of weight and stowage considerations, it will not be practicable to provide unbanded practice projectiles for testing the pusher hoist in addition to the allowance of ordinary practice projectiles. It is intended that ordinary practice projectiles should be used, care being taken after test to see that the grommets are replaced before striking the projectiles down again.

4. Only dummy wooden cartridges covered with hide will be supplied for the 8 in. B.L. gun, the proportion being the same as for the dummy shell mentioned in paragraph 2 above, *i.e.*, 40 full or 80 half charges per ship. These cartridges will be used for loading into the gun. No pusher hoist is fitted for cordite supply.

5. The drill ammunition is not to be loaded continuously into the gun. When using this ammunition the operations are to be as follows:—

(a) Load, close breech, free slide, fire, then elevate to not less than 15 degrees, and not more than 30 degrees. (*See* paragraph 6 below.)

(b) Open breech (thus allowing cartridges and drill projectile to slip back and fall out of the gun into the net described below) lock slide and repeat this cycle.

6. A wire net of 4 in. mesh of the same breadth as the gun well and about 12 feet long should be used. The top edge should be secured close up to the floor of the gun well, under the tilting tray. The lower edge may be secured either to the under side of the gun or to the sides of the gun well. With the lanyards of the net suitably secured, the gun may be elevated up to 30°, and the breech opened up to 25°. The nets are to be made by ships' staffs.

## 1075.—Plate Hydrophones—Fitting Additional in Submarines.

(N.S. 3569/28.—4.5.1928.)

With reference to the third plate hydrophone allowed to submarines (excepting “ H ” and “ R ” classes), Pattern 6397 hydrophone carcasses, and Pattern 6399 microphone units, are now available, and demands should be forwarded to the storing yards.

2. The quantities for submarines at Hong Kong and Malta will be sent from Chatham

3. The work of fitting the stern plate hydrophones is to be carried out by the depôt ship's staffs.

4. The stern plate hydrophone, Mark IV, is to be fitted facing aft, inside the after end of the bridge superstructure. It should, when possible, be placed not less than 5 ft. above the pressure hull.

5. In cases where the depôt ships have not the facilities for manufacturing the crimped tube type of pressure hull gland now incorporated, this fitting is to be requisitioned on the dockyard.

6. Further instructions are embodied in M.S.Lt. 2005, "Instructions for fitting hydrophone plate receiver, Mark IV, as a stern plate," copies of which can be obtained from the Captain A/S, Portland.

### 1083.—Waste Paper—Disposal—REPORT.

(Sta. 5286/28.—4.5.1928.)

The following instructions regarding the disposal of non-confidential waste paper are promulgated for the information of establishments not in possession of copies of the Home Dockyard Regulations :—

Arrangements have been made by the Postmaster-General under which Post Office waste, so far as possible, shall be disposed of through the agency of local contractors, under the direction of the Postal authorities; these arrangements, so far as practicable, are to be utilised for Naval waste.

If it be ascertained on inquiry of the local Post Office authorities, who have received general instructions on the subject from the Postmaster-General, that they can undertake the disposal of Naval waste, the necessary arrangements should be made accordingly. Failing this, the waste should be sold by tender at the highest prices obtainable, the sums realised being credited in the Accounts to the Stationery Office Vote.

Exact records of the quantities disposed of, either through the Post Office or by sale, and the amounts realised, are to be kept, and a return forwarded to the Admiralty every six months.

Information in regard to the values realised should be obtained from local postal authorities for each consignment of Naval waste disposed of.

The returns should show the approximate weight of waste paper in each consignment, and, if rendered in terms of bags, the approximate weight of waste per bag should be stated.

The returns should cover the half-years ending 30th June and 31st December, respectively, and should be forwarded to the Admiralty as soon as possible after these dates.

### 1143.—Breech Safety Change-over Contacts.

(G. 4553/28.—11.5.1928.)

The following information is promulgated for guidance in the cleaning and lubrication of breech safety change-over contacts, viz. :—

- (a) The contact surfaces being made of nickel no emery or carborundum in any form should be used for cleaning purposes on or near these contacts.
- (b) The current carrying parts, together with the Paxolin insulation, are assembled with grease (Price's "Vasogene A") in order to prevent the entry of moisture, and should it be found necessary to strip the contacts it is of the utmost importance that this grease be used freely so that all interstices are filled when re-assembling.

Stripping should in no case be carried out unless the insulation resistance be found to have fallen below 2·5 megohms after the contacts, and more especially the insulation, have been wiped dry and then wiped over with clean mineral grease (preferably Price's "Vasogene A").

- (c) When cleaning guns a few drops of mineral oil should be put in the oil cup which supplies the cam gear on the "M" and "A" push rod, and at the same time a few drops of the same oil should be applied to the plunger sleeves where they enter the cast bracket. The push rod may then be worked a few times in order to facilitate the entry of this oil.

2. The pressure exerted by the plunger spring should be such that the plunger should start movement when a pressure of not less than 5 lb. and not more than 6 lb. is applied to the contact surface in a line with the plunger. This should be tested by means of a spring balance with the leads disconnected.

## 1171.—Stores Peculiarly Liable to Deterioration from Damp or Dust—Protection.

(N.S. 4364/28.—11.5.1928.)

Stores which are peculiarly liable to deterioration from exposure to dust or damp (*e.g.*, small coils for various instruments, spare armatures for fans and telephone receivers and transmitters) should always be retained in, and, as far as possible, issued from store in the original protective wrapping in which received from the contractors.

2. Whenever there is occasion to issue articles of this nature from which the manufacturer's original protective covering has been removed (for example, when a bulk package is broken into), care should be taken that such items are suitably re-wrapped before issue so as to ensure adequate protection against dust and damp.

3. Articles of this nature when in store on board ship are to be retained in their protective wrappings until actually required for *use*.

## 1173.—Rail Carriage in connection with F.O.R. Contracts—Procedure.

(N.S. 20100/25.—11.5.1928.)

When a contract for Naval stores or machinery provides for delivery f.o.r. nearest contractors' works, rail consignment notes (D.80) are to be furnished to contractors by the dockyard or depôt concerned. An exception is, however, to be made as regards direct consignments abroad when the port of shipment is Manchester, in which case the contractors are to be instructed to send the goods "carriage forward" and to ask the Manchester shipping company concerned to send their claims for rail carriage, etc., to the dockyard or depôt. Such claims prior to settlement are to be sent to the Superintendent, West India Docks, for certification that the authorised rebates have been granted in respect of canal dues.

2. Rail carriage costs in connection with f.o.r. contracts, whether incurred through consignment note D.80 or as "carriage forward," are chargeable against the Subhead of the Vote under which the goods are being purchased and are to be included in the value at which the goods are debited to stock when no Rate Book price exists. Paragraphs 8 and 9 of Section II (page 15) of Appendix XIII to the Store Duties Instructions are cancelled.

3. No alteration is intended in—

(a) the general arrangement laid down in Appendix XIII and A.F.O. 555/28, whereby the Superintendent, West India Docks, is responsible for the direct shipment abroad of *machinery items* whether ordered by the Admiralty or a Home Dockyard, or

(b) the procedure detailed for direct shipments of *Naval Stores* made in the Liverpool area.

(A.F.O.'s 555/28 and 2812/29.)

## 1186.—Admiralty Shore Buildings—Position of Main Cables to avoid Risk of Fire.

(D. 2658/28.—11.5.1928).

Cases have occurred where fires have been caused or narrowly averted at the point of entry of electric service cables into Admiralty Shore Buildings, due to the defective nature of the insulation at the ends of the cables and the fact that some of the cables, main switches and fuses were mounted on inflammable material.

2. The buildings concerned were as follows:—

- (a) Those constructed of inflammable material, and
- (b) Those which are themselves constructed of ordinarily non-inflammable material, but which contain inflammable material.

3. As the danger arises from the defective nature of the supply mains, authority has been given in the case of buildings supplied from the Main Electric Generating Station of the yard to remedy the defects as a charge to C. 11 repairs to mains. In the cases already approved, this has usually been done by removing the main switches and fuses outside the buildings, and mounting them in a fireproof manner in weatherproof cases. A proposal to fit main control switches outside the buildings additional to the existing main switches was *not* approved and the yard concerned was informed that if the existing switches and fuses were not of a suitable type for fitting outside the building, new ones might be fitted in lieu, but in such cases the old ones were not to be retained.

4. The foregoing instructions are referred for general information and guidance in cases where the risk referred to above exists: the intention being to place the service cables and the apparatus controlling the electricity supply, i.e., main switch and fuses outside the building, so that every part of the electrical circuits within the building can be made dead. It is intended that these instructions should be limited to the buildings indicated, and that they are not to be applied to all buildings. Normally the usual installation practice complying with the I.E.E. Regulations for Electrical Installation in Buildings should be followed.

5. It should be noted that unprotected lengths of insulated cable used in connection with the supply to buildings, especially on the supply side of the main switch, are a possible source of danger, and therefore service cables, if unarmoured, and cables connecting the service cut-outs (or other termination of the supply) to the internal wiring system of the building (including meter when fitted) should be mechanically protected by metal conduit or casing. The conduit or casing should be earthed to the conduit system of the building, or by such other means as may be considered desirable.

6. Proposals with estimates of the costs involved should be forwarded accordingly, observing that the Head of Charge for the work will depend partially on the source of the electrical supply to the buildings concerned.

### **\*1203.—Detention—Punishment of Offences Committed in.**

(N.L. 1378/28.—18.5.1928.)

Their Lordships have had under consideration the question of punishments of men who commit offences when serving a sentence of detention, and the following directions should be noted for the guidance of all concerned:—

- (i) *Punishments by the Captain of Detention Quarters*—as laid down in Regulations 331 and 333 Detention Quarter Regulations.
- (ii) *Punishment by the Monthly Visitor* as laid down in Regulations 331 and 334 Detention Quarter Regulations.

It is to be noted that the list of offences in Regulation 331 gives a wide range of offences punishable by the Captain or the Monthly Visitor.

- (iii) *Punishment by a Board of Visitors (Naval Discipline Act, Section 82 Detention Quarters Regulation 8)* :—

“ If any person shall interrupt any officer or member of the staff of the detention quarters in the execution of his duty . . . he shall . . . if the offender be a person undergoing detention . . . upon conviction thereof before . . . not less than three of the Visitors of the detention quarters, be liable to be sentenced for every such offence to be imprisoned, either with or without hard labour, . . . for any time not exceeding six calendar months, in addition to so much of the time for which he was originally sentenced as may be then unexpired.”

Under this section a Board of Visitors can impose on a man under detention a sentence of imprisonment for a maximum period of six months plus a period equal to the unexpired portion of the detention sentence which the offender is undergoing. E.g., if a man thus offends when he has served three months of a six months detention sentence, they can sentence him at a maximum to nine months imprisonment with or without hard labour (solitary confinement should not now be ordered) to commence forthwith. The effect is that the offender is at once removed from detention to prison and in addition loses his liberty for an additional period not exceeding six months.

It has hitherto been held that the Board of Visitors can also sentence a man to a sentence of six months imprisonment to commence at the expiration of the current sentence of detention.

Their Lordships consider it desirable, however, that this practice should be discontinued, and that Boards of Visitors should always pass a sentence of imprisonment in such form that it will commence at once. In so doing they should bear in mind that they are punishing the offender in two ways, firstly by transferring him from detention to imprisonment and secondly by increasing the period for which his liberty is curtailed.

A sentence of imprisonment passed by a Board of Visitors (in the absence of special direction in it postponing the commencement) will commence forthwith. The sentence of imprisonment will then run concurrently with the previous sentence of detention and if the directions above are followed will outlast it or both sentences will expire together.

It is undesirable that Boards of Visitors should sentence an offender already in detention in such a way as to make the combined period of the two sentences exceed a continuous two years. On the other hand the sentence of imprisonment should in no case be for a shorter period than that of the unexpired portion of the original detention sentence.

(iv) *Punishment by Court-Martial (N.D.A. Sec. 73).*

Persons in Detention are still subject to the Naval Discipline Act (N.D. Act, Sec. 46, 2) and may be tried by Court-Martial. Courts-Martial should be convened for serious offences which the Monthly Visitor or Board of Visitors are not competent to try or for which the powers of punishment possessed by these authorities are considered to be inadequate or unsuitable. It should be noted that the Monthly Visitor's powers are limited to those specified in Rule 334 of the Detention Quarters Regulations, and that a Board of Visitors cannot inflict any less sentence than imprisonment. Courts-Martial on the other hand may sentence to detention, imprisonment, penal servitude or other punishment according to the offence. Courts-Martial must not sentence an offender so as to cause him to undergo detention or imprisonment or both combined for a period exceeding in the aggregate two consecutive years, (Sec. 73 N.D.A.). If a longer sentence is required it should be penal servitude (if applicable to the offence) for three years or more.

*Question of Summary Punishment by the Captain of the Ship to which the offender belongs.*

(v) Similarly, persons in detention, being subject to the Naval Discipline Act, may be tried summarily by the Captain of the offender's ship (or Commodore of the Royal Naval Barracks). This procedure, with prior Admiralty permission may be resorted to in cases where punishment, or adequate punishment, by the Visitor is not possible, but it is not thought necessary to try by Court-Martial.

1208.—*Issued Confidentially.*

### 1211.—Rangefinders—12 ft. on M.Q. 1 Mounting in lieu of 15 ft. and Mounting—Fitting.

“Ceres” and Class.

(G. 6669/28.—18.5.1928.)

It has been approved to fit a Pattern 3863 rangefinder 12 ft., type F.Q.2 and a Pattern 1487 mounting, type M.Q.1, in H.M. ships of the “Ceres” class in lieu of the 15 ft. rangefinder, type F.T.24 and mounting, type M.Q.11, at present fitted.

2. The existing Evershed receiver at the 15 ft. rangefinder mounting M.Q.11 is suitable for fitting on the 12 ft. rangefinder mounting M.Q.1. The Evershed deflection gear will, however, require to be modified in accordance with E.F.O. 93/28 to suit the arrangement of the M.Q.1 mountings.

### 1213.—Ejectors, Projectile.

(G. 14487/27.—18.5.1928.)

With reference to the term “special ejector” for use with nose fuze shell, referred to in the drill for “unload” at all B.L. and Q.F. hand worked guns, investigations have shown that all designs of ejectors at present in supply are suitable for forcing back projectiles with or without nose fuzes, except in the following cases:—

- (a) Q.F., 5.2 in., Mark I.
- (b) B.L., 15 in., Mark I.
- (c) B.L. or Q.F., 4 in., Marks II\*, III and IV.
- (d) Q.F., 3 in., and 12 pdr., No. 1, Mark I.

2. With reference to (a), (b), (c) and (d), referred to above, the following remarks and restrictions are to be observed:—

- (a) A new type of ejector is being designed, and when available for supply will be issued in lieu of the Mark I. In the meanwhile, the existing design is on no account to be used in Submarine “X.1” for forcing back nose fuze shell, when such shell are supplied.
- (b) The present design is suitable for forcing back nose fuze shell with any D.A. or time fuze now in supply. In order that the ejector may be more suitable for use with A.P.C. shell, and suitable with future H.E. shell fitted with a projected new design of D.A. fuze, an improved design of ejector is in preparation.
- (c) These ejectors are suitable for use with H.E. shell, but when used with the fuzes for shrapnel and star shell they bear on the fuzes, and are therefore likely to damage them. Action is being taken to dispose of all stocks of Marks II\* and III, and to modify the Mark IV design to overcome this difficulty. Any Mark II\* and III ejectors on board H.M. ships should be returned to nearest Royal Naval Armament Depot, and Mark IV modified pattern demanded in lieu.
- (d) The present ejector bears on the fuze, and a new design is in course of preparation for 12 pdr. 12 and 8 cwt. guns. Ejectors are not supplied for 3 in. guns in Naval service, as these guns are supplied with fixed ammunition.

3. When the new and modified designs, referred to in paragraph 2 above, become available for supply, existing designs will be withdrawn, and steps taken to amend the drill references to the use of “special ejectors” with nose fuze shell.

In the meanwhile, ejectors (c) and (d) in paragraph 1 are not to be used for ejecting any time fuze shell.

## 1219.—Main Motor Field Coils.

*“ H ” Class Submarines.*

(D. 7368/28.—18.5.1928.)

The maximum field current of the “ H ” Class submarine main motors of Messrs. Vickers' manufacture is 20 amperes for continuous rating, and in order to prevent internal overheating of the field coils this value should not be exceeded except for short periods during starting and manœuvring.

2. The scales of the main motor field ammeters are to be marked with a red line, indicating the above maximum value.

## 1220.—Moving Coil Ammeters and Shunts—Adjustment.

(G. 3420/28.—18.5.1928.)

All Admiralty pattern shunts are designed to give either 75 or 150 millivolts across their potential terminals with their full rated current, according to whether they are to be used close to or at a distance from the indicating instrument. These are called “ short ” and “ long ” shunts respectively.

All shunts are marked with the current which corresponds to the full scale reading of the indicators with which they are intended to be used, and are, of course, unsuitable for use with indicators of a different range.

2. The total resistance of the circuit connecting the shunt and the indicator must be 0.05 ohm or 0.50 ohm at 68° F. (20° C.) in the case of the short and long shunts respectively. A tolerance of plus or minus 5 per cent. is allowed in the specification, but in general it should be possible to reduce this tolerance to a very small percentage.

3. All Admiralty pattern moving coil ammeters are designed to give their full scale deflection with either 75 or 150 millivolts (according to whether they are to be used with short or long shunts), across the terminals of a circuit consisting of the instrument and the resistance referred to under 2 in series with it. A few patterns only are designed for use with long shunts.

4. When the designed conditions referred to above exist, all new instruments once properly adjusted for zero will, in the absence of excessive stray fields caused by the proximity of conductors carrying heavy currents, read correctly within the permissible limits of error for first grade instruments.

It is to be noted that to avoid errors in reading it is essential that the ends of the pointer should be adjusted so as to be as close to the scale as possible without risk of touching it and parallel to the scale divisions.

5. When running the leads from the shunts to the indicators, a suitable cable should be selected so that the resistance of the actual length will be equal to or less than the 0.05 ohm for a short shunt or 0.50 ohm for a long shunt. The deficit, if any, in the resistance of the leads should in all cases be made up by the insertion of additional resistance in the circuit to the required value. This resistance should be mounted in a separate small box placed near the indicator or near the shunt. It should not be placed inside the indicator case.

The resistance coil should be constructed to comply with the relevant Admiralty specifications.

6. The shunts and indicators may be checked individually by means of an accurate millivoltmeter such as forms part of a portable sub-standard testing set. In testing the indicators in this way a simple adjustable potentiometer resistance may be used to give up to 150 millivolts with a single cell, in conjunction with a fixed resistance of 0.05 ohm or 0.50 ohm to be inserted in the indicator circuit, according to the pattern being tested.

E.F.O. 54/28 shows a suitable diagrammatic circuit for testing moving coil ammeters. It is always desirable, if possible, in the case of important instruments, especially those which must be near heavy conductors as on a submarine switchboard, to check the combination after installation by putting a sub-standard ammeter with shunt in series with the circuit and comparing



the readings under two or three different loads. If the calibration is incorrect when thus tested, the possible effect of adjacent conductors (if any) should first be tried by varying temporarily the position of the indicator with respect to the conductors. A change of reading will indicate a stray field effect, to remedy which the relative position of the instrument and the conductors or of the conductors with respect to each other, if there are two or more, must be altered until there is no appreciable effect on the readings.

7. Apart from the effect of stray fields, errors in reading may be caused by (a) excessive friction in the moving parts, (b) weakening of the permanent magnets, (c) weakening of the control springs, (d) errors in the balancing of the moving system, (e) defects in the shunt, (f) bad connections in the circuit giving high or variable resistance. There are other possible causes of error, but the above are those most commonly met with.

8. These errors may be detected and dealt with as follows:—

- (a) Observations as to whether the movement is free and even and that no "stickiness" is present. If this latter defect exists the instrument must be carefully examined and adjusted until perfectly free. The pivots and jewels may be damaged or dirty, and if found to be so must be cleaned or changed. This involves special skill and should not be attempted by an unskilled person.
- (b) The readings will be consistently low. If, as is probable, the error is not large, reduction of the small resistance in the circuit of the moving coil inside the case will be sufficient to correct it. The joint with the resistance wire must be carefully soldered.
- (c) The readings will be consistently high. In the same way as in (b) a slight increase in the series resistance in the case will be sufficient to correct the error.
- (d) The readings will show a want of proportionality and will vary if the instrument is changed in position.  
Careful adjustment of the balance weights is required in this case and as for (a), requires special skill.
- (e) This is an unlikely source of error unless the shunt has been seriously overheated or mechanically damaged. On no account should a shunt be drilled or cut to increase its voltage drop or shunted to reduce it. If damaged it must be re-sweated or otherwise repaired until the correct voltage drop is given across the potential tabs.
- (f) The readings will be low and probably variable. A resistance test of the leads, coil and connections should be made, and any loose contacts or defects remedied.

9. Unless highly skilled attendance is available it is better to return defective instruments to a dockyard for repair and adjustment rather than to attempt the work on board ship. It should be the practice to keep all indicating instruments up to their specified accuracy, otherwise they become of little use and will give misleading readings.

**1225.—***Issued Confidentially.*

### **1235.—Submarines Disposed of by Sale—Stores to be supplied to Purchasers.**

(N.S. 4462/28.—18.5.1928.)

When H.M. submarines are prepared for sale, the following stores only are, as a general rule, to be included in the sale of the vessel, and either left on board when the vessel is destored or earmarked for supply free of charge to the purchaser when the vessel is removed:—

Anchor	...	...	...	...	...	...	1 No.
Chain cable	...	...	...	...	...	...	4 to 6 lengths.

2. In the event of the purchaser of the vessel making an application for the supply of gear to meet Board of Trade requirements, etc., supply on loan or repayment should be made only when the stores are available and to spare, and should be charged for as laid down in the regulations applicable to supplies to private individuals.

3. A clause should be inserted in future sale particulars for submarines to the effect that there are no navigation lights on board.

(A.F.O. 756/27.)

## **1267.—Temporary Shorthand Typists and Typists—Arrangements for Re-employment when Discharged on Redundancy.**

(C.E. 2195/28.—18.5.1928.)

The position of Temporary Shorthand Typists and Typists whose services are terminated owing to redundancy in the department in which they are employed has been under consideration, and the following arrangements have been made with a view to co-ordinating the placing of such redundant staff in vacancies which may occur for Temporary Typing Staff in other Government departments.

2. A register will be kept at the Ministry of Labour (Controller of Typists, Ministry of Labour, Montagu House, Whitehall, S.W.1) of all efficient Temporary Shorthand Typists and Typists with two or more years' continuous temporary service, who may become redundant in the London area, or in Birmingham, Cardiff, Liverpool, or Manchester. Establishments in the above areas should notify the Ministry of Labour at the above address of any such redundant staff as early as possible before the date of termination of the officer's notice, with particulars as to grading, salary, length of service and shorthand and/or typing speeds.

3. Establishments in the above areas having vacancies for Temporary Shorthand Typists or Typists should apply to the Ministry of Labour with a view to the re-engagement of a suitable redundant officer on the register.

4. Similar arrangements are being made as regards the Glasgow and Edinburgh areas, and a register will be kept at the office of the Divisional Controller, Ministry of Labour, in each of these cities.

5. Any Temporary Shorthand Typist or Typist who is given the opportunity of further employment under these arrangements will be subject to the conditions of the post to which she is transferred, and will not be entitled to travelling or removal expenses in the event of transfer to another area.

6. Temporary Shorthand Typists and Typists (Grades I and II) will on re-engagement be allowed to reckon their previous temporary service, in a grade not inferior to that in which they are re-engaged, for purposes of starting pay and increment on re-engagement, provided (i) that the officer's services were terminated on redundancy, (ii) that the break in service does not exceed twelve months, and (iii) that the officer accepts re-engagement as soon as it is offered.

7. Admiralty establishments and offices in the above-mentioned areas should make the fullest possible use of the machinery now set up, and in no circumstances should vacancies arising in those areas in the grades in question be filled otherwise than in the manner set out above without the prior sanction of the Admiralty.

## **1283.—Issued Confidentially.**

## **1285.—Purchases in Warhead Magazines of existing Ships carrying 21 in., Mark IV Torpedoes.**

*Ships and Dockyards concerned.*

(G./D. 5658/28.—25.5.1928.)

All 5 cwt. and 6 cwt. purchases in warhead magazines of existing ships carrying 21 in., Mark IV torpedoes or later, are to be replaced by 10 cwt. purchases when the former become defective.

**1291.—Bombs, Aircraft—Painting and Marking.**

(G. 8499/27.—25.5.1928.)

In order to secure uniformity a revised system of painting and marking aircraft bombs has been approved in conjunction with the Air Ministry and War Office, and particulars are as follows, viz. :—

**PAINTING.**

Nature of Filling.	Colour.
Amatol ... ..	Yellow all over.
T.N.T. ... ..	Yellow all over.
Shellite ... ..	Body yellow, nose green.

**MARKING BY BANDING.**

Position of Band.	Colour of Band.	Nature of Bomb.	Denoting.
Round largest diameter of body	Green	Filled amatol or T.N.T.	Amatol or T.N.T. filling.
Round the nose ... ..	Red ...	All ... ..	Bomb is filled.
Above red band ... ..	White	S.A.P. ...	S.A.P. bomb.
Each side of red band ... ..	White	A.P. ...	A.P. bomb.

**STENCILLING.**

Nature of Stencilling.	Position on Bomb.	Nature of Bomb.	Denoting.
The word Trotyl ...	On green band in 3 places	Bombs filled T.N.T.	T.N.T. filling.
G.P. 120 lb. (or other nomenclature).	Round body between red and green bands.	All ... ..	Nomenclature of bomb.
I (or other numeral) ...	Ditto	All ... ..	Mark of bomb.
W (or other initial or trade mark).	Ditto	All ... ..	Name of firm or station filling.
25/2/27 (or other date) ...	Ditto	All ... ..	Date of filling.
(1234) (or other number)	Ditto	All ... ..	Lot No. of filling.
118 lb. (or other weight)	Ditto	Bombs over 20 lb. in weight.	Actual weight of filled bomb complete with vanes but without components.
80/20 (or other fraction)	Below green band in 3 places round body.	Bombs filled amatol.	Composition of amatol filling.
70/30 (or other fraction)	Nose in 2 places diametrically opposite.	Bombs filled shellite.	Composition of shellite filling.

Arrangements will be made for all bombs, aircraft, issued from Royal Naval Armament Depôts in future to be brought into line with the above.

## 1296.—V/S—Modification to Wiring of Masthead and Yard Arm Signalling Lanterns—Introduction of Emergency All-round Signalling Circuit.

*All Battleships and Battle Cruisers.*

(S.D./G. 5458/28.—25.5.1928.)

Some possibility may exist of the keys of masthead and yard arm signalling lanterns in the conning tower and war signal stations being operated accidentally when ships are darkened. These keys were fitted behind armour to fulfil after action requirements, but it is considered that these requirements will be more adequately met by the provision of a portable all-round signalling lantern and circuit.

2. All keys which are fitted in the conning tower and war signal stations of battleships and battle cruisers for use in connection with the control of masthead and yard arm signalling lanterns are therefore to be removed by ships' labour. The wiring also should be removed, provided the disturbance or efficiency of other circuits is not involved, and that the cables cannot conveniently be utilised for any other service.

3. In ships concerned a portable emergency all-round signalling circuit is to be made up with stores shown below, the work being carried out by ships' staffs. One of the keys removed from the conning tower, or war signal station, should be utilised for this new circuit, the other being retained as spare.

4. The circuit should be so arranged that the lantern can be triced up to any convenient yard, or spur, and the circuit connected to any available source of power. During action this circuit is to be kept below armour.

## 1298.—Battery Tanks—Lining.

*H.M. Submarines and Dockyards concerned.*

(D. 6982/28.—25.5.1928.)

Experience with ply-wood as a lining for battery tanks has shown that spilt acid disintegrates the wood. In future vessels the ply-wood is not to be fitted, but teak board of the same thickness used.

2. As vessels come in hand for refit and removal of batteries, defective ply-wood is to be replaced by teak board. The latter is to be well soaked in molten paraffin wax before being fitted.

3. The edges of the boards are to be cut back so as not to overlap the toe of the horizontal flanges of the angles securing the battery tank sides and ends to the flat, a clearance of one inch being allowed.

4. Experience has shown that there is a possibility of acid finding its way underneath the lining and remaining undetected; on all occasions, therefore, when removal of part or whole of a main battery renders an examination possible, such examination should be carried out by the dockyard in conjunction with the ship's officers, and a report forwarded to the Admiralty through the usual channels.

## 1300.—Sloops—Increase in Displacement.

(S. 2070/27.—25.5.1928.)

Reports called for, relative to the redundant fittings and equipment carried in sloops, having now been considered, action is to be taken as follows at the earliest convenient opportunity.

H.M.S. "Heather."—25 ft. motor-boat to be replaced by 25 ft. whaler.

H.M.S. "Clematis."—Main derrick, fairleads (2), ringbolts (6), bollards (2), cleats (4), staghorns (6), gangway davit, angle iron strengthening for boat deck, eyebolts and cleats of mainmast rigging (13), and eyebolt (1) are to be landed.

H. M. S. "Delphinium."—Range-finder box, Lewis gun boxes, mooring swivel and flame retarders to be landed. (*Note.*—The six Lewis gun chests are to be placed on deposit only at the nearest armament supply depôt and re-embarked if it is found necessary to return any of the guns to which the boxes are allocated, or on leaving the Africa station.)

H. M. S. "Wallflower."—Towing horse and hook, etc., to be landed.

H. M. S. "Crocus."—Rack for canvas, etc., on boat deck to be landed. The remaining items mentioned should be landed as previously approved.

H. M. S. "Cyclamen."—Shorter main topmast to be fitted. Ventilating fan in wardroom, wardroom stove and chimney to be landed.

H. M. S. "Lupin."—Topmasts to be retained. (Further inclining experiment is unnecessary.)

H. M. S. "Bluebell."—Sounding machine for kite flying, deflection teacher and refrigerating room lining to be landed.

H. M. S. "Foxglove."—Lead sinkers (10), sounding machine, etc., for towing kite, 300 fm. wire for towing targets and reel for same, funnel chains (8), blocks, common double 11 in. (1), Pattern 415 (1), 8 in. and 9 in. common and I. I. B. (10), towing horse and span and refrigerating room insulation to be landed.

H. M. S. "Magnolia."—Lead sinkers (10), extra awning stanchions (3), W. T. tank (1), sounding machine for towing kites (1), 300 fms. 1½ in. wire for towing targets and reel for same, ammunition davit, oil tanks for mixing paint (2), towing horse and span and deflection teacher ex target box to be landed.

H. M. S. "Heliotrope."—Tank for CO<sub>2</sub> flasks to be landed.

H. M. S. "Laburnum."—Spare furnace front for boilers, and brine pipes, etc., for magazine cooling to be landed.

H. M. S. "Veronica."—Spare furnace front to be landed. One 2-pdr. pom-pom to be landed on similar conditions to those for H. M. S. "Laburnum."

*H. M. Ships "Rosemary," "Snapdragon," "Daffodil," "Verbena" and "Cornflower."*—The question of the removal of redundant fittings, etc., from these vessels has been dealt with separately.

*Semaphores.*—Semaphores are to be retained in sloops and attention is drawn to the lighter Pattern 1387 which is allowed and is to replace Pattern 1386.

*Topmasts.*—Main topmasts of sloops fitted with S/W are to be removed, with the exception of those in vessels on the New Zealand station.

(The Commodore in Command, New Zealand station, should determine by trial the reduction of range which would result from the removal of topmasts and should report whether the increased ranges obtained with S/W does not compensate for this reduction.)

*Sails.*—Sloops are in future to be fitted with fore staysail and main trysail, and the fore trysail is to be retained on board but is not to be replaced when worn out.

*Towing Hooks and Horses.*—To be landed from all sloops.

*Derricks.*—To be landed from all sloops not fitted for M/S.

All the above work to be carried out by ships' staff as far as possible.

2. The remaining proposals submitted are not approved.

### 1307.—"Adcol" Dust Allaying Floor Oil—Inflammability.

(N. S. 1421/28.—25.5.1928.)

Trials, which have been carried out with "Adcol" dust allaying floor oil used on wooden floors in substitution for scrubbing by ordinary methods, have indicated that this oil is of an inflammable nature.

2. The use of this oil for the treatment of wood floors should, therefore, be discontinued.

### \*1334.—European Sergeants—Ceylon Police Force.

(N. 1452.—1.6.1928.)

The following particulars regarding the conditions of service of European Sergeants in the Ceylon Police Force are promulgated for the information of Naval ratings and Royal Marines due for discharge on the expiration of their first continuous service engagements, particularly men serving on the East Indies station.

2. Candidates for appointment are required to be over 21 and, in normal cases, under 29 years of age. For Naval ratings and Royal Marines, however, the upper limit of age has been extended to 32 years.

3. Naval ratings are required to have passed the Educational Test, Part I. Royal Marines must possess a second class certificate of Education.

4. Candidates must be of a good and sound constitution and fit for service in the tropics, and must satisfy the following physical requirements:—

Height, 5 ft. 9 in.	Chest expanded, 38 in.
Weight, 10 stone 7 lb.	Chest expansion, 3 in.

5. No married men will be enlisted, and no married quarters will be provided until after promotion to the rank of First Class Sergeant.

Permission to marry before promotion to the rank of First Class Sergeant may be granted by the Inspector-General of Police, Colombo, in approved cases, when married quarters will be provided. Before permission to marry is granted, a European sergeant must, if not already insured, insure his life for at least £100. Men are strongly recommended to insure on enlistment, as better terms and a cheaper rate can be obtained from an insurance company at an early age than later in life. Information as to the method of taking out a policy will be supplied to intending candidates by the Inspector-General of Police, Colombo, if desired.

6. The engagement will be for four years only. Subject to the approval of the Inspector-General of Police, a sergeant can re-engage for a further term of four years.

7. Men may be employed on any duty, e.g., as land police or mounted police, in charge of police horses, in the Criminal Investigation Department, or as crime police or harbour police. The last-named are selected from men specially suitable for duty in the Harbour.

8. At the expiration of each of these terms of four years' service, a sergeant may be granted three months' vacation leave on full pay, provided he has taken no vacation leave during the last two years. In addition to this, he is entitled to half-pay leave not exceeding one-sixth of his actual resident service, the whole or any portion of which may be commuted into one-half the period of leave on full salary, provided that the total period of commuted and uncommuted leave, together with the period of vacation leave, does not exceed 10 months. A second class passage to and from England is granted on these occasions.

9. Should he be allowed to continue in the Force on the completion of his third term of service, he may, on his final retirement, be allowed a pension according to regulations from time to time issued by the Colonial Government, with the approval of the Secretary of State. No pension will be granted for less than fifteen years' service, nor until the officer has reached the age of 45 years, except in case of retirement on the ground of ill-health.

10. Should a sergeant be compelled to retire through ill-health before 15 years, a gratuity of one month's pay for each year's service may be granted.

11. Each sergeant is provided with uniform, free quarters, furniture, table linen, cutlery, glass, crockery-ware, cooking utensils, and medical attendance free. If absent from duty in hospital, through sickness, stoppage of one rupee per day is made from pay.

12. The pay of the European Police Force is at the following rates:—

	£	£	
Chief Inspector ... ..	390	420	By annual increments of £10 in the case of Inspectors and Sub-Inspectors, and £5 in the case of Sergeants.
Inspector ... ..	330	380	
Sub-Inspector ... ..	285	325	
1st Class Sergeant ... ..	260	280	
2nd Class Sergeant ... ..	230	255	
3rd Class Sergeant ... ..	200	220	

13. Allowances for the knowledge of languages are granted as follows:—

<i>Knowledge of Sinhalese.</i>	<i>Knowledge of Tamil.</i>
1st Certificate, Rs. 10 a month.	1st Certificate, Rs. 10 a month.
2nd Certificate, Rs. 25 a month.	2nd Certificate, Rs. 25 a month.

14. Good conduct allowance can be earned under the following rules:—

- (i) Every European police sergeant is eligible for a good conduct allowance after two years' uninterrupted good conduct.
- (ii) The allowance payable is Rs. 15 per month.
- (iii) The allowance must be sanctioned, in the first instance, by the Inspector-General.
- (iv) The allowance will not be granted unless the Superintendent can certify that the sergeant's conduct has been uniformly good for two years.
- (v) The Superintendent has power to terminate or suspend the grant of the allowance at his discretion.
- (vi) Further special allowances of £12 each, for which no sergeant is eligible until he has completed four years' service, are granted by the Inspector-General on the recommendation of the Superintendent, provided that the sergeant's conduct has been uniformly good for four years. The Superintendent has power to terminate or suspend the grant of a special allowance at his discretion.

15. In the case of a European sergeant enlisted in England, a free second class passage to Ceylon will be provided by the Crown Agents for the Colonies, subject to an undertaking that in the event of a European sergeant leaving the police service before he has completed four years' service to obtain other employment in Ceylon, he will refund the cost of outward passage.

Half salary will commence from the day of leaving England, and full salary from the date of arrival in Ceylon.

16. At the discretion of the Inspector-General of Police, the travelling expenses of men who have come from other countries to Ceylon for the purpose of enlistment may, after proof of satisfactory conduct, be paid either in whole or in part, subject to an undertaking that any amount so met will be refunded in the event of a European sergeant leaving the police service to obtain other employment in Ceylon before he has completed four years' service.

17. Men due for discharge should apply to their Commanding Officers for recommendations, which should be addressed:—

- (a) On the East Indies station, to the Inspector-General of Police, Colombo; or
- (b) On other stations, to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1.

It is of importance that Commanding Officers should recommend only men who are considered likely to make successful police sergeants.

18. Men on the East Indies station are advised, if opportunity offers, to produce these recommendations in person at the Police Headquarters, Colombo, in order that they may be interviewed and an indication given to them whether their applications will be favourably considered.

1337. { **Torpedoes in Dépôts—Classification and Treatment.**  
**Torpedoes—Care and Maintenance—Renewal of I.R.**  
**Gear in Ships.**

(G. 16125/27.—1.6.1928.)

The following classification and treatment of torpedoes in dépôts will be followed in future:—

**Class A.**

Ready for issue up to 3 months from last refit or examination subject to an external examination and sighting of H.V. disc.

Ready for issue after 3 months but within 18 months from date of last refit or examination, subject to an examination on the lines laid down for "preparation" tests in the "Regulations for care and maintenance of torpedoes and tubes." This examination will be known as "A to I" (*see also Note below*).

*Note.*—A renewal of all india-rubber gear (except the balance chamber door ring), is to be carried out by torpedo dépôts in all torpedoes at the same time as the A to I examination. (This will be noted in history sheets as "renewed I.R. 2"). The balance chamber door ring is only to be renewed when the door is removed for some specific purpose, but a ring once used is not to be used a second time. This renewal is to be noted in history sheets as "renewed I.R. 1." If all india-rubber gear is renewed at the same time the notation will be "renewed I.R. 1 and 2."

**Class B.**

Torpedoes which have been 18 months in Class "A." Not to be issued or placed in class "A" until thoroughly examined.

This examination, which is a modification of the "annual examination," will be known as "B to A."

**Class C.**

Torpedoes which have been in dépôts for four years in classes "A" and "B."

Torpedoes returned from ships.

Torpedoes received after transit from factory, ranges or other dépôts

Torpedoes with known defects.

Torpedoes due for A.V. test.

These torpedoes are not to be issued until such examinations, repairs, tests, etc., have been carried out as qualify them for class "A."

2. The terms A to I, B to A, C.O. (complete overhaul), E.A.T. (examination after transit), will in future be logged in the history sheets at dépôts instead of the detailed list of examinations carried out.

All alterations, renewals of working parts, large repairs, etc., will be noted in the history sheets as heretofore.

3. The six-monthly examinations and annual overhauls of torpedoes in ships are to be reckoned as falling due 6 months and 12 months respectively from the date of last "C.O." or "A to I" or "B to A" noted on the history sheet.

**4. Renewal of india-rubber gear in ships:—**

"I.R. 2" to be renewed as necessary during routines. No items included under "I.R. 2" are to be left in a torpedo longer than six months.

"I.R. 1" to be renewed whenever the balance chamber door is removed for any specific purpose, *vide Note above*. This includes six-monthly overhauls (except for surface vessels in home waters during peace routines) and annual overhauls.



### 1345.—Fire Control Instruments—Automatic Training for H.A. Dumaresqs.

*Ships concerned and Dockyards.*

(G. 4937/28.—1.6.1928.)

The fitting of automatic training gear for the H.A. dumaresq is approved for the ships named below, and an item to cover the work involved is to be included accordingly in the next lists of alterations and additions:—

“Adventure,” “Cairo,” “Calcutta,” “Caledon,” “Calypso,”  
 “Capetown,” “Caradoc,” “Cardiff,” “Carlisle,” “Centaur,”  
 “Ceres,” “Colombo,” “Concord,” “Coventry,” “Curacoa,”  
 “Curlew,” “Danae,” “Dauntless,” “Delhi,” “Despatch,”  
 “Diomede,” “Dragon,” “Dunedin” and “Durban.”

2. In “Danae,” “Dauntless,” “Delhi,” “Despatch,” “Diomede,” “Dragon,” “Dunedin” and “Durban,” the fitting of this gear is to be carried out concurrently with the exchange of rangefinders.

3. The gear for all ships will be manufactured at Portsmouth Dockyard, and should be demanded as necessary by the dockyards concerned.

### 1354.—W/T—Pattern 8404, Tuner A41 for D/F Model-Outfit SD—Introduction and Allocation.

(N.S. 4562/28.—1.6.1928.)

A new instrument, known as Tuner A.41, is being introduced to replace certain existing components of Model-Outfit S D, and it has been decided to allocate first supply to the following ships, which employ lead-cased cable between loop aerials and the D/F office:—

H.M.A.S. “Australia.”	H.M.S. “Barham.”
“Canberra.”	“Warspite.”
5 “Kent” class cruisers.	“Centaur.”
H.M.S. “Nelson.”	“Calcutta.”
“Rodney.”	“Curacoa.”
“Ramillies.”	“Coventry.”
“Resolution.”	“Cardiff.”
“Royal Sovereign.”	“Adventure.”
“Royal Oak.”	“Eagle.”

2. The above ships will be supplied from Portsmouth without demand as the instruments become available.

3. Ships fitted with Model-Outfit SD but not mentioned above should forward demands to Superintending Naval Store Officer, Portsmouth, but these demands will not be met until the services mentioned in paragraph 2 have been supplied.

4. When Pattern 8404, Tuner A.41, is fitted the following stores are to be returned:—

Pattern 2278.	Condenser No. 13, adjustable ...	1.
“2486A.	Condenser No. 7, adjustable ...	1.
“6886.	Inductance, 8,000 mics. for D/F ...	1.

With regard to Pattern 6886 inductance, only serviceable instruments returned are to be taken on charge, any repairable articles being disposed of.

5. The method of connecting the Tuner, A.41, in the circuit for Model-Outfit SD, is shown in E.F.O. 56/28, and instructions for the use of this instrument are given below.

*Instructions for Handling Tuner, A.41.*

6. This tuner is designed to cover the range 667 to 60 kc. (450-5,000 metres), and has two circuit arrangements, “direct” and “coupled.” The “direct” and “coupled” circuits are shown in the diagram on the face of the instrument.

7. To pick up a signal the switch on the left of the instrument is set at "direct." The tapped inductances and the main tuning condenser then give all the tuning adjustments necessary:—

Range	0	covers	1,000	to	385	kc.	(300-780 metres).
"	1	"	857	"	333	kc.	(350-900 metres).
"	2	"	545	"	214	kc.	(550-1,400 metres).
"	3	"	428	"	136	kc.	(700-2,200 metres).
"	4	"	273	"	86	kc.	(1,100-3,500 metres).
"	5	"	182	"	57	kc.	(1,650-5,250 metres).

8. For greater selectivity and to improve zeros, the switch is put to "coupled." The intermediate condenser has now to be tuned and this consists of three parts:—

- (a) The variable condenser, 0-2 jars.
- (b) Fixed condensers, 0-10 jars.
- (c) Fixed condensers, 10, 20 and 30 jars.

(a) covers from 666 to 272 kc. (450-1,100 metres); (a) and (b) are required from 272 to 125 kc. (1,100-2,400 metres) and (a), (b) and (c) for lower frequencies.

9. The tuning of the intermediate condenser is best carried out with the variable coupling set very near its minimum; this also gives maximum selectivity. After tuning the intermediate condenser a very slight readjustment of the main tuning condenser may improve signals.

10. In some circumstances, when signals are very strong, it may be helpful to use an aperiodic coupling. This is obtained by short circuiting the intermediate condensers by the switch at the bottom of the instrument. For this type of circuit the coupling should be at maximum.

11. In either the "direct" or "coupled" circuit, reaction can be used for C.W. reception, particularly when searching. For greatest selectivity, however, a separate heterodyne should be used and the amplifier not allowed to oscillate. The reaction coil is short circuited on stop "O" and increases in value on stops "1" to "3." Fine adjustment of the reaction is obtained by means of the handle at the top right-hand corner of the model.

12. It is not considered that the fitting of Tuner A.41 will necessitate a recalibration of the D/F installation. It is recommended, however, that the calibration be checked at the first convenient opportunity.

### 1403.—Air Co-operation in Miscellaneous Naval Exercises— Application for R.A.F. Aircraft.

(M. 01596/28.—8.6.1928.)

Owing to the many demands from home ports for air co-operation in miscellaneous exercises, etc., it has been decided that all such requests from the Portsmouth, Plymouth and Nore Commands are to be made through the Commander-in-Chief, Portsmouth, who, in communicating them to Air Officer Commanding, Coastal Area, will, where necessary, allot them an order of priority. A copy of the programme, as finally arranged, is to be forwarded to the Admiralty by Commander-in-Chief, Portsmouth.

2. Requests are to be made as far in advance of requirements as possible, and a forecast of the next year's requirements is to be forwarded to Commander-in-Chief, Portsmouth, to reach him by 1st December in each year.

3. Requests for air co-operation by the Commanding Officer, Coast of Scotland, are to be made to the Officer Commanding, R.A.F. Base, Leuchars, as heretofore.

4. Proposals from the Admiralty for trials, etc., which involve air co-operation will be forwarded to Commander-in-Chief, Portsmouth, with an indication of the degree of importance attached to them.

5. This Order does not affect the operational and other exercises carried out with ships by the Fleet Air Arm, which come under the control of Commander-in-Chief, Atlantic Fleet; nor does it affect the practice of Commander-in-Chief, Atlantic Fleet, dealing direct with Air Officer Commanding, Coastal Area.

### 1417.—Torpedo Tubes, Marks Q.R. I and Q.R. II—Limit Stops to be Fitted to Firing Levers.

(G. 06201/27.—8.6.1928.)

Limit stops are to be fitted to the firing levers of Q.R.I and Q.R.II torpedo tubes in accordance with E.F.O. 40/28.

2. The modification is to be made by ship's staff or the dockyard concerned.

### 1418.—Torpedo Tubes—Access Fitting for Ignition Delay— REPORTS.

*Dockyards and Vessels concerned.*

(G. 3864/28.—8.6.1928.)

An access hole for setting ignition delay is to be fitted in the position shown in E.F.O. 60/28 to the following torpedo tubes :—

- 21 in. Q.R.I torpedo tubes in "Emerald" and "Enterprise."
- 21 in. Q.R.II torpedo tubes in "Kent" class.
- 21 in. T.R.II torpedo tubes in "Amazon" and "Ambuscade."
- 21 in. D.R.V torpedo tubes in "Vanoc."

2. The fittings are being manufactured at Portsmouth and are to be fitted on the tubes by ships' staffs, and by dockyards concerned in the case of "Emerald," "Enterprise" and "Kent."

3. Reports should be forwarded through the Administrative Authority when this access pocket has been fitted to the tubes.

### 1419.—*Issued Confidentially.*

### 1421.—Evershed Control for Standard Temporary High Angle Control System and Evershed Transmitters on Fore Control Platform for Star Shell Gun Control—REPORTS.

*Cruisers of "Centaur," "Caledon," "Ceres," and "Carlisle" classes.*

(G. 3064/28.—8.6.1928.)

The following diagrams and instructions are being issued for guidance in making the necessary alterations in the Evershed gun control systems in the cruisers of the above-mentioned classes in order to complete the standard temporary H.A. control system in these vessels :—

- (i) Diagram No. 8830F of the Evershed bearing indicators for 6-in. gun control, amended to provide for H.A. and star shell gun control for cruisers of "Carlisle" class.
- (ii) Diagram No. 7714G of the Evershed bearing indicators for 6-in. gun control, amended to provide for H.A. gun control for cruisers of "Caledon" class.
- (iii) Diagram No. 9793C of the Evershed bearing indicators for 6-in. gun control, amended to provide for H.A. gun control for cruisers of "Ceres" class.
- (iv) Diagram No. 9389E of the Evershed bearing indicators for 6-in. gun control, amended to provide for H.A. gun control for "Concord."
- (v) Diagram No. 9622D of the Evershed bearing indicators for 6-in. gun control, amended to provide for H.A. gun control for "Centaur."

2. Copies of these diagrams have been forwarded separately, together with a copy of this order to all dockyards and ships concerned as follows :—

- (a) One complete set of prints to Chatham, Devonport and Portsmouth Yards. One set of velograph copies have also been circulated to these yards in order that additional copies may be made as necessary and the tracings retained at Portsmouth Yard. The issue of copies of these to Malta, Hong Kong and Bermuda Yards by Portsmouth Yard will not be necessary in this instance.
- (b) One complete set of velograph tracings to Hong Kong Yard.
- (c) Three complete sets of prints to Malta and Bermuda Yards, and one set of prints to the Captain, H.M.S. "Vernon" and "Excellent."
- (d) One copy of the respective diagrams to each cruiser concerned.

3. Diagrams of the detailed connections to the instruments and various apparatus are in course of preparation, as follows :—

- (a) Diagram No. 9573B for the cruisers of "Carlisle" class.
- (b) Diagram No. 8105C for the cruisers of "Caledon" class.
- (c) Diagram No. 10702A for the cruisers of "Ceres" class.
- (d) Diagram No. 10259B for "Concord."
- (e) Diagram No. 8077C for "Centaur."

Copies of these diagrams (when completed) will be circulated in the same proportion and manner as mentioned in paragraph 2 above.

4. The diagrams for the cruisers of the "Carlisle" class also provide for the following in addition to the H.A. and star shell control transmitters :—

- (a) The present repeat open faced indicators at the Captain's Evershed transmitters on the bridge are arranged to indicate from the gun control transmitters on the fore control platform (as alternative to the spotting top and after control platform already arranged), according to the position of the new change over switches on the bridge.
- (b) Separate open faced indicators at the Captain's transmitters to indicate from the director.

5. The addition mentioned in paragraph 4 (b) has also been incorporated in the diagrams for the cruisers of the "Caledon" and "Ceres" classes and "Concord." This is already fitted in "Centaur."

6. The additional open faced indicators shown on all diagrams are being arranged with internal illumination, and wiring for the illuminating lamps in these is provided in the additional cables.

7. The accompanying schedule shows the additional apparatus required by the respective ships and the arrangements which are being made to provide the same.

8. Portsmouth, Devonport and Chatham Dockyards are to arrange for the immediate despatch of the various apparatus available at the respective yards as detailed in the schedule, to Messrs. Evershed and Vignoles works for modification to suit the requirements of the diagrams. Should any of the items mentioned have been used by the yards for other services since the dates of the yard letters reporting their availability, other items of the same symbol numbers are to be returned to Messrs. Evershed and Vignoles works in lieu.

Reports are to be forwarded at an early date by Portsmouth, Devonport and Chatham Yards stating the dates of the despatch of the gear to Messrs. Evershed and Vignoles works.

9. It is anticipated that the manufacture of the new junction and fuse boxes and change over switches and the modification of the existing apparatus will take about three to four months, and therefore the work of modification to the wiring in the various ships should not be taken in hand until it is known that the gear will be available for installing before the completion of the ship's refits. 5

10. An item for this work should be included in the next list of alterations and additions submitted by the ships concerned.

11. Estimates of the cost of the dockyard work involved are to be prepared by the dockyards to which the ships are attached and forwarded for approval.

"CARLISLE, "CALEDON," "CERES" AND "CENTAUR" CLASSES.  
EVERSHED BEARING INDICATORS FOR GUN CONTROL. SCHEDULE OF ADDITIONAL APPARATUS REQUIRED TO PROVIDE FOR CONTROL OF H.A. GUNS.

Item No.	Description.	Symbol No.	"Carlisle."		"Caledon."		"Ceres."		"Concord."	"Centaur."	Total.	Remarks from whence to be obtained.	Dockyard at which items were reported available.	(Y.L.) Yard which the items were reported available.
			Each Ship.	Five Ships.	Each Ship.	Three Ships.	Each Ship.	Five Ships.						
1	Transmitter ...	T.52A	2	10	—	—	—	—	—	—	10	Portsmouth* Devonport†	*Y.L. No. 6346 dated 17.8.27. †Y.L. No. 4566 dated 25.7.27.	
2	Transmitter receiver.	T.R.39	2	10	—	—	—	—	—	10				
3	Transmitter receiver.	TR.48	—	—	2	6	2	10	2	20				
			2-TR.5 Nos. 70572 and 70573 ex "King George V." 2-TR.1 Nos. 82088 and 82089 ex "Monarch." 1-T.3 No. 72952 ex "Collingwood." 2-TR.1 Nos. 77201 and 77203 ex "Thunderer." 2-TR.1 Nos. 82052 and 82053 ex "King George V." 1-TR.31 No. 104572 ex "King George V." 3-T.46 Nos. 96780, 96782, 96784 ex "Courageous." 8-T.4 Nos. 80272 to 80279 ex "Courageous."											

† Y. L. No. 5669  
dated 12.11.27.

4	Change - over switch.	S.31	1	5	—	—	—	—	1	1	7	2-T.29 Nos. 82050, 88433 ex "Raleigh." 2-TR.1 Nos. 69767, 69768 ex "Centurion." 2-T.9 Nos. 85627, 85628 ex "Centurion." 4-TR.1 Nos. 76474 to 76477 ex "Glorious." 8-T.4 Nos. 77187 to 77194 ex "Glorious." 1-TR.25 No. 82849 ex "Vindictive." 3-S.46 Nos. 89499, 89527, 89425. 2-S.46 Nos. 89489, 89556. 2-Chatham (Nos. to shown available). 2-S.39 Nos. 86412, 86413. 1-S.84 No. 96900 ... 7 New switches to be by Messrs. Evershed 4-S.40 Nos. 86369, 86371, 93012, 93033. 1-S.111 No. 123834 2-S.45 Nos. 92681, 92708. 1-S.41 No. 92155 ... 2-S.45 Nos. 92674, 92682. 10-S.46 Nos. 89491, 89541, 89393, 89521, 89376, 89374, 89401, 89484, 89472, 89560.	Chatham†	Portsmouth* Devonport† be reported ; 4 Chatham† ... Chatham† ... Chatham† ... Chatham† ... Chatham† ... Portsmouth* Devonport† Devonport†
5	Change - over switch.	S.113	—	—	1	3	1	5	1	1	10			
6	Change - over switch.	S.185	1	5	—	—	—	—	—	—	5			
7	Change - over switch.	S.186	1	5	—	—	—	—	—	—	5			
8	Change - over switch.	S.187	—	—	1	3	1	5	1	1	10			

EVERSHERD BEARING INDICATORS FOR GUN CONTROL. SCHEDULE OF ADDITIONAL APPARATUS REQUIRED TO PROVIDE FOR CONTROL OF H.A. GUNS—continued.

Item No.	Description.	Symbol No.	"Carlisle."		"Caledon."		"Ceres."		"Concord."	"Centaur."	Total.	Remarks from whence to be obtained.			
			Each Ship.	Five Ships.	Each Ship.	Three Ships.	Each Ship.	Five Ships.				Symbol Nos. and Register Nos.	Dockyard at which available.	(Y.L.) Yard letter in which the items were reported available.	
9	Change - over switch.	S.188	1	5	1	3	1	5	1	1	15	4-S.42 Nos. 89935, 89938, 89946, 86427.	Devonport†	(Y.L.) Yard letter in which the items were reported available.	
												1-S.74 No. 9694 ...			Devonport†
												4-S.42 Nos. 89942, 86420, 86421, 97509.			Portsmouth*
10	Change - over switch.	S.189	1	5	—	—	—	—	—	5	6 New switches to be manufactured by Messrs. Eversherd and Vignoles.	Devonport†	(Y.L.) Yard letter in which the items were reported available.		
														1-S.74 No. 96939 ...	Devonport†
														4-S.39 Nos. 46415 to 46418.	Devonport†
11	Change - over switch.	S.193	1	5	1	3	1	5	—	13	2-S.43 Nos. 88609, 81003.	Portsmouth*	(Y.L.) Yard letter in which the items were reported available.		
											2-S.6 Nos. 80999, 72435.			Portsmouth*	
											9-S.39 Nos. 86384, 86385, 86431, 86439, 86434, 86433, 86436, 86428, 86429.			Portsmouth*	
12	Change - over switch.	S.194	1	5	1	3	1	5	—	13	13-S.40 Nos. 93059 to 93066, 93071 to 93073, 93029 and 86365.	Portsmouth	(Y.L.) Yard letter in which the items were reported available.		
											3-J.5 Nos. to be reported.			Devonport‡...	
												1-J.7 Unnumbered ex "Royal Oak."	Devonport ...		
												1-J.8 93152 ...	Chatham† ...		

§ Y.L. No. 6661, dated 8.11.27.

13	Junction boxes	J.17	1	5	1	3	1	1	5	1	—	14	1-J.8 No. 79153 ... 1-J.7 No. 81520 ... 3-J.17 Nos. 79162, 79163, 81514. 1-J.8 Unnumbered 2-J.7 Unnumbered 1 new J.17 to be man- ufactured by Messrs. Evershed and Vignoles. 2-J.77. Nos. 89664, 89663. 1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Devonport† Devonport† Portsmouth* Portsmouth* Devonport† Chatham‡ Chatham‡
14	Junction boxes	J.98	1	5	1	3	1	—	5	1	—	14	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Devonport† Devonport† Devonport† Portsmouth* Portsmouth* Devonport† Chatham‡ Chatham‡
15	Junction boxes	J.234	1	5	—	—	—	—	—	—	—	5	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡
16	Junction boxes	J.235	—	—	—	—	—	—	—	—	—	2	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Devonport† Chatham‡ Chatham‡
17	Junction boxes	J.236	1	5	—	—	—	—	—	—	—	5	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Chatham‡ Chatham‡
18	Junction and fuze boxes.	JF.113	1	5	—	—	—	—	—	—	—	5	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡
19	Junction and fuze boxes.	JF.114	—	—	—	3	1	—	5	—	—	5	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡
20	Junction and fuze boxes.	JF.115	—	—	—	—	—	—	—	1	1	2	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡
21	Open faced indi- cator (compon- ent).	Z.31	4	20	4	12	4	20	4	2	2	58	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡
22	Do. spare ... Open faced indi- cator (compon- ent).	Z.31 Z.33	1 2	5 10	—	—	—	—	—	2	2	5 14	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡
	Do. spare ...	Z.33	1	5	—	—	—	—	—	—	—	5	1-J.73 No. 89605 1-JF.42 No. 96616 4-J.73 Nos. 89593, 89595, 89607, 89609. 2-J.73 Nos. 89588, 89626. 4-J.77 Nos. 89672, 89643, 89649, 89633. 3-JF.25 Nos. 87165, 88785, 88838. 1-JF.63 No. 98890 1-JF.31 No. 89700 2-JF.31 Nos. 89704, 89705. 5-J.59 Nos. 89091, 88954, 89044, 89129, 88958. New to be manufactur- ed by Messrs. Evershed and Vignoles.	Portsmouth* Devonport† Chatham‡ Chatham‡



EVERSHED BEARING INDICATORS FOR GUN CONTROL. SCHEDULE OF ADDITIONAL APPARATUS REQUIRED TO PROVIDE FOR CONTROL OF H.A. GUNS—continued.

Item No.	Description.	Symbol No.	"Carlisle."		"Caledon."		"Ceres."		"Concord."	"Centaur."	Total.	Remarks from whence to be obtained.		
			Each Ship.	Five Ships.	Each Ship.	Three Ships.	Each Ship.	Five Ships.				Symbol Nos. and Register Nos.	Dockyard at which available.	(Y.L.) Yard letter in which the items were reported available.
23	Rubber buffers, Pattern 356.	ZB.13	12	60	8	24	8	40	12	8	144	—	—	—
24	Binoculars, Pattern 343A.	D.1	4	20	2	6	2	10	2	2	40	To be obtained from stocks at the dockyards.		
25	Binocular gear	B.1.	4	20	2	6	2	10	2	2	40	25 from Devonport, Y.L. No. 6119, dated 13.10.27. 15 from Chatham, Y.L. No. 5112, dated 15.10.27. <i>Note</i> —These should preferably be those on the transmitters mentioned in items 1, 2 and 3 above.		
26	Worm training attachments.	—	2	10	—	—	—	—	—	—	10	To be supplied from those purchased for cruisers of "Centaur," "Caledon" and "Ceres" class, and rendered surplus.		
	Lengths of flexible shafting in copper tubes.	—	2	10	—	—	—	—	—	—	10	(Not to be sent to Messrs. Evershed and Vignoles.)		
	End connections for flexible shafting.	—	4	20	—	—	—	—	—	—	20	The whole of the existing apparatus detailed above, except items 23, 24 and 26, to be returned by the yard mentioned, to Messrs. Evershed and Vignoles works for modification and overhaul.		

## 1424.—Breech Mechanism, B.L. 5·5 inch—Modification of Block Guide Lock.

(G. 7029/28.—8.6.1928.)

Instructional Print N.O.D. 2122/12, to guide fitting guide-bolt adjusting cap, left, securing plate to B.L. 5·5 in. blocks guide lock, Marks I\* and II, has been approved, and copies will be distributed to R.N. Armament Depôts shortly.

2. This modification should be carried out to guns, on board ships and in store by R.N. Armament Depôt staff at Depôts where facilities exist, any parts required being made locally.

## 1432.—Main Dynamos—Additional Safety Device.

(S. 2947/28.—8.6.1928.)

Without interfering with the ordinary convenient running conditions, it is not practicable to set the reverse current device of ships' dynamos so lightly that they will operate with certainty should the set for any reason take a motoring current sufficient to keep the dynamo and prime mover running light. In such event, if the dynamo field should be defective, it is possible for the set to reach a dangerously high speed since the engine governor and over speed trip merely cut off the steam, or oil supply and not the electric supply from the other end of the set.

2. An emergency "OFF" push is provided to meet this condition, but it has been pointed out that an excessive speed may be reached very quickly in the case of a partial breakdown, before the watchkeeper may realise what is happening and take the necessary steps to switch off the dynamo.

3. Excessive speed is much more likely to be reached under such conditions in a turbine driven set, in which the mechanical friction is much less than with steam reciprocating or Diesel engines. It has therefore been approved to fit all turbine driven dynamos in ships on the Active List and under construction with a device which will automatically open the supply breaker simultaneously with the closing of the steam valve as now arranged for, before a dangerous speed is reached. The set will thus be isolated at both ends and any further increase of speed will be prevented.

4. The existing hand operated "OFF" push is to be retained for these sets for use in case of necessity apart from excessive speed.

5. As regards reciprocating and Diesel engine driven sets, attention is drawn to the necessity for taking off the supply breaker by hand immediately, should the speed be noticed to be rising rapidly above the normal, since, as stated, the automatic shutting off of the steam or oil supply may not be sufficient. If considered necessary, the existing "OFF" push should be refitted by the ships' staff in a position close to the engine controls.

6. Attention is also called to the necessity for ensuring in every instance that the reverse current devices in the supply breakers are kept properly set and in efficient working order.

7. It is probable that in view of the diversity in type of the overspeed trip devices fitted for existing turbo-dynamos, the most economical method of complying with the decision to fit the additional safety device will be to attach a new overspeed contact maker of simple design to the end of the dynamo shaft and to wire it in parallel with the existing "OFF" push.

8. The dockyards and overseers concerned should take the necessary action at the earliest convenient date to submit detailed proposals for carrying out this approved addition for all turbo-dynamos installed, together with estimates of the cost of the work for each ship.

**1433.—Issued Confidentially.****1450.—Form S.165—Report of Movements—Revised Procedure.**

(A. G. /Sta. 126/27.—8.6.1928.)

Certain permanent changes have been approved as regards the rendering of Form S.165 (Report of Movements of Ratings) and the procedure is now as follows:—

**RETURN OF MOVEMENTS.***Instructions for rendering Form S.165.*

1. The movements of ALL CLASSES OF RATINGS borne on ship's books for pay or "victuals only," including discharges (a) to hospital, (b) to hospital ship, (c) sick ashore, (d) prison, (e) passage, (f) special service on shore, (g) leave exceeding 48 hours if granted from sea-going ships away from home ports, and (h) absence without leave or on ship sailing, are to be reported on this form AS THEY OCCUR BY ALL SHIPS AND ESTABLISHMENTS. A form is to be rendered for every man, whenever a ship commissions, recommissions, or pays off, except where ships keeping their own accounts, or tenders, or independent commands, whose accounts remain in the same parent ship, pay off and recommission, when there is no interval between paying off and recommissioning, in which event Form S.165 is required only for actual entries from and discharges to other ships and establishments taking place at the time. Vessels employed on trooping trips need not prepare Form S.165, but the arrival of reliefs, who have taken passage in a trooping vessel, is to be reported by the ships to which they are finally appropriated.

2. The form is generally to be prepared in triplicate by the carbon process by the ship from which a man is discharged. The original is to be despatched to the Accountant-General; the duplicate is to be forwarded to the ship to which the man is discharged, to be stamped with the ship's date stamp and transmitted to the Accountant-General when the man has arrived on board, and the triplicate is to be retained for reference.

Where this procedure is not applicable, e.g., in the cases referred to in paragraph 1 (a) to (h), the form should be prepared in duplicate only, the original being transmitted to the Accountant-General and the duplicate retained for reference.

3. The date and nature of illness in the case of men sent to hospital, with the name of the hospital, hospital ship or sick quarters, and the offence, commencing date and period of detention or imprisonment, and detention quarters or prison in which confined in the case of those discharged to prison should be stated.

4. In the case of men entered or discharged for "victuals only," the letters "V.O." are to be written against the name of the ship whence entered or whither discharged. The local movements of men still borne on depôt books need not be reported.

5. Where a man is discharged for passage, the name of the conveying ship, and the probable date and place of arrival should be stated, together with the name of the ship to which the man has been discharged for pay.

6. First entries and re-entries from and discharges to shore desertions and deaths should not be shown on this form, but be reported on Forms S.160 and S.161, as necessary (*see*, however, Instruction 9, as to Reservists).

7. All movements between tenders and independent commands, whose accounts are kept in the same depôt ship, are to be reported.

8. When the accounts of tenders or independent commands, whose accounts are kept in another ship, are transferred from one depôt ship to another, Forms S.165 reporting the movement of each man may be dispensed with, but a reference sheet is to be forwarded to the Accountant-General (Branch 9) stating:—

- (a) The name of the tender or independent command transferred.
- (b) The name of the depôt ship to which transferred.
- (c) The date of the transfer.
- (d) Whether the crew is transferred to the new depôt ship complete.

If the crew is not transferred complete, separate Forms S.165 are to be prepared in the usual way for men otherwise disposed of.

9. Form S.165 is to be rendered for all RESERVISTS. Entries from shore of Reservists called up for training are to be reported on this form in lieu of Form S.160. Form S.165 is also to be used for reporting the entry from and discharge to shore of Reservists, who are found to be medically unfit on mobilisation and are discharged to shore within a few days.

10. Form S.165 is to be completed and forwarded in the same manner and under the same conditions as for active service ratings, for ratings of Dominion Navies, who may be borne in ships and establishments of the Royal Navy for whatever reason.

11. The serial numbering on the forms is to enable losses in the post, etc., to be checked at the Admiralty. Forms not forwarded are to be cancelled, and the succeeding form should be noted "No..... cancelled" to account for the intervening number. Where, for any reason, it is necessary to cancel any forms already despatched to the Accountant-General, the names, ratings, and official numbers of the men concerned, as well as the numbers of the forms should be reported.

12. The books as used are to be designated by letters "A" to "Z," and the distinguishing book letter is to be inserted on each form sent to the Accountant-General.

The revised instructions will be embodied in the reprint of the pads of Forms S.165, which is now proceeding.

1463. }  
1470. } *Issued Confidentially.*

## 1472.—Torpedo Tubes—Cordite Impulse Gear.—REPORTS.

(G. 06201/27.—15.6.1928.)

*Thinner Piston Rings.*—The undermentioned torpedo tubes and vessels, fitted with cordite impulse, are to have thinner piston rings in the firing valves, in accordance with E.F.O. 39/28.

It should be noted that the rings are being supplied uncut. After cutting and fitting in place there should be a clearance of 20-thousandths-of-an-inch between the cut surfaces. It is important that rings should have an even bearing on the cylinder walls, and particular attention should be paid to this when fitting.

Portsmouth Dockyard will arrange for the supply of rings, which are to be fitted by ship's staff, or the dockyard concerned, to all Q.R.I, Q.R.II, T.R.II and tubes of "Winchester," "Wrestler," "Tara," "Vernon" (*ex* "Sable").

2. *Strainers.*—The undermentioned torpedo tubes and vessels, fitted with cordite impulse, are to have a modified strainer fitted, in accordance with E.F.O. 39/28.

Portsmouth Dockyard will arrange for the supply of strainers.

The gas supply branch on the power cylinder will have to be enlarged from  $\frac{1}{4}$  in. diameter to  $\frac{3}{8}$  in. diameter, the copper cup on piston is to be shortened to  $\frac{1}{2}$  in., and 4 in number  $\frac{1}{4}$  in. diameter holes are to be drilled in the cylinder cover, in accordance with E.F.O. 39/28.

This and fitting of strainers is to be arranged for by ship's staff or dockyard concerned, for all Q.R.I, Q.R.II, Q.R.II\*, T.R.II and tubes of "Vanoc" (24 $\frac{1}{2}$  in. and 21 in. D.R.V, left-hand tube), "Wrestler," "Winchester," "Tara," "Vernon" (ex "Sable"), Loch Long gun.

3. Cases have occurred of the valve seats of the cordite valves of A.W. torpedo tubes becoming unscrewed when rotating the valve gear.

To prevent this in future, the valve seats should be secured as shown in E.F.O. 106/29.

The modification is to be carried out by ships' staffs, and reports forwarded through the Administrative Authority when completed.

1479. }  
1480. } *Issued Confidentially.*  
1481. }

### 1482.—Ammunition—Embarking and Disembarking.

(G. 9148/28.—15.6.1928.)

The following instructions as regards the handling of ammunition and explosives which have been issued previously are re-issued for the information and guidance of all concerned.

2. Rough usage is liable to loosen shell caps, injure driving bands, and reduce the air and watertight properties of cordite cases.

3. Cordite cases cannot be relied upon to be waterproof if exposed to heavy rain, and their watertightness is impaired if subjected to rough usage. If their contents are wetted, the damp igniter may contaminate the cordite and impair its stability.

4. Working cordite in rain is undesirable, and is to be avoided as far as possible. Awnings should be spread in wet weather to reduce the time during which the ammunition is exposed to rain.

5. When awnings are not spread, and it comes on to rain, cylindrical cordite cases are not to be left standing on end without being covered.

6. Care is to be taken to ensure that cases and shell which have been exposed to wet are wiped thoroughly dry before being stowed in any magazine and shell room.

7. This is specially necessary round the edges of lids of cordite cases or covers of ammunition boxes.

\* \* \* \* \*

#### INSTRUCTIONS FOR CARE OF AMMUNITION AND EXPLOSIVES.

The attention of all concerned is drawn to Articles 52 and 55 of the Naval Magazine and Explosives Regulations, as ammunition and ammunition cases are constantly damaged during embarkation and disembarkation, showing that insufficient care has been taken.

While such regulations, emphasising the need for the greatest care in handling explosive stores, are primarily based on considerations affecting the safety and efficiency of the stores in question, it must be realised that rough handling leads to heavy expense. At present a large percentage

(from 35 per cent. upwards) of the ammunition packages landed by H.M. ships require more or less extensive repairs, the cost of which, if more care were taken, could be largely devoted to other and productive work.

Attention is also drawn to the importance of keeping shell clean and free from rust and with grommets on (Articles 230, *et seq.*, Naval Magazine and Explosives Regulations). Examination of shell returned to the depôts from ships has shown that large numbers of these are in a bad condition and some appear to have been stowed in bays containing water. Overhaul of these shell in the depôts is another source of expense, and it is pointed out that, although the fuzes and fuze holes are designed to be watertight, long immersion in water may break this down, with consequent deterioration of the ammunition.

\* \* \* \* \*

8. Several reports have been received of accidents during ammunitioning. One case resulted in the death of a rating, while another involved considerable risk of a serious explosion.

9. Examination of cordite cases landed at depôts shows excessive numbers returned in a damaged condition; this indicates clearly that sufficient care is not being taken in all ships in the handling of explosives.

10. It is desired to emphasise most strongly the importance of care in handling explosives, not only from the point of view of safety, but also the very considerable expenditure which is being incurred in repair work in depôts, and a real improvement in this respect is essential.

11. The improvement necessary can be effected mainly by:—

- (a) Allowing adequate time for all operations of shifting ammunition.
- (b) The methods employed in embarking and disembarking.
- (c) Careful and individual inspection of all material employed, including locking arrangements of cases and other safety devices.

12. It is fully realised that the exigencies of the Service make it difficult to allocate much time for ammunitioning, but it is desired to emphasise to Flag and Commanding Officers the necessity of ensuring that sufficient time is allowed to ships for this important operation so that it is carried out under such conditions that the full precautions necessary are rigidly adhered to.

13. Improvements in the methods of embarkation are under consideration, and are being dealt with separately.

14. In this connection it should be noted that cylindrical cases are now in process of being modified to include one solid end.

15. Several instances have been reported of the lids of cylindrical cases falling off during transport. One accident resulted in fatal injuries to a rating.

16. The causes of the lids falling off are mainly:—

- (a) Rough handling during transport.
- (b) Locking screws not fitted.
- (c) Locking screws defective or inefficient.

17. All "L" and "M" cases issued to H.M. ships should be fitted with locking screws. Any cases which are found to be not so fitted, or in which the screws are missing, are to be carefully marked and the attention of the Armament Supply Officer is to be specially called to the fact on the next occasion of landing the cases in question, special care being taken during transport.

18. As regards 16 (c), this may be due to two main causes:—

- (i) Wrong locking screw fitted. It should be noted that the screws in the "M," Mark I and Ic cases, are shorter than those fitted in the Marks II, II\* and III cases, and will not function if fitted to the latter cases in error.
- (ii) If the end ring is distorted, due to damage, the locking screw may fail to function.

Cases under these headings should be dealt with as in paragraph 17 above.

19. Examination of these screws is to be carried out as opportunity offers.

20. The organisation for ammunitioning ships is to include ratings specially detailed to ascertain by careful and individual inspection of the locking devices of cases that lids cannot fall off during transport. Cylindrical "L" and "M" cases are not to be lifted from the magazine or lighter until these ratings have ascertained that the locking screws of the lids are correct.

### 1483.—Cartridges, Signal, 1 in.—Firing Precautions.

(G. 7062/28.—15.6.1928.)

Experience has shown that there is a very slight risk of a premature explosion occurring in the pistol with Very's lights in supply.

2. From trials that have been carried out it appears that, should a premature occur, the fragments of the pistol are more likely to be projected horizontally than downwards.

3. The following precautions are therefore to be taken whenever Very's lights are fired:—

- (a) Where conditions admit, the pistol is to be lashed to a support above the level of the heads of men in the vicinity, and is to be fired by a lanyard.
- (b) Where conditions do not admit of (a), the pistol is to be held at full arm's length above the head of the firer, who should keep his head down.
- (c) In all cases, other persons are to stand clear.

### 1484.—Ammunition—Steel Ready-use Boxes.

(G. 9147/28.—15.6.1928.)

Requests are frequently received from ships for permission to surrender splinter-proof lockers in favour of light type lockers in order to provide compensating weight for new fittings.

2. The following light type lockers for fixed ammunition are already fitted or are being fitted, viz. :—

*Cruisers with 3 in. H.A. guns.*

All lockers for 3 in. H.A. ammunition are of the light type—non-splinter proof.

*Cruisers with 4 in. H.A. guns.*

Of the lockers supplied one-third are splinter-proof and two-thirds are of the light type.

3. The number of light type lockers provided in these vessels is the maximum number permissible from the point of view of safety of the ship.

4. The following instructions are issued for the information and guidance of all concerned, viz. :—

(a) All ships allowed 1 in. or  $\frac{1}{2}$  in. steel boxes are to carry them on board during the period of war unless otherwise specially approved by the Admiralty.

(b) In time of peace the following arrangements are to be made and apply to ships in full commission or reserve :—

*Battleships.*

*Battle cruisers.*

*Cruisers of "Hawkins" "D," "E" "Weymouth" Classes.*

*Aircraft carriers.*

} All  
boxes  
to be on  
board.

(c) *Cruisers of "Calcutta," "Caroline," "Cambrian," "Centaur," "Caledon" and "Ceres" Classes.*—Boxes are not to be carried in peace time, but are to be embarked on order of the Commander-in-Chief should a period of strained relations exist. In this event the Captain's gig and Captain's gig's davits are to be landed to provide the necessary compensating weight. A Carley float is also to be embarked at the first opportunity.

- (d) "*Carlisle*."—In the event of strained relations existing, the 1 in. steel boxes for 6 in. ammunition are to be re-embarked, but the heating apparatus specially fitted when the ship proceeded to Vladivostock, or other weight of equivalent moment, is to be removed. This is to be in addition to the landing of Captain's gig and Captain's gig's davits referred to at Clause (c) above.
- (e) When the boxes are not carried on board in peace time they are to be retained at the base and kept ready for embarkation in the event of a state of strained relations existing. Should a ship be permanently transferred from one base to another the boxes are to be embarked for passage only and are to be deposited at the new base.
- (f) The light type ready-use boxes for the stowage of 3 in. H.A. ammunition in "C" class cruisers, as provided, will be carried on board in both peace and war.
- (g) Statements are to be forwarded from Home and Foreign Dockyards at the end of each quarter, giving the following details in regard to all ready-use boxes, splinter-proof and light type, under their pattern numbers as shown in subhead B.3 of the Rate Book and Authorised List of Naval Stores (O.U. 5349), viz. :—
- (i) Stock.
  - (ii) Issues since previous report, giving number and service.
  - (iii) Returns since previous report, giving number and service.
  - (iv) On deposit, stating number and ship.

5. The ready-use boxes already mentioned are not to be considered as compensating weight in any conditions.

6. Details of all 1 in. steel ready-use boxes will be found on page 99 of C.B.949.

7. The following tables show the types of ready-use boxes which are to be carried on board under peace or war conditions, viz. :—

*1 in. or  $\frac{1}{2}$  in. Steel Boxes.*

(Nos. are per gun unless otherwise stated.)

Class of Ship.	7·5" B.L.	6" B.L.	5·5" B.L.	4·7" Q.F.	4" H.A.	4" L.A.	3" H.A.
Capital ships ...	-	1†	1	2	2	1	1
Aircraft carriers	-	1	1	*11—20 rd. 16—12 rd. per ship.	"Furious" 18 per ship. "Hermes" 1 per gun. "Eagle" 1 per gun + 1 spare for every 3 guns.	-	-
Cruisers ...	2	1†	-	-	1 per ship mounting 3 guns, 2 per ship mount- ing 4 guns (except "Kent" class and later).	-	-

Notes.—\* "Courageous" and "Glorious" only.

† Except "Nelson" and "Rodney."

‡ See paragraphs 4 (c) and (d) for "C" class cruisers.



*Light Type Ready-use Lockers.*

(Nos. are per gun unless otherwise stated.)

Class of Ship.	4.7" Q.F.	4" H.A.	3" H.A.	2-pdr. Q.F.
Capital ships ... ..	3	-	-	1 "Nelson" and "Rodney."
Aircraft carriers ... ..	20—20 rd. 16—12 rd. *per ship.	"Furious" 8 per ship. "Argus" 1 per gun. "Hawkins," "D" and "E" classes 2 per ship. "Kent" class 2 per gun.	-	-
Cruisers ... ..	-	-	1+ 1 for every 2 guns.	1
Fleet repair and submarine depôt ships.	-	2	2	-
Minelayer ("Adventure")	2	-	-	1

\* "Courageous" and "Glorious" only.

**1488.—Issued Confidentially.****1490.—Safety Valves—Examination.***H.M. Ships.*

(D. 6011/28.—15.6.1928.)

A case having occurred in which faulty adjustment of the details of full bore safety valves led to unsatisfactory operation, attention is called to the defects, viz. :—

- (a) The spigot of the compression screw was found to be seated on the top of the compression washer, instead of in the recess provided. Further examination indicated that this was due to the spigot being of larger diameter than the recess in the compression washer.
- (b) The bottom of the webs of the control valve were found to be practically touching the valve box.
- (c) The enlarged parts of the control valve spindle projected into the box  $\frac{1}{8}$  in., thereby preventing the thin disc from rising and "seating" until the valve spindle has lifted an excessive amount (i.e., until shoulder was level with facing on bottom of cover).
- (d) On removing the cage and main valve, it was found that the "stop" in the cage of the main valve was too short to enter the recess in the main casting, and as a result the cage was housed in a position which prevented the steam from the control valve passing through the port in the cage and operating the main valve.

The sketch, E.F.O. 66/28, indicates the defects in pilot valves and casings mentioned above.

2. The accuracy of the adjustment of these details should be verified on all occasions when safety valves are opened up for examination or repair.

**1491.—Submarine Refits.**

(D. 256/28.—15.6.1928.)

The refits of submarines of the "L," "L.50," and "M" classes are to be carried out at intervals of 1½ years from the date of completion of one refit and the commencement of the next.

2. The two midship and the foremost external main ballast tanks each side, also the three internal ballast tanks fitted with Kingston valves, are to be tested on the occasions of the six-monthly dockings, and these tanks are to be scraped, painted and tested every 1½ years, during refit. All other tanks used in diving operations, including W.R.T. tanks, are to be scraped, painted and tested at every 18 months' refit, the remaining tanks are to be surveyed every three years, and scraped and painted as necessary.

In the case of a tank under the battery, the test is to be carried out by air pressure, but the cells over the tanks are not to be removed unless leaks in the crown are discovered by the test, and then only as necessary to remedy the defect.

3. The work of scraping and painting tanks is to be carried out by the dockyards, assistance being given by Naval ratings from depôt, if available.

4. The main battery is to be removed during the refits of the vessels for examination and test of the battery tanks.

5. In other submarines which have external main ballast tanks, the battery tanks are to be examined once a year. This is to be done by lifting the after row of cells in each tank (if possible when the submarine refits), and more rows as necessary, depending on the condition of the tank on examination.

6. The battery is to be completely removed at least once every two years in order that the tank and gratings may be thoroughly inspected.

7. If the battery is in good condition and no leakage of acid has been observed, the annual inspection of the battery tank can be left to the discretion of the Captain (S) concerned and the dockyard authorities, the Admiralty being informed by the dockyard if it is decided not to examine the tank.

8. All ballast and other tanks which are used in diving operations, and on which pressure may be used during those operations, should be tested annually to the pressures specified for those tanks, after scraping and painting.

9. The tanks are to be surveyed, scraped and painted during the refits of the vessels in accordance with the following instructions, viz. :—

- (i) Battery tanks are to be dealt with as above.
- (ii) Tanks that are constantly in use, viz., main ballast tanks and those internal tanks used in diving operations, are to be scraped and painted annually.
- (iii) The remaining tanks are to be surveyed every two years, and scraped and painted where necessary.
- (iv) The work of scraping and painting tanks should be carried out by the dockyards, assistance being given by Naval ratings from depôt, if available.

10. The attention of the Commanding Officers of flotillas and submarines is drawn to the undesirability of moving the battery more than necessary, and it is not intended that the battery should be removed in order to carry out the above tests.

11. In submarines with a single hull, where the main ballast tanks are under the battery tanks, the battery is to be lifted out annually in order to carry out the tests of the ballast and other tanks referred to above.

12. The question of prolonging the recognised period between the removal of batteries in submarines with the closed type of cell is to be raised by the submarines concerned when the date approaches on which removal of the batteries would normally be due.

(A.F.O. 1006/29.)

### 1492.—Superheater Tubes—Effect of Scale.

(D. 6033/28.—15.6.1928.)

Attention is drawn to the necessity for strict compliance with Article 187, Engineering Manual (1923), and the effects of the overheating which may occur in superheater tubes if the density of the boilers should be allowed to rise unduly with consequent priming and deposition of salt scale on the tube surfaces.

2. Metallurgical examination of a superheater tube, in which salt deposits were found, indicated that the metal had been raised to a temperature estimated at about 1100° F. (dull red heat). Oxide scale had formed on the interior, partly penetrating the material of the tube walls and reducing the strength and ductility of the metal, but not to a dangerous extent.

3. Scale formations of this type will reduce the efficiency of heat transmission and, if such conditions persist, may be expected to have a cumulative effect, the increasing growth of the oxide eventually causing a serious reduction in the life of the tube.

### 1494.—New Procedure in regard to Main Sea Store Establishments and Lists of Particulars—Abolition of Ship's Warrant.

(N.S. 3247/28.—15.6.1928.)

In connection with the revision of the Sea Store Establishments, the present form of ship's warrant will automatically be dispensed with when all the revised establishments have been issued, and the following procedure will be adopted:—

*Revised Establishments.*—The revised establishments will comprise the following volumes:—

Establishment of Naval Stores for Engineering Purposes—in two parts, details of which are given in A.F.O. 3065/27.

Establishment of Naval Stores for Executive Purposes.

“ ” ” ” Gunnery Purposes.

“ ” ” ” Electrical and Torpedo Purposes.

*“Permanent” Stores.*—In the revised establishments, allowances are detailed in one list, which includes those provisions hitherto shown separately, *e.g.*, additional allowances for flag ships and for motor, steam and pulling boats. The order of the items is that in which they appear in the Rate Book. Definite quantities by “class” are indicated wherever possible, and the number of items for which allowances are on a “scale” basis have been reduced to a minimum.

*“Consumable” Stores.*—These are shown in a list in Rate Book order, detailing the *descriptions* to which ships will be limited, as the operation of central storekeeping renders unnecessary the perpetuation of quantity allowances. In regard to ships not yet fitted for central storekeeping, the allowances of “consumable” stores shown in the 1920 and 1921 Editions of the Establishments will remain operative for each vessel concerned until equipped for the new system.

*Emergency Stock.*—Under present arrangements, centrally-stored ships (except submarines) over 2,000 tons Navy List displacement, maintain a stock for war reserve of two months' peace expenditure of “consumable” stores, this being regarded as the equivalent of one month's war expenditure. In order, however, to make provision as far as is possible for emergencies which may arise, and which may not necessarily be covered by a reserve of two months' normal expenditure, an “emergency stock” of certain essential stores has been fixed, and is shown separately in the establishments, and either this fixed quantity or two months' expenditure of the item, whichever is greater, should be demanded to provide for the war reserve. The Accountant Officer should make special notation in the ship's ledgers of the quantities fixed as “emergency stock,” and special action should be taken to demand replenishments as soon as the stock approaches this level. The “emergency stock” quantities should not be laid apart, but should be issued in the ordinary way to ensure a turnover.

*First Outfit.*—Particulars of the first outfit of “consumable” stores for a new ship will be communicated by the Admiralty. These will be based on the maximum expenditure for four months of a similar ship, taken over a period of from one to three years, and to them will be added the quantities fixed as “emergency stock,” or the normal war reserve, whichever is greater. Quantities as “emergency stock” have not been fixed for repair and depôt ships, sloops and minesweepers. These vessels will continue to maintain a war reserve based on peace expenditure, as at present.

*Lists of Particulars.*—In the new Lists of Particulars an item will be provided for each article allowed by scale. The items will follow the order in which they appear in the establishments and each will be arranged to show the following information :—

No. of Item.	Patt. No.	Species of Store.	Denom.	Particulars required (to be completed by Ship).	Allowance (to be filled in by N.S.O.).

The new lists will bear the title, “Particulars in regard to Naval Stores allowed by Scale” :—

- For Engineering Purposes—D.127B.
- „ Executive Purposes—D.254D.
- „ Gunnery Purposes—D.128I.
- „ Electrical and Torpedo—D.128D.

*Special Allowances.*—Particulars of special allowances which affect individual ships only, will not be shown in the establishments, but records of such allowances will be kept at Admiralty and storing yards on loose leaf forms arranged as follows :—

#### SPECIAL ALLOWANCES OF NAVAL STORES.

H.M.S. .... Department .....

Patt. No.	Species of Stores.	Denom.	Quantity.	Service.	Authority.	Total Weight Involved.

To commence these records after the revised Establishments have been issued and Lists of Particulars completed for each department of the ship, storing yards should call on ships to report details of their own special allowances, quoting authorities, etc. After these reports have been referred to Admiralty for confirmation, a record on the forms referred to above will be created by the storing yard for each vessel stored therefrom. A separate sheet should be used for each department of the ship and the forms for each ship should be kept in a separate guard. At the Admiralty an index of the descriptions of the articles involved in these special allowances will be kept.

In the case of a ship leaving one station for another, the loose leaf guard of special allowances should be transferred to the new station, together with the Lists of Particulars.

Under the new procedure, the allowances of " permanent " stores to a specific ship will be determined from three documents :—

- 1 and 2. The Establishments and Lists of Particulars in conjunction, amended periodically by Errata, which will give definite quantities of all " class " and " scale " allowances.
3. The ship's loose leaf guard, which should record all allowances approved as special to the vessel.

Warrants will not be kept, except for wireless telegraphy stores, for which items the present procedure will remain unchanged.

*Errata to Establishments.*—Amendments to allowances, which become necessary after issue of the revised Establishments will be promulgated by the issue of Errata half-yearly, for which purpose a slightly modified edition of the present form of Errata will be used. Under the new procedure, for those items in Errata affecting " class " allowances, the printed copy of the Establishment is the only document which will need amendment. In regard to " scale " allowances, as much information as possible will be furnished by Admiralty in promulgating Errata, with the object of avoiding, wherever possible, the necessity of correspondence between yards and ships to determine the effect of amendments on individual vessels. Such correspondence should therefore be necessary only in regard to allowances which cannot be calculated from information already contained in the List of Particulars or from details furnished in Errata. For yard correspondence with ships in this regard, forms as per appended specimen, should be used, and, after yard copy of List of Particulars has been amended, the forms should be forwarded to the Admiralty with Return D.74, in lieu of a complete copy of Errata as at present. Under the new procedure, ships should amend their records on receipt of Errata from the Admiralty, and the Errata will be the authority for ships to forward demands. It will be unnecessary, therefore, for storing yards to forward copies of Errata to ships.

*First Supply of Permanent Stores to Ships Completing.*

*Indent and Transcript.*—The present indent forms will be revised and, instead of a separate indent for each department of the ship, as at present, the new indent will be arranged to embody all departmental allowances, with the exception of W/T stores.

The new form will be in quintuplicate, the copies being arranged as follows :—

*Copies I and II :—*

Register No.	Head of Charge.	H.M.S.....	Permanent Stores.
	89/D.3.		

Pattern No.	Description.	Denomination of Quantity.	Required to Complete.	Departmental Allowances.				Total Allowance. (ex-W/T).	Weight.	Already Supplied.		Quantity Supplied and Date of Supply, etc.*
				Ex.	Eg.	G.	T.			At Contractors' Works.	By Dockyard.	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.

\* For use in Naval Store Office.

Copies III, IV and V :—

Register No.		Head of Charge.		H.M.S..... Permanent Stores.								
		89/D.3.										
Patt. No.	Description.	Denom.	Required to complete.	Supplied (only to be filled in when quantity supplied differs from quantity demanded.)	For use in Dockyard.							
					Rated — Exd. —				Valued — Exd. —			
					Rate.				Value.			
					£	s.	d.	Per.	£	s.	d.	

Columns 5 to 8 of Copies I and II will be completed in regard to class allowances direct from the Establishments and, for allowances by scale, from the Lists of Particulars (new style). The quantity in column 4 will represent the difference between column 9 and the total of columns 11 and 12. In column 13, the quantity supplied, together with date of supply, should be inserted.

This new form of indent should enable all stores of the same or similar patterns to be issued, packed and stowed on board as single transactions, irrespective of the department of the ship for which provided, instead of piecemeal as at present. Copy I should be retained by N.S.O. for use in connection with D.569 reports, for calculating the weight of the ship's first outfit of stores and for subsequent reference. Copy II is a copy for the ship, to provide advance information for arranging stowage, etc. The copy is, however, to be retained by the Naval Store Officer until applied for by the Accountant Officer of the ship. Before being forwarded it should be corrected to bring it up to date. Copies III, IV and V will form the usual issuing and accounting vouchers. For the purpose of transcripts, Forms S.134D should be used. Should information not be available for calculating the allowance of any item by the time it is necessary for Copies III, IV and V to be removed from the indent, the quantity should be inserted at a later date on Copies I and II, a note being made against the entry to indicate that Form S.134D was used in the first instance for supply purposes.

..... Yard.  
 .....19.....

Errata No..... to Establishment of Naval Stores.

Department of Ship.....

With reference to the Errata quoted above, will you please arrange for the necessary particulars to be inserted in columns 3 and 4 of the attached list, to enable amendment to be made to yard copy of List of Particulars.

Superintending Naval Store Officer.

The Commanding Officer,  
 H.M.S.....  
 (C18807)

II.

H.M.S.....  
.....19.....

Particulars have been inserted as requested.

Commanding Officer.

The Superintending Naval Store Officer,  
..... Yard.

III.

..... Yard.  
.....19.....

The alterations in allowances shown on attached list, have been made to the yard copy of the List of Particulars.

Superintending Naval Store Officer.

The Director of Stores,  
Admiralty.

Page of Errata.	Particulars Required.	Reply.	
		Particulars.	Quantity Estimated as Ship's Allowance.
1.	2.	3.	4.

(A.F.O. 3065/27.)

**1496.—Periscopes, Rangefinders, their Mountings and Components —Delivery from Contractors' Works.**

(C.P 6814/28.—15.6.1928.)

In order to minimise risk of damage to periscopes, rangefinders, their mountings and components, during the period between delivery to shipbuilders and/or dock-yards and actual installation on board H.M. ships, arrangements have been made with Messrs. Barr & Stroud, Ltd., the manufacturers, whereby delivery of the instruments will not be made until the ship is ready to receive them.

2. Ship Overseers, Gun Mounting Overseers and Yard Officers should communicate to the Admiralty (N.S.) the date at which the instruments are required to be delivered.

3. The information should be forwarded as soon as possible, and subsequently amended if necessary, consequent on any alteration in the programme of the ship concerned. The final date should, however, be stated at least 3 months before the instruments are required.

4. As the contracts for these instruments normally provide for final acceptance and test at firm's works before delivery, the Receiving Officer will have only to satisfy himself that no damage has occurred to the instruments during transit so that no delay should occur in returning the receipted invoices to firm after delivery. It is essential that these invoices be returned without delay in order that firm may be enabled to claim final payment under the contract, and arrangements should be made accordingly.

5. These arrangements will apply to the following existing contracts, and specific reference will be made on future contracts as to whether or not these apply :—

<i>Contract Number.</i>	<i>Date.</i>	<i>Material.</i>
1. C.P. 11422/F.252 ...	14. 5.27	18 rangefinders, Type F.X.3, 22 ft., with mountings, Type M.G.23.
C.P. 29560/F.252 ...	11.11.27	E.E. gear for the above rangefinders, Type F.X.3.
2. C.P. 17264/27/F.258 ...	24. 8.27	5 rangefinders, Type F.Q.17, 12 ft., with mountings, Type M.W.7.
C.P. 1887/28/F.142 ...	10. 2.28	E.E. gear for the above F.Q.17 type rangefinders.
3. C.P. 10426/F.313 ...	5.10.27	4 electric heightfinders, Type U.D.3, 12 ft., with mountings, Type M.T.22.
4. C.P. 29832/F.496 ...	28.11.27	3 electric heightfinders, Type U.D.3, 12 ft., with mountings, Type M.T.22; and 4 electric heightfinders, Type U.D.3, 12 ft., without mountings, etc.
5. C.P. 906/28/F.127 ...	23. 1.28	3 electric heightfinders, Type U.D.3, 12 ft. base, without mountings, etc.
6. C.P. 1813/28/F.91 ...	16. 2.28	4 heightfinders, Type U.B.4, 12 ft., excluding height conversion gear and mountings.
7. C.P. 464/28/F.483 ...	11. 1.28	9 Duplex rangefinders, 23 ft. base, Type F.M.3, with mountings, Type M.U.4.
8. C.P. 12951/27/F.340 ...	21. 6.27	Periscopes for "Odin" class submarines.

### 1500.—Hydrophone Plate Receiver, Mark IV.

(N.S. 6997/28.—15.6.1928.)

It has been decided to supersede the Mark IV hydrophone plate receiver by the Mark V.

2. No further purchases of Mark IV carcasses, Pattern 6397, microphone units, Pattern 6399, incorporating diaphragm set, Pattern 6409, and microphone set, Pattern 6818, will be made, but existing stocks are to be issued until exhausted.

3. Stocks of the following rubber spares will be maintained as long as Mark IV carcasses are in use.

Pattern 312. Washer, moulded, for diaphragm.

Pattern 315. Bung, moulded, for carcase cover plate.



## 1509.—Mincing Machines—Outfit and Spare Parts.

(N.S. 4039/28.—15.6.1928.)

The following outfit and spare parts are to be carried with each of the Hobart and Hawkins' mincing machines respectively :—

### *Messrs. Hobart.*

Machine complete with cast iron break collars, and with the following outfit :—

- One Bread Crumber complete with two screens.
- One Vegetable Slicer complete.
- One Feed Pan.
- One Feed Stick.
- One can of oil.
- One filler for use with pig skin.
- One filler for use with sheep skin.
- One plate with  $\frac{1}{4}$  in. diam. holes.
- One plate with  $\frac{3}{8}$  in. diam. holes.
- One plate with  $\frac{1}{2}$  in. diam. holes.
- One plate with  $\frac{1}{2}$  in. square.
- One plate with one diametral arm for pie meat cutting.
- Four four-bladed knives.
- One two-bladed knife.
- One knife and plate lap.

### *Spare Parts.*

- One worm.
- Six four-bladed knives.
- One two-bladed knife.
- Five plates, one of each size fitted.
- Six break collars.
- One filler for pig skin.

The above outfit and spares will be purchased in future with each new machine.

2. When the spare parts are used to replace broken or worn parts, the stock of spares on the ships is to be made up by demanding from Portsmouth Yard.

3. The reserve of spare parts at Portsmouth for both Hobart and Hawkins' machines is to be regulated on a basis of six months' expenditure.

4. Ships which already carry spare bread crumbing, slicing or mincing attachments may retain them.

5. Machines at present in use are to be completed with *spare parts* as detailed above, and ships carrying these machines should forward demands to Portsmouth for any spares required to complete.

6. The usual electrical spares, consisting of :—

- 1 armature,
- 1 set of field coils,
- 1 brush holder,
- 6 brush springs,
- 1 set of bearings complete,
- 1 set of brushes,

will be purchased with each new machine, but stocks will not be maintained at Portsmouth Yard.

Replacements for any of these items should be demanded from the Admiralty in the usual manner.

(A.F.O. 2971/28.)

### *Messrs. Hawkins.*

Machine complete with the following outfit :—

- One Bread Crumber complete with two screens.
- One Vegetable Slicer complete.
- One Feed Pan.
- One Feed Stick.
- One can of oil.
- One filler.
- One guard.
- One clamping ring.
- One plate with  $\frac{1}{4}$  in. diam. holes.
- One plate with  $\frac{3}{8}$  in. diam. holes.
- One plate with  $\frac{1}{2}$  in. diam. holes.
- One plate with  $\frac{3}{8}$  in. diam. holes.
- One plate with one diametral arm for pie meat cutting.
- Four four-bladed knives.
- One two-bladed knife.

### *Spare Parts.*

- One worm.
- Six four-bladed knives.
- One two-bladed knife.
- Five plates, one of each size fitted.
- Two fillers.

### 1511.—Cinematograph Film of British Manufacture—Trial— REPORT.

(N.S. 3647/28.—15.6.1928.)

A British-made cinematograph film known as "Selo," produced by Messrs. Selo, Ltd., of Brentwood, Essex, has been tried by H.M.S. "Excellent" in comparison with "Kodak" film, with satisfactory results. It is desired, however, to obtain further experience of this make of film before it is definitely adopted for service use, and all photographic services using cinematograph film should, therefore, on the next occasion of demanding film, include a proportion of both negative and positive "Selo" film, and should utilise it for ordinary service purposes, particulars of the conditions under which the film is used and the results obtained being reported through the Administrative Authority in due course.

2. *Dockyards only.*—Trial Forms D.366 should be issued in connection with all supplies of "Selo" film for the present.

### 1558.—Director Firing Gear—Spares and Replace Parts— Demands.

*All Ships and Establishments.*

(G. 8252/28.—22.6.1928.)

When spare or replace parts of director firing gear are required for H.M. ships, the demands should in all cases be sent direct to the Manager, Engineering Department, H.M. Dockyard, Portsmouth, and not to the Naval Store Officer.

(A.F.O. 748/29.)

### 1562.—Interceptors and Breech Safety Contacts—Replacement of Single Contact Interceptors and Breech Safety Contacts by Double Contact Interceptors and Breech Safety Change-over Contacts on 5.5 in. C.P. II and 6 in. C.P. XIV Mountings.

*"Hood" and "D" and "E" classes of Cruisers.*

(G. 7597/28.—22.6.1928.)

In order to provide for the duplication of the director firing circuits between the gunlayer's change-over switch and the breech safety contact on the 5.5 in. C.P. II and 6 in. C.P. XIV mountings, the present single contact interceptors, breech safety contacts and gunlayer's change-over switches on these mountings will be replaced by double contact interceptors, breech safety change-over contacts, and double circuit change-over switches in the above-mentioned ships and on the reserve mountings.

2. Arrangements have been made for the manufacture of the following quantities of double contact interceptors and brackets at Devonport Dockyard for this purpose:—

Ships.	Mountings.	Interceptors.			Brackets for Interceptors.		Remarks.
		For Component Mountings.	Spares to be carried on Board.	For Reserve Mountings.	For Component Mountings.	For Reserve Mountings.	
"Hood" ...	5.5" C.P.II	12	1	8	12	8	The interceptors are all of the same type. The brackets are special to the type of mounting, viz., 20 for 5.5 in. C.P.II, 75 for 6 in. C.P.XIV.
"Danae" ...	6" C.P.XIV	6	1	12	6	12	
"Dauntless" ...	"	6	1		6		
"Dragon" ...	"	6	1	6			
"Delhi" ...	"	6	1	6			
"Durban" ...	"	6	1	6			
"Despatch" ...	"	6	1	6			
"Emerald" ...	"	7	1	7			
"Enterprise" ...	"	5	1	5			
"Diomedea" ...	"	5	1	5			
"Dunedin" ...	"	6	1	6	1		
"Vernon" ...	"	2	-	-	2	-	
"Defiance" ...	"	1	-	-	1	-	
Store (Portsmouth).	"	-	1	-	-	-	
		74	12	21	74	21	
	Total ...	107			95		For instructional purposes. Ditto.

3. One change-over switch, Pattern 3740, is required for each mounting in the respective ships and for the reserve mountings, and therefore the requirements of these change-over switches will be the same as shown in columns 3 and 5 of the above schedule for interceptors. These change-over switches are to be obtained from stocks available at the dockyards.

4. The Pattern 3740 switches, new interceptors, and breech safety change-over contacts are to be fitted in lieu of the existing switches, etc., on the mountings. The brackets shown in the schedule are required to accommodate the new interceptors.

5. The replaced interceptors brackets are to be returned to Portsmouth Dockyard with a view to a certain number of these being supplied to Royal Naval Volunteer Reserve batteries for instructional purposes. Portsmouth Yard is therefore to report when between 20 and 30 of these interceptors have been received.

6. The replaced change-over switches, Pattern 5097, are to be brought to produce.

7. The gland normally provided on the Pattern 3740 change-over switch for the auxiliary gunlayer's firing circuit is to be blanked, and the existing gunlayer's firing circuit is to be taken to the main circuit terminal of the change-over switch. Duplicate leads (i.e., main and auxiliary) of Pattern 9375 cables are to be led from the change-over switch to the new interceptor, and on to the breech safety change-over contacts.

8. Arrangements have been made, *vide* paragraph 5, Schedule II, of A.F.O. 277/27, for the supply of cable sockets, Patterns 3428 and 3429, for connecting these cables to the interceptors and breech safety change-over contacts in the ships mentioned, and attention is directed to this Order as to the method of fitting the same.

9. Demands are to be forwarded by other dockyards concerned to Devonport Yard for the quantities of new interceptors and brackets required for fitting on the mountings in the ships attached to the respective yards.

10. Ships concerned are to include an item for carrying out the work in the next list of alterations and additions to be forwarded.

11. Demands should be forwarded by Officers-in-Charge of R.N. Armament Depôts for the contacts, cables, etc., required for fitting to guns of such ships as have not yet been supplied with safety change-over contacts, in order that they are available for fitting when the new interceptors are fitted.

(A.F.O. 277/27.)

### 1571.—*Issued Confidentially.*

### 1573.—**Electrical Fittings for use in Exposed Positions on H.M. Ships.**

(G. 15548/27.—22.6.1928.)

As the result of experience of the behaviour of aluminium alloy electrical fittings in exposed positions on H.M. ships, it has been decided that the fittings shown in the appended list shall in future be supplied into the service both in aluminium alloy and bronze, the pattern numbers of the pertinent article made in each material being as tabulated.

2. *New Construction.*—Dockyards and Overseers concerned are to arrange for bronze fittings to be installed in lieu of aluminium alloy fittings in "exposed positions," which term shall be taken to include all positions "above" decks other than turrets, deck cabins and similarly enclosed spaces. Switches, of the under-mentioned descriptions for use on low power circuits and which are to be installed in "exposed positions" are also to be of the bronze patterns.

3. *Ships in commission and ships refitting.*—In ships fitted with aluminium alloy fittings in exposed positions, replacements by similar articles in bronze should take place as and when the aluminium alloy fittings, become defective only.

Description.	Alu. Alloy	Bronze
	Patt.	Patt.
Pendants, watertight, short ... ..	9004	8660
" " medium ... ..	9005	8661
Brackets " " ... ..	9008	8662
Coupling, elbow ... ..	9011	8663
" tube 5½ ins. long ... ..	9014	8664
" " 1½ " " ... ..	9016	8665
Bushes ... ..	9018	8666
Lamp bodies ... ..	9019	8667
Looping-in-bases ... ..	9021	8668
Caps for looping-in-bases, new type ... ..	9025	8669
Nuts, lock, for elbows ... ..	9031	8670
Covers, plain, for Pattern 9021 ... ..	9032	8671
Caps, 3rd outlet, for Pattern 9021 ... ..	9033	8672
Lamp fitting, portable hand ... ..	9037	8673
Sockets, watertight ... ..	7919	7918
Switches, socket, W.T. ... ..	7917	7916

Description	Handles.	Glands.	Alu. Alloy	Bronze
			Patt.	Patt.
Switches, 5 amp., W.T....	D.P., Fixed	2 and 4 hole ...	7162A	7160A
" " " ...	" Loose	2 and 4 hole ...	7163A	7161A
" " " ...	" Fixed	2 hole and 1 in. conduit ...	—	7164A
" " " ...	" Loose	2 hole and 1 in. conduit ...	—	7165A
" " " ...	" Fixed	One No. 3 ...	7962A	7960A
" " " ...	" Loose	One No. 3 ...	7963A	7961A
" " " ...	" Fixed	Two No. 3 ...	7966A	7964A
" " " ...	" Loose	Two No. 3 ...	7967A	7965A
" " " D.P.C.O.,	Fixed	Two 4 hole ...	7875A	7873A
" " " "	Loose	Two 4 hole ...	7876A	7874A
" " " "	Fixed	One No. 3 ...	7970A	7968A
" " " "	Loose	One No. 3 ...	7971A	7969A
Switches, 12 amp., W.T.	D.P., Fixed		7976	7975
" " " ...	" "	One No. 3 and 1 in. conduit	7978	7977
" " " ...	" "	Two No. 3 ...	7980	7979
" " " D.P.C.O.	" "	6 glands ...	7974	7973

### 1574.—Turbines—Overspeed Tests after Re-blading.

(D. 7621/28.—22.6.1928.)

In order to avoid the possibility and risk of accidents and damage to turbines when overspeed tests after re-blading are being carried out, care should be taken to ensure that when turbines of the Brown-Curtis type have been re-bladed and wheels withdrawn from the shafts for re-blading, the speed to which the turbine is tested after re-assembling is not to exceed the full speed revolutions, and in no case should the overspeed test of a turbine of any type be permitted to exceed 15 per cent. above the designed full speed revolutions.

### 1575.—Boat Lifting Appliances—Battleships and Battle Cruisers.

*H.M. Ships and Dockyards concerned.*

(D. 6981/28.—22.6.1928.)

Where a boat is carried, which exceeds in weight the working load to which the boat lifting appliances have been tested, or where such a boat is proposed for appropriation to a particular ship, the matter should be reported through the Administrative Authority, and instructions requested as to whether the appliances should be re-tested to an increased working load.

2. This Order applies to derricks and associated gear of battleships and battle cruisers, but not to davits for lifting boats, the tests of which should continue in accordance with existing instructions.

### 1577.—Pattern 1504, Commutator Type Transmitters for Gyro Compasses—Supply and Method of Fitting.

(N.S. 4275/28.—22.6.1928.)

Pattern 1504 commutator type ten-minute transmitter is suitable for fitting, in lieu of Pattern 1501 cam type transmitter, to master compasses in—

- (a) Destroyers, submarines, and other vessels fitted with ten-minute transmission only; and
- (b) Cruisers and aircraft carriers fitted with both two-minute and ten-minute transmission in which *one* transmitter only is required for ten-minute transmission purposes; and
- (c) H.M. Ships "Nelson" and "Rodney."

2. Pattern 1504 transmitter is not suitable for fitting to master compasses in battleships (excluding "Nelson" and "Rodney"), and battle cruisers fitted with *two* in number Pattern 1501 ten-minute transmitters, in addition to the Pattern 6500 two-minute transmitter. For these ships, a stock of Pattern 1501 transmitters will be held for replacement purposes, and attention is drawn to the necessity of indicating with exactness the type of transmitter required when demanding replacements.

3. The method of fitting Pattern 1504 transmitters, in lieu of existing Pattern 1501 transmitters, is shown in diagrams E.F.O. 65/28 (1) and (2).

**1579.—W/T—Pattern 7460, Amplifier M.5, Pattern 7461, Tuner A.5, Pattern 7483, Tuner A.11, and Pattern 7484, Amplifier M.11—Allocation.**

(N.S. 5916/28.—22.6.1928.)

Further purchase has been arranged of Pattern 7461, tuner A.5, Pattern 7483, tuner A.11, and Pattern 7484, amplifier M.11, and these instruments will shortly be available for issue.

2. The allocation is shown in the following table.

3. Purchase of Pattern 7484, amplifier M.11, has been arranged for H.M. Ships "London" and "Devonshire" only. Purchase of additional instruments for the other approved services is deferred, pending the introduction of the new 4-pin valve-holders. Supply of model-outfits C.I and C.J, shown on attached list, to the other approved services is to be withheld until the modified amplifiers M.11 are available for supply.

4. The issue of the new instruments will be accompanied by the issue of other stores necessary to make up complete model-outfits, in accordance with the "E" list quoted in this paragraph, except where these have already been supplied. On receipt of the new instruments ships are to return the receiving outfits which are replaced thereby, with the exception of those articles common to both new and old outfits. The allocation of the new instruments to model-outfits will be as follows:—

Model-outfit C.H.—"E" List 104—Instruments A.5, M.5.

" " C.I.—"E" List 105—Instruments A.5, A.11, M.5 (M.3B), and M.11.

" " C.J.—"E" List 106—Instruments A.11, M.11.

5. No further purchase of Pattern 7460, amplifier M.5, will be made at present, and allocation shown will be met from reserve. Where model-outfit C.I is to be supplied, a Pattern 6207B, amplifier M.3B, is to be retained temporarily for use with tuner A.5, in lieu of amplifier M.5.

Service.	Instruments Allowed.			Model-Outfits for which Allowed.		
	A11 M11.	A5.	M5.	CI less M5.	CH.	CJ.
"London" ... ..	4	3	1	2	1	2
"Devonshire" ... ..	4	3	1	2	1	2
"Shropshire" ... ..	3	3	1	2	1	1
"Sussex" ... ..	3	3	1	2	1	1
Whitehall W/T station ...	3	—	—	—	—	3
6 Leaders of 1st to 6th Flotillas	1 each.	—	—	—	—	1
"Tiger" ... ..	4	1	—	1	—	3
"Hawkins" ... ..	4	2	1	1	1	3
"Vindictive" ... ..	3	1	—	1	—	2
"Furious" ... ..	4	1	—	1	—	3
12 Divisional Leaders of 1st to 6th Flotillas.	1 each.	—	—	1	—	—
"Amazon" ... ..	1	—	—	1	—	—
"Ambuscade" ... ..	1	—	—	1	—	—
"Curlew" ... ..	1	—	—	—	—	1
"Adventure" ... ..	3	1	—	1	—	2
"Concord" ... ..	3	2	1	1	1	2
"Cairo" ... ..	2	1	—	1	—	1
"Calcutta" ... ..	2	1	—	1	—	1
"Centaur" ... ..	2	—	—	—	—	2
"Barham" ... ..	4	—	—	—	—	4
"Resolution" ... ..	1	—	—	—	—	1
"Royal Sovereign" ... ..	1	—	—	—	—	1
"Royal Oak" ... ..	1	—	—	—	—	1
"Ramillies" ... ..	1	—	—	—	—	1
"Repulse" ... ..	2	—	—	—	—	2
"Renown" ... ..	2	—	—	—	—	2

**1604.—Officers and Men attending Courses at H.M. Boom Defence Training School, Rosyth—Amended Arrangements.**

(N. 1630.—29.6.1928.)

The following amended arrangements for the routeing, etc., of officers and ratings (Active Service and R.N.R.), attending courses at H.M. Boom Defence Training School, Rosyth, are to take effect from the date on which H.M.S. "Columbine" is paid off:—

- (a) All officers and ratings due for boom defence courses are to proceed to Inverkeithing Station, Fifeshire, where they will be met on arrival.
- (b) All communications, telegrams, etc., regarding times of arrival, all applications for transport, and all Service Certificates, R.V.2 Training Books, etc., are to be addressed as follows:—

*Postal Address:—*

The Commanding Officer.

H.M. Boom Defence Depôt and Training School,  
Rosyth, Fifeshire.

*Telegraphic Address:—*

"Subdef," Rosyth.

*Telephone No:—*

Dunfermline 501, Extension No. 33.

- (c) Arrangements for the medical examination of ratings and for the inspection and completion of the kits of R.N.R. ratings will be made locally by the Commanding Officer, H.M. Boom Defence Depôt and Training School, through the Captain (D), Reserve Fleet, H.M.S. "Greenwich."

**\*1607.—Officers' Cooks (C.S.)—Advancement.**

(N. 1691/28.—29.6.1928.)

The attention of all continuous service officers' cooks is drawn to the advantages to be gained in the way of early advancement by qualifying professionally and educationally for higher rates at the earliest possible dates.

2. There are at present several vacancies for officers' cook, 1st Class, and officers' cook, 2nd Class, especially in the Chatham and Devonport port divisions.

(*K.R. and A.I., Appendix XVII, Pt. I, Nos. 134 and 135.*)

**\*1608.—Royal Navy, Royal Marines, and Royal Naval Volunteer Reserve—Assistance to Volunteer Cadet Corps.**

(N.884.—29.6.1928.)

It has been decided that as from 1st April, 1928, Volunteer Cadet Corps attached to Royal Naval Shore Establishments in the United Kingdom, and Boys' Corps affiliated to Royal Naval Volunteer Reserve Divisions, shall be eligible for assistance from Naval Funds to the same extent as recognised Units of Sea Cadet Corps.

2. A grant of 3s. 6d. per annum in respect of each efficient Cadet will accordingly be paid in future to the commanding officer of each Royal Naval Shore Establishment, or Division of the Royal Naval Volunteer Reserve, to which such a corps is attached. This grant is to be utilised to meet the necessary expenses connected with the formation, organisation and administration of the Corps, and for increasing their efficiency, but not for social, religious or other purposes.

3. No grant will be payable in any year unless the commanding officer of the Establishment or Division certifies that the Corps has a strength of 30 efficient cadets, exclusive of boys under 12 years of age.

4. Claims for payment of the grant are to be rendered to the Accountant-General of the Navy as soon as possible after 1st January each year, and are to be accompanied by a certified statement of the number of efficient cadets (exclusive of boys under 12 years of age) borne on the strength on 31st December.

5. *The above grants are not payable to Royal Marine Volunteer Cadet Corps.*

6. Naval, Naval Armament, Naval Ordnance or Victualling Stores surplus to requirements may be lent to Volunteer Cadet Corps attached to Royal Naval and Royal Marine Shore Establishments in the United Kingdom, or to Boys' Corps affiliated to Divisions of the Royal Naval Volunteer Reserve, on application through the proper channels to the Admiralty by the commanding officer of the Establishment or Division to which the Corps is attached. The conditions under which stores are lent to Volunteer Cadet Corps are the same as those for loans to Sea Cadet Corps as regards responsibility for losses and damages, insurance when the total value of the stores lent exceeds £10, etc. (See Article 14, "Regulations Governing the Formation, Organisation, and Administration of Units of Sea Cadet Corps in the British Isles"). The insurance policies and the "Conditions of Loan" form, duly completed by the officers commanding the Units to which the stores are lent, are to be forwarded to the Admiralty through the usual channels.

7. Except as indicated above, the administration of these Corps will continue on its existing basis.

### 1617.—Evershed Searchlight Control.

*"Royal Sovereign," Queen Elizabeth," "Iron Duke," "Repulse,"  
Classes, "Hood," "Tiger" and Dockyards.*

(G. 9307/28.—29.6.1928.)

The Diagram E.F.O. 100/27 (2), issued with C.A.F.O. 2713/27, should be corrected to eliminate the cross which has inadvertently occurred in the cables as follows:—

The cables from the A.1 transmitters and J.F. 30 should be shown direct to the Needham Shaker (i.e., as for the A transmitters) and the cables from the repeat indicators should be shown to the selector switches.

2. This correction should be made to the diagram by dockyards and ships concerned.

(C.A.F.O. 2713/27.)

### 1625.—Echo Sounding Gear—Responsibility for Fitting and Maintenance.

(S.D./G. 03083/28.—29.6.1928.)

The question of the responsibility for fitting and maintenance of echo sounding gear in ships has been receiving consideration, and it has been decided that the Director of Signal Department, Admiralty, and the Captain A/S, H.M.S. "Osprey," should be responsible in their respective spheres for the development, design, fitting, etc., of this apparatus.

2. The Captain A/S, should produce the necessary fitting-out specifications, handbooks, etc.

3. As regards upkeep afloat—

(a) The apparatus is to be under the charge of the Navigating Officer, as in the case of the gyro compass.

(b) In the event of defects developing, the Navigating Officer should consult the A/S Officer if one is borne, and failing that the Torpedo Officer, or Senior Torpedo Rating if no officer is borne.



(c) Instruction at the A/S School is to be given to a rating of each ship fitted, duration being two full working days, as follows:—

- (i) Ships with gyro compasses—the Gyro Electrical Artificer.
- (ii) Ships without gyro compasses—one E.A.
- (iii) Ships without an E.A.—Senior Torpedo Rating.

4. The Captain A/S is to be responsible for fitting, inspection, etc., at all home ports.

5. At dockyards abroad special arrangements are necessary, and at Malta, Gibraltar and Hong Kong, the Port W/T officer is to be responsible for the supervision of Dockyard work as in the case of W/T installations, but when an A/S officer is present the advice of the latter should be available.

6. Future officers appointed to these ports as Port W/T officers are to be given instruction in the apparatus before leaving England, until the time arrives when A/S officers are available for this duty.

7. At other ports, *e.g.*, Bermuda, Simonstown and Colombo, where at present there is no Port W/T officer, or A/S officer, the Commander-in-Chief should make special arrangements for the squadron or other torpedo officer to render assistance when possible.

### 1635.—Admiralty Oxygen Cylinders fitted with Commercial Valves—Modification.

(N.S. 5263/28.—29.6.1928.)

All Admiralty oxygen cylinders fitted with commercial type valves are to be modified as follows as they come to hand in the dockyards.

*Cylinders fitted with Bullnose type of valve.*

Refitted with Admiralty pattern valves.

*Cylinders fitted with commercial type valve similar to Admiralty pattern, but without collared spindle.*

Valve to be modified to take collared spindle in all cases where valve boxes are in good condition.

2. Any Admiralty cylinders with the types of valves mentioned in use at outlying establishments should be returned to supplying yards forthwith for modification, the contents of any such cylinders which may be full being put to use at the Dockyards before repairs are taken in hand.

### 1654.—Chain Cable—Revised Procedure for Heat Treatment and Testing—REPORT.

(D. 5410/28.—29.6.1928.)

Experience has indicated that heat treatment of chain cable removes the initial stresses securing studs in place in links, to such an extent as to cause undue looseness of the studs on service.

2. It has been decided therefore, that the following procedure is to be adopted in the heat treatment of cable (and gear):—

(a) Any necessary repairs (other than stud tightening) are, as far as possible, to be carried out prior to heat treatment.

(b) (i) Cable (and gear) which has not been subjected to extensive repairs is to be dealt with in accordance with clauses (c) and (d).

(ii) Cable (and gear) which has been subject to extensive repairs, *e.g.*, insertion of new links, etc., is to be tested to the full proof load laid down in Schedule 94 immediately after completion of the repair work and before heat treatment, in order that the soundness of the new welds, etc., may be determined. The test called for under paragraph (d) is also to be applied after heat treatment.

(c) The cable (and gear) is then to be heat treated.

(d) The cable (and gear) is to be tested, *after* it has been heat treated, to  $\frac{1}{4}$  of the appropriate proof load laid down in Schedule 94, subject to exceptions which may arise under paragraph (e).

(e) Should extensive repairs be found necessary to cable (and gear) after it has been heat treated and before the test referred to in paragraph (d) has been applied, full proof load is to be applied instead of the reduced load, after the repairs are complete.

(f) Any necessary stud tightening is to be carried out *after* application of the test load following the heat treatment.

(g) When cable is being tested, its length is to be measured as accurately as possible to determine whether any permanent stretch has occurred during test, and a record kept in column 11 of Form D.62—Account of Chain Cables Tested.

For this purpose a small initial load, of about one-quarter of the test load, is to be put on the length of cable, its length determined and the test load applied. The load is then to be reduced to the initial load, and the length again measured.

(h) A report is to be forwarded by Home Yards, once a month, for three months, giving the following information regarding all cable which has been tested in accordance with the above procedure :—

(i) Amount of permanent stretch recorded.

(ii) Number of studs loose immediately before applying test load.

(iii) Number of studs required to be tightened after application of test load.

The report should also include general remarks on the effect on the cable and on the tightness of studs of the above procedure.

3. Cable (and gear) should be repaired in accordance with paragraph 2 (a) and, if necessary under the conditions of paragraph 2 (b) (ii), tested as directed therein, prior to despatch to Devonport for heat treatment.

4. After heat treatment at Devonport, the carrying out of any necessary repairs, and the testing and stud tightening referred to in paragraphs (d) to (g) should be done at the Dockyard to which the cable (and gear) is sent for issue. When, however, supplies of heat treated chain cable are made to Simonstown Dockyard for issue to ships, or for Reserve, this work should be carried out at Devonport.

### 1672.—*Issued Confidentially.*

### 1675.—**Projectiles—4·7 in. New Type.**

*Leaders and Destroyers.*

(G. 9153/28.—6.7.1928.)

Supplies of the following new designs of projectiles are now available for issue, viz. :—

Shells, B.L., 4·7 in., semi-A.P., Mark IIA.	
"    "    "    H.E., Mark IVA and VIA.	
"    "    "    H.E., Mark VA N.T.	
Shot, practice, 4·7 in., Mark IVA.	
"    "    "    "    VA N.T.	
"    "    "    "    VIII A.	
"    "    "    "    IX A N.T.	

2. The practice shot, Marks IVA and VA N.T., will not range with the existing practice projectiles, Mark IA and IIA N.T. and weighted shell, but the S.A.P. shell, Mark IIA, and the new Marks of H.E. shell and practice shot range alike. Care is to be taken to avoid mixing outfits of shell, S.A.P. or H.E. or practice projectiles in H.M. ships, and in supplying projectiles of the new descriptions the whole stock of such projectiles on board of earlier marks is to be withdrawn.

3. The practice shot, Mark VIIIA and IXA N.T., will range with the Mark IVA and VA N.T. shot, and may, therefore, be considered interchangeable in supply with Mark IVA and VA N.T. shot for 4·7 in. B.L. guns.

4. Future demands for B.L. 4·7 in. shell, S.A.P. or H.E. or practice projectiles are to specify the marks of these projectiles already on board.

5. It is essential that existing stocks of the earlier types of practice projectiles should be expended, and general distribution of the shot to new designs will not be arranged until those of earlier type have been used up.

### 1694.—Ships Store Accounts—Losses.

(G. 9863/28.—6.7.1928.)

Instances having recently occurred of Ships Store Accounts being lost in transit to Admiralty, the following instructions are issued for information and guidance :—

To assist in tracing missing accounts in future, officers rendering Store Accounts (whether Naval Store, Naval Armament or Victualling) should in all cases obtain receipts from the Fleet Mail Officer, Post Office Official, or other person to whom the parcel or packing case containing the accounts is handed over for transmission. This receipt should be retained for reference in the event of the parcel or case not reaching its destination.

### 1749.—6 in. Gun Control Towers—Fitting of Range Receivers.

*“ Royal Sovereign ” and “ Queen Elizabeth ” Classes.*

(G. 7819/28.—13.7.1928.)

It has been decided to fit a range receiver, Patterns 3142A, 3142B or 5806, in each 6 in. gun control tower in the ships of the above-mentioned classes.

2. The range receivers are to be operated off the transmitters at the 9 ft. secondary armament rangefinders of their respective sides.

The spare wiring in the existing multicore cables between the 6 in. switch room and 6 in. gun control towers is to be used for the purpose. Additional wiring will be required between the junction boxes in the 6 in. switch room and the junction box in the 15 in. transmitting station, to connect to the terminal blocks for the range wiring already available in the box in the latter mentioned position.

3. The work of fitting these receivers has already been carried out in H.M.S. “ Barham.” The remaining ships of both classes are to insert an item for carrying out this work in the next list of alterations and additions submitted.

### 1754.—Hydrophones and other S/T Receiving Equipment (including Echo Sounding Gear) in H.M. Ships— Periodical REPORTS.

(S.D./G. 9640/28.—13.7.1928.)

The following periodical reports on hydrophone and other S/T receiving equipment (including echo sounding gear) are to be rendered through the usual channels by all ships in full commission so fitted, and by senior officers of reserve divisions where applicable. The sections are to be kept entirely separate.

2. These are primarily matériel reports. Hydrophone or S/T trials and exercises should be dealt with separately.

3. An interim report giving the information required by Section I (*see* paragraph 4 below) is to be rendered by all ships concerned on receipt of this Order.

4. Section I.—*Initial Report on Equipment as Fitted*.—To be rendered on commissioning by all ships so fitted, or subsequently on first fitting.

(a) *Hydrophones*.

Type and position of hydrophone.  
Method of drive (in the case of R.D.H.).  
Position of receiving instruments.

(b) *S/T Model-Outfits UC and UD*.

Type and position of receiver (or hydrophone).  
Position of receiving instruments.

(c) *Echo Sounding Gear*.

Type of installation (e.g., "Shallow water, Mark II").

Type and position of 

{	Transmitter.
	Receiver.
	Receiving instruments.

5. Section II.—*Half-yearly Report on Alterations to Equipment, Defects, etc.*  
To be rendered on 30th April and 30th September in each year.

(a) Alterations to equipment during the half-year under report.

(b) Any points of interest, including defects and breakdowns, experienced during the half-year, and suggestions for improvement.

(c) List of stores allowed by establishment which have been on demand longer than one month, together with the date of demand, name of Yard to which demand was forwarded, and the number of each article outstanding.

6. When reporting on any instrument it is essential for purposes of identification that the following details should be included (where applicable):—

(a) Pattern number, including lettered suffix (if any).

(b) Maker's name or serial letter.

(c) Serial number of instrument.

### 1755.—H.C.D. Searchlight Lamps.

"Nelson," "Kent" and later classes.

(G. 8955/28.—13.7.1928.)

When Marks III, IV or V, H.C.D. lamps are burnt off 220 volts through an artificial resistance, the circuit of the driving motor is modified as shown on drawing E.F.O. 76/28.

2. Lamps that have been modified will be referred to as Mark III\*, IV\* and Mark V\*.

3. Ships and dockyards having these modified lamps are to mark them clearly on the horizontal portion of the lamp frame accordingly.

### 1772.—Certain Periodical Torpedo Publications—Withdrawal.

(G. 4040/28.—13.7.1928.)

The following procedure will be carried out in future with regard to the number of back issues to be retained on board ships:—

*Annual Report of Torpedo Schools*.—Six years' back issues to be retained by ships supplied. On a new issue being made, instructions will be given therein for the destruction of the earliest issue then in supply; e.g., the 1927 edition will contain instructions for destruction of 1921 issue.

Loan libraries are, however, to retain all back numbers.

No further issue will be made of the Half-Yearly Torpedo and Electrical Letter to the Fleet, and such information hitherto contained therein as it is desirable to promulgate will be embodied in the Annual Reports of Torpedo Schools.

Any remarks received on Form S.316, Half-Yearly Electrical Report, which call for Admiralty remarks and/or action will be dealt with in the same way as any other report received.

Existing issues are to be retained for approximately two years. Instructions for cancellation and destruction of particular issues will be included in the preface of the Annual Reports of Torpedo Schools.

### **\*1784.—Naval Savings Banks—Telegraphic Application for Withdrawals of Money.**

(C. (I) 592/28.—13.7.1928.)

Whenever telegraphic applications for the withdrawal of bank money in shore banks are forwarded from depositors serving in H.M. ships abroad, the cost of the messages at full rates is to be recovered from the depositors by the accountant officers of their ships at the time of despatch and debited in the current cash accounts.

If the use of naval wireless is resorted to, the depositor is to prepay the charges to the accountant officer. In the case of depositors serving in H.M. ships on the America and West Indies, Africa, China, East Indies, and New Zealand stations, telegraphic applications for the withdrawal of money in shore banks and the replies thereto may be transmitted by short wave W/T service. A charge of 1s. 1d. per word in respect of the application is to be recovered from the depositor by the accountant officer of the ship and a further charge of 1s. 1d. per word in respect of the reply is to be made against the depositors' account by the cashier or divisional paymaster.

In order to reduce the cost of messages special Government Telegraph Code groups have been promulgated. These groups are to be used as a stereotyped form of application for withdrawal, with the addition in every case of the bank number and surname of the depositor, and the name of his ship. The messages are to be addressed direct to "Dockyard" or "Marine" at Portsmouth, Devonport or Chatham.

The attention of men who repeatedly send telegraphic applications for bank money is to be drawn to the advisability of avoiding telegraph charges by ceasing to allot to the shore bank and depositing in the ship's bank instead.

### **1798.—Gunners' List of Fixtures, Form D.6G.**

(N.S. 2546/28.—13.7.1928.)

Under the existing instructions this form is prepared, corrected and distributed by the Engineering Department.

2. In future, it has been decided that this form, after preparation, should be referred to the Naval Store Department for distribution, thus bringing the procedure for the distribution of all fixture lists in line with paragraph 4 of Article 211 Naval Store Duties Instructions.

### **\*1804.—Medal of the Order of the British Empire and Meritorious Service Medal—Conditions of Award.**

(N. 2101/28.—20.7.1928.)

The medal of the Order of the British Empire may be awarded to Royal Naval and Royal Marine personnel (A) for gallantry and (B) for meritorious service.

#### **A.—THE MEDAL FOR GALLANTRY.**

This medal, for which all ranks and ratings are eligible, will be awarded for acts of gallantry performed in peace time, or in time of war when not in action. Where such acts are performed by officers who are eligible by rank for appointment to Classes of the British Empire Order, the question whether a recommendation should be made for the award of the Order or the medal will be considered on the merits of each case.

### B.—THE MEDAL FOR MERITORIOUS SERVICE.

This medal can be awarded only to Chief Petty Officers, Petty Officers, Non-Commissioned Officers and men. It is designed to reward specially distinguished or meritorious service of a high standard; and no person should be recommended for it unless he has either performed special service of a high degree of merit, such as the discharge of special duties superior to his ordinary work; or has discharged in a highly meritorious manner his ordinary duties, where these have entailed work of a dangerous or specially trying character. Something more than faithful or zealous performance of ordinary duties is required.

In consequence of the institution of the medals of the British Empire Order, the award of the Meritorious Service Medal, as authorised by His Majesty's Order in Council of 14th January, 1919, "for arduous and specially meritorious service either afloat or ashore not in action with the enemy or for a specific act of gallantry in the performance of duty when not in the presence of the enemy" will cease, and this latter medal will in future be granted as provided in Article 801, clause 3, of the King's Regulations and Admiralty Instructions.

### 1806.—*Issued Confidentially.*

#### 1816.—Torpedoes—Apparent Errors in Angles set on Gyroscopes.

(G. 7947/28.—20.7.1928.)

One or two cases have been reported recently from sea where, on examination of the gyroscope of a torpedo after running, a completely different angle has been found on the angle plate to that originally set before running.

2. While it is possible for discrepancies of 5 degrees to occur, due to too fierce working of the angling gear and consequent twisting of the angling spindle, it is also possible, under certain conditions, for the angling plate to be rotated against the ratchet springs when a torpedo shuts off at the end of its run.

3. To produce this fault, the torpedo must come up at a steep angle at the finish of its run—as with a blowing head. The gyro system then capsizes, the vertical gymbal precesses anti-clockwise at high speed, and, if restricted, will probably bounce backwards and forwards between the limits of its travel.

4. *With S.R. Gyros* the effect should be nil, provided the angle set is zero, as the vertical gymbal itself should take up against the rectifying clutch before either the actuating pin or the stop pin can touch the gyro frame. If the ratchet springs are weak, however, it may be possible for the inertia of the angling plate to cause it to slip round.

5. If an angle is set on, the result is that the angle plate is knocked back towards zero by the actuating pin or stop pin taking against the gyro frame before the vertical gymbal has reached the limits of its travel; it is also quite possible that the angling plate may overshoot zero and register an angle the reverse way.

6. *With A.R. Gyros*, if the stop pin is in, the inertia of the angling plate may move it against the ratchet springs should they be at all weak, when the vertical gymbal comes up against the stop pin with any angle set on or not. With the stop pin out, it may occasionally happen also, due to the inertia of the angling plate and weak springs.

#### 1819.—Armament—REPORT.

*Patrol, Minesweeping and Fishery Protection Flotilla.*

(G. 10976/28.—20.7.1928.)

Alterations and additions to the armament of the sloops, trawlers and patrol boats attached to the above flotilla as shown in the following statement are to be carried out when the vessels are next in hand for refit. The consequent complement amendments will be promulgated in due course.

2. Estimates of the cost of the dockyard work involved are to be forwarded for approval.

3. Re-conditioned 12 pdr. H.A. VIII mountings are available at Portsmouth and should be demanded by other yards when required, and the necessary alteration to the guns will be carried out by Naval armament fitters.

4. No changes are to be made at present in the armament of the minesweepers attached to this flotilla.

*Sloops.*—Weight compensation of equivalent moment is to be made, and the Commanding Officers are to forward proposals for approval before the changes are made.

*Trawlers.*—The additional weight and vertical moment involved in the alterations are to be reported on completion of the work :—

Ship.	Present Equipment.	Approved Changes.	Equipment then becomes
<b>SLOOPS.</b>			
"Harebell" ...	2 4 in. B.L.IX on C.P.I. 2 12 pdr. 12 cwt. on P.I. 2 Lewis guns (double mounting). 80 cm. rangefinder	(1) Substitute 2 12 pdr. H.A.VIII for the 2 P.I. mountings. (2) Substitute 9 ft. for 80 cm. R.F. and mounting.	2 4 in. B.L.IX on C.P.I. 2 12 pdr. 12 cwt. on H.A. VIII. 2 Lewis guns (double mounting). 9 ft. rangefinder.
"Godetia" ...	1 4 in. B.L.IX on C.P.I. 1 12 pdr. 12 cwt. on P.I. 2 Lewis guns (double mounting) 2 80 cm. R.F.	Substitute a 12 pdr. H.A. VIII for the 12 pdr. P.I. mounting. Land 1 80 cm. rangefinder.	1 4 in. B.L.IX on C.P.I. 1 12 pdr. 12 cwt. on H.A. VIII. 2 Lewis guns (double mounting) 1 80 cm. R.F.
<b>TRAWLERS.</b>			
"Mersey" class, "Colne." "Axe" class, "Kennet," "Dee."	1 12 pdr. 12 cwt. on P.I.	(1) Substitute a 12 pdr. H.A.VIII for the 12 pdr. P.I. mounting. (2) Add 2 Savage Lewis guns and a double mounting. (3) Add 1 metre R.F. and mounting.	1 12 pdr. 12 cwt. on H.A. VIII.  2 Savage Lewis guns (double mounting). 1 1 metre base R.F.
"Mersey" class, "Doon." "Axe" class, "Liffey."	1 12 pdr. 12 cwt. on H.A. VIII.	(1) Add 2 Savage Lewis guns and a double mounting.  (2) Add 1 metre R.F. and mounting.	1 12 pdr. 12 cwt. on H.A. VIII. 2 Savage Lewis guns (double mounting). 1 1 metre base R.F.
<b>PATROL BOATS.</b>			
"Dart" ...	1 4 in. Q.F. IV on P. IX. 2 12 pdr. 12 cwt. on P.I.	(1) Substitute 1 12 pdr. on H.A.VIII mounting in central position for the 2 12 pdrs. on L.A. mountings. (2) Add 1 metre R.F. and mounting.	1 4 in. Q.F. IV on P. IX. 1 12 pdr. 12 cwt. on H.A. VIII.  1 1 metre base R.F.
"Spey" ...	1 4 in. Q.F. IV on P. IX. 1 2 pdr. H.A. pom-pom. 1 80 cm. R.F.	No change. 2 pdr. pom-pom to be landed in peace.	1 4 in. Q.F. IV on P. IX. 1 2 pdr. H.A. pom-pom. 1 80 cm. R.F.

The following instruments, etc., are to be supplied to the vessels indicated, viz. :—

<i>Ship.</i>	<i>Articles.</i>	
"Harebell" ...	4 in. C.P. I deflection teacher ...	1
	Patt. 1102A—Officers' headpieces for F.C. voicepipes.	As required
"Dart" ...	4 in. P. IX deflection teacher ...	1
	Mark VIII dumaresq—Patt. 5969 ...	1
	Range clock—Patt. 3778 ...	1
	Patt. 1102A—Headpieces for F.C. voicepipes.	As required
"Spey" ...	Mark VIII dumaresq—Patt. 5969 ...	1
	Range clock—Patt. 3778 ...	1
	Patt. 1102A—Headpieces for F.C. voicepipes.	As required
Portland Base ...	Portable spotting table ...	1
	Range clock—Patt. 3778 ...	1

### 1822.—Sight Testing Gear—Authorised Allowance.

*Flotilla Leaders, Destroyers, Destroyer Depot Ships, Port Edgar, and Minesweepers.*

(G. 10975/28.—20.7.1928.)

The authorised allowance of bore telescopes and adaptors for sight-testing purposes is as follows :—

"Scott" and "Shakespeare" Leaders, "Amazon" and "Ambuscade," Repeat "W," "V," and "W" Destroyers and Depot Ships.

		No.
Telescopes, bore ...	Patt. 2020 ...	1
Adaptors for ...	Types AX for 4.7 B.L.	} 1 of each for each type of gun fitted.
	H.X for 3 in. 20 cwt.	
	RX for 4 in. Q.F. IV	
	SX for 4 in. Q.F. V	

"Kempfenfelt" Leaders, "R" and "S" Class Destroyers.

		No.
Telescopes, bore ...	Patt. 2019 ...	1
Adaptors for ...	Types A for 4.7 B.L.	} 1 of each for each type of gun fitted.
	H for 3 in. 20 cwt.	
	R for 4 in. Q.F. IV	
	S for 4 in. Q.F. V	

These items are to be treated as "Fixtures."

The necessary adjustment is to be effected in the vessels concerned.

The establishment of stores for leaders and destroyers will be amended as follows :—

Rings, india-rubber, for muzzle cross lines for gun sight testing—

2 No. of each pattern suitable for guns fitted in ships.

Rings for 4.7 in. and 3 in. H.A. guns will be provided.

Any muzzle cross wires which may have been supplied to vessels should be returned to H.M. Yards.

In view of the fact that leaders and destroyers are all allowed sight testing gear, depot ships should only carry these articles for their own armament.

The authorised allowance for Port Edgar Base of bore telescopes and adaptors for sight testing purposes is as follows :—

Telescopes, bore—	No.
Patt. 2019 ...	3
Patt. 2020 ...	3

Adaptors—

Types A.H. R.S.  
AX, HX, RX, SX } 3 of each type.



*Minesweepers.*

Each group leader is to carry the following items for use in sight testing in the group :—

Bore telescopes, Pattern 2019	...	...	...	...	1
Adaptor for 4 in B.L.	...	...	...	...	1
Adaptor for 12 pdr. 12 cwt....	...	...	...	...	1

These should be demanded from Portsmouth.

The following items are allowed in the Gunnery and Torpedo Establishment for use with the above, and should be drawn accordingly :—

*Consumable.*

Pattern 8.—Rings, I.R., for muzzle cross lines for sight testing 4 in. guns, 2 in No.	}	For guns fitted in ships.		
Pattern 9.—Ring, I.R., for muzzle cross lines for sight testing 12 pdr. guns, 2 in No.				
Pattern 12.—Cord, elastic, black silk covered, for muzzle cross lines, 1 reel.				
Thread, linen, for muzzle cross lines, 1 reel	...	...	...	Ships in Home Waters only.
				Ships on Foreign Stations only.

### 1832.—W/T.—Heterodyne Unit K.5 Pattern No. 6373C— Calibration.

(S.D./G. 9081/28.—20.7.1928.)

With reference to A.F.O. 866/27, paragraphs 8 and 9, attention is called to the fact that when heterodyne units K5, Pattern 6373c, are calibrated, a 4-jar condenser, telephone transformer and 120-ohm telephones must be connected across the terminals marked "telephone" on the instrument during calibration. This fact is to be noted in all calibration books whether issued by H.M. Signal School or by other calibrating authorities.

2. If it is desired subsequently to employ heterodyne unit K5 as a wavemeter, it will be necessary to use the instrument with the same circuit conditions as quoted above. When the instrument is being used in the normal way without telephone receivers in circuit, as a wave tester or as a separate heterodyne, the telephone terminals should be short circuited.

3. Trials have been carried out with a calibrated instrument, and it has been found that the instrument gives accurate results up to range 7, 27.27 kc/s (11,000 metres) with the telephone terminals short circuited with the link provided. In range 8, 27.27 kc/s to 13.64 kc/s (11,000 to 22,000 metres), however, a maximum error of 0.5 per cent. may be found.

4. If the telephones are connected directly across these telephone terminals, large errors appear, and the following note should, therefore, be inserted in all calibration books :—

"These instruments must be used either with telephone transformer, 4-jar condenser and telephones in circuit or with telephone terminals short circuited. On no account should telephones be connected directly across the terminals marked 'to telephones.'"

5. Arrangements are being made for the issue of new ivory labels, marked "To 4-jar condenser and telephone transformer," to replace those fitted at present marked "To telephones." Ships and establishments carrying Patt. 6373c Heterodyne Units K.5, are to demand from the Superintending Naval Store Officer, Portsmouth, one ivory label for each Patt. 6373c carried, and the necessary modification to the instrument should be carried out by the ship's staff. An alteration will also be necessary to the circuit diagram shown on the lid of the box of the heterodyne unit. A small section of this diagram will therefore be supplied showing the correct wiring of the telephone circuit, and this should be pasted over the appropriate place on the diagram.

(A.F.O. 866/27.)

**1833.—Magnetos and Spare Parts—REPORTS.**

(D. 8543/28.—20.7.1928.)

All unappropriated magnetos and spare parts considered to be suitable for future service other than those belonging to machines in stock and at present available, or which may become available at home yards other than Portsmouth, should be forwarded to Portsmouth as soon as possible, particulars of despatch being reported in accordance with A.F.O. 273/24.

2. Particulars of receipt of the gear should also be reported by Portsmouth in accordance with A.F.O. 273/24.

3. When such gear is required, unless it is a matter of great urgency, purchase should not be made until reference has been made to Portsmouth as to whether the gear can be supplied from stock. If supplied, the date of the reference should be shown on the despatch sheet forwarded by Portsmouth in accordance with A.F.O. 273/24.

4. A copy of the reference being forwarded to Portsmouth should be forwarded to the Admiralty for information, accompanied by a report indicating :—

- (a) Whether the gear is required as a first supply or as a replacement of defective gear.
- (b) The nature of the defects which have arisen.
- (c) Whether the defective gear is economically repairable, and if not, how it is being disposed of.

5. If on account of urgency purchase has to be made direct, the nature of the urgency should be communicated to the Admiralty, together with the particulars referred to at (a) to (c) above, when a report of the purchase is forwarded.

(A.F.O. 273/24.)

**1834.—Admiralty Grade Empire Tubing.**

(S. 4590/28.—20.7.1928.)

The flexible insulating material known as "Empire Tubing," which has been used for insulating the lengths of wiring between the sealing ends and the terminals in control wiring junction boxes in ships of recent construction, has given trouble in certain instances where the boxes have been fitted in very hot positions.

2. Investigations have been carried out, and it has been decided to use an improved type of flexible heat-resisting insulating material to be known as "Admiralty Grade Empire Tubing" for all control wiring junction boxes fitted outside the engine and boiler rooms and to use Ballsok insulating beads for similar junction boxes situated in those places.

3. No alteration is to be made in existing completed boxes except in the event of their becoming defective, and in ships now under construction the new procedure should be followed provided that no additional cost nor delay in the completion of the ships is involved.

**1837.—Evershed Systems—Installations in H.M. Ships.**

(C.P. 3923/28.—20.7.1928.)

The following arrangements have been made in regard to the installation on board H.M. ships by Messrs. Evershed & Vignoles, Ltd., of Acton Lane Works, Chiswick, W.4, of equipments supplied by them under direct contract with the Admiralty.

2. For contract built ships of the "London" class and all subsequent ships building and to be built by contract, the Shipbuilder will be responsible for the complete installation, lining up, adjustment and testing of the entire Evershed equipment supplied by the Admiralty, except that the wiring and fitting of the receivers in the director towers will be done by the gun mounting machinery contractor. The Shipbuilder will, however, be responsible for the lining up, adjustment and testing of the instruments in the director towers.

3. For ships being built at a dockyard, a report should be forwarded by the Admiral or Captain Superintendent to the Admiralty (Director of Torpedoes and Mining) where it is proposed to employ firm's representative, for consideration and approval, in sufficient time to enable the necessary contract arrangements to be made and to give the firm as long notice as possible. The fixing of final dates for the attendance of firm's representative will, of course, be left until the proposal has been approved and order placed. The necessary labour (as distinct from skilled assistance and supervision) will be provided by the dockyard, and the Department of Torpedoes and Mining is in a position to supply expert assistance where necessary in connection with lining up and adjusting instruments.

The assistance of the firm's representative should not normally be necessary except in special cases: if it is required it would usually be only for the work of lining up and adjusting all instruments, or in connection with new and special types of apparatus.

4. The firm will be required to supply the following information as part of the contract for supply of the equipment so that no difficulty may arise in securing efficient installation of the equipment:—

- (a) Wiring diagrams.
- (b) Detailed diagram of connections.
- (c) Resistance values to which individual leads are required to be adjusted by means of "fudge" resistances. This should preferably be indicated on diagrams (b).
- (d) Elementary diagrams illustrating the principles on which the apparatus operates.
- (e) Key diagrams and schedule of communications giving full information as to the control arrangements for all apparatus. These should include the training and elevating arcs for the apparatus.
- (f) Installation precautions and adjustments required for the various items.

(For H.M.S. "Exeter" and ships of later construction, and in ships to be reconstructed, this information will be supplied by the Admiralty.)

5. A separate order will be given to the firm by the Director of Navy Contracts on each occasion when the attendance of firm's representative is approved. Such orders will provide that:—

- (a) Definite prior arrangements shall be made with the responsible Officer, *i.e.*, the Admiral or Captain Superintendent, for the attendance of firm's representative at the most suitable time in all the circumstances for the prompt and economical completion of the work, if possible in one visit, in order to avoid idle or stand-by time and reduce incidental expenditure, such as travelling expenses, to a minimum.
- (b) The terms under which this work will be carried out will be arranged by the Director of Navy Contracts, and will provide for payment at an inclusive rate per day. Every order placed will stipulate the Admiralty Officers to whom firm will be responsible for the work, and who will furnish the necessary certificates as to its economical completion. These Officers should keep in close touch with the progress of the work; and if any doubt should exist as to the necessity for, or duration of, visits paid by firm's representative, when the matter cannot be dealt with locally, it should be reported to the Admiralty and instructions requested.

6. The procedure indicated in paragraphs 3 to 5 above applies only to direct Admiralty contracts with Messrs. Evershed & Vignoles, Ltd., for the supply of equipments.

### 1842.—Worn Submarine Battery Components—Value at which to be taken on Charge.

(N.S. 13745/27.—20.7.1928.)

The following worn serviceable submarine battery components returned from ships and services are to be debited to stock at a flat rate of either  $\frac{3}{4}$  or  $\frac{1}{2}$  of the full Rate Book price, and not, as is the present practice, at their full value:—

- Containers.
- Covers.

2. The flat rate should be assessed on the basis of the condition and anticipated life of the components under survey. In this connection it will be of assistance to bear in mind that the average life of a container or cover may be taken as 12 years.

3. Repairable components similarly returned are to be taken on charge at 6/10ths of the appropriate flat rate.

4. The values of the components at present on charge are, if necessary, to be amended in accordance with the new basis, the differences in value being written off under Item 6c, Section B, of the Account No. 88. Reports are to be forwarded showing the reduction in the value of stock involved by these adjustments.

5. On 31st March each year, proposals are to be forwarded for the disposal of any containers or covers which have reached the age of 12 years during the previous 12 months.

6. The limiting age for worn serviceable containers and covers to be supplied to a firm for use in assembling a new battery is 9 years, and articles of a greater age than this should not be supplied without Admiralty approval.

7. The tests required by A.F.O. 1304/27, paragraph 5, are invariably to be carried out before the issue of second-hand containers.

(A.F.O. 1304/27.)

## 1865.—Silhouettes of H.M. Ships, etc.

*H.M. Dockyards.*

(D. 10352/28.—20.7.1928.)

Arrangements are to be made for separate silhouettes of the following oilers to be prepared at the first of H.M. dockyards at which the vessels call :—

British Class Oilers, 4 No.

“Delphinula.”

“War Krishna.”

“War Nizam.”

“War Bahadur.”

2. With regard to the remaining oilers of the “War” class, one silhouette only is required, and this should be prepared by Chatham Dockyard on the next occasion of one of the vessels visiting that yard.

3. Any silhouettes of H.M. ships, etc., being prepared at a dockyard are to be completed and forwarded to the Admiralty at the earliest possible date.

4. When the preparation of any of the silhouettes of the British class oilers is taken in hand by a dockyard, such dockyard should inform the Admiralty and the other dockyards accordingly by telegraph.

## \*1871.—Band Ranks—Instruction Afloat of Candidates for Promotion.

(N. 2300/28.—27.7.1928.)

Under Article 772 (4), King's Regulations and Admiralty Instructions, Bandmasters, Royal Marine Band, serving afloat are required to give musical instruction to the band ranks serving under them, to facilitate their qualifying for promotion.

2. For this purpose Bandmasters and Band Corporals will be issued with the following text books :—

Rudiments of Music	...	...	...	Macpherson.
Melody and Harmony	...	...	...	Macpherson.
Instrumentation	...	...	...	Kling.

3. Subjects in which instruction is to be given are those contained in the syllabus as laid down in "Syllabus of Training, Royal Marines," Section IX. In view of the reduction in the period of the qualifying course for Bandmaster, 2nd Class, it is imperative that candidates for promotion should take the fullest advantage of the facilities offered to work up for promotion when serving afloat. Participation in the facilities offered to assist candidates, as distinct from general instruction given to band ranks afloat is, however, to be regarded as voluntary, but candidates for promotion who fail to take advantage of them must understand that they will have no ground for complaint should they, on account of lack of knowledge, fail in the initial test imposed on all candidates before they are allowed to join promotion classes.

4. Bandmasters of flagships are, at the end of each quarter, and by arrangement with the Senior Officer, Royal Marines, to set written tests for Corporal and Musician candidates for promotion who have elected to undergo them; the tests should cover the instruction given during the quarter. Worked papers should be collected and marked by the Bandmaster of the flagship, any useful criticism which will assist the candidates being noted on the papers.

5. To assist Bandmasters to prepare their own test papers, specimen papers set at the commencement of the promotion course at the Royal Naval School of Music will be forwarded from time to time through the Senior Officer, Royal Marines. These will represent the standard normally required of candidates joining promotion classes, and consequently the minimum standard to which candidates afloat should be prepared to attain.

6. Senior Officers, Royal Marines, are also to arrange for instruction in military subjects to be given to the same candidates, and for them to be tested when they are examined musically, the result being briefly noted on the candidates worked papers.

7. To facilitate the selection of candidates for promotion classes, test papers will also be issued from the Royal Naval School of Music, from time to time, and forwarded through the Senior Officer, Royal Marines. These papers are to be taken by all candidates for promotion; worked papers will be forwarded to the Royal Naval School of Music, for marking and criticism, and returned to the Senior Officer, Royal Marines, for information of the candidates. Royal Marine Officers Commanding Detachments are to include in their quarterly reports on Form S.365A, details as to the musical efficiency (both theoretical and instrumental) of the Non-commissioned Officers and candidates for promotion under their command.

8. Band Corporals must be in possession of a 1st Class Certificate in First Aid (Form S.458), obtained within five years of the date of examination for Bandmaster, 2nd Class, otherwise they will be required to re-qualify. In all cases where a certificate is granted to band ranks, the Examining Medical Officer is to notify the award to the Royal Naval School of Music, through the recognised service channels, the class of certificate awarded being stated.

### **1884.—Lead Fumes produced by Burning off Paint, etc.**

(G. 07074/28.—27.7.1928.)

The Mark III design of training container does not afford complete protection against lead fumes, but affords sufficient protection to permit of its occasional or emergency use during short spells of work.

2. In view of the cumulative effect of lead poisoning it is not considered advisable that more than a total of one hour's work per day in an atmosphere containing lead fumes should be carried out by a man wearing this type of container.

### **1886.—Screw Down Non-return and Flood Valves—Operation.**

*H.M. Ships concerned.*

(D.11022/28.—27.7.1928.)

In H.M. ships fitted with screw down non-return and flood valves, care is to be taken, when flooding a compartment, that the screw down non-return and flood valve, and master valve are open whenever possible, before opening the seacock, in order to avoid opening the valves against pressure.

## 1898.—Glass Jars and Copper Pots for Oil Fuel Measuring.

(N.S. 7069/28.—27.7.1928.)

When using Pattern 4032 pots in conjunction with Pattern 104 glass jars, attention is drawn to the necessity of checking the capacity of the existing glass jars with that of the standard Pattern 104 jar by observation of the proportionate levels in each jar of any fixed volume of oil fuel. Where the oil levels vary in the two jars, the capacities in gallons shown on the tank index plate should be amended.

## 1901.—Destroyers Building under the 1927 Programme— Classification for Storing Purposes.

H.M.S. "Codrington" (*Flotilla Leader*) and "Acasta" Class—*Dockyards and Overseers concerned.*

(N.S. 7089/28.—27.7.1928.)

It has been decided that the new flotilla leader and destroyers building under the 1927 Programme are, as far as possible, and with the exception of first fitting stores, to be stored in accordance with the present Establishment of Naval Stores for flotilla leaders and destroyers and under the following classes:—

H.M.S. "Codrington"—as for "Shakespeare" class.

Destroyers of "Acasta" Class—as for "W" Class.

2. Their Lordships recognise that in certain of the new ships, owing to differences in machinery, torpedo armament, etc., the present allowances will not be suitable, and proposals for alterations or special allowances where necessary, should be forwarded to the Admiralty from time to time for consideration and decision.

3. With regard to first fitting stores (anchors, chain cable and gear, hawsers and boats), the allowances shown in the establishment for the classes given above will not apply to the new vessels, and the establishment will be amended in due course to include the revised allowances.

## 1913.—Civil Staff Injured while attending Trials or Tests of H.M. Submarines—Scale of Compensation Payable.

(C.E. 2226/28.—27.7.1928.)

It has been decided that the compensation payable in the event of a member of the civilian staff not provided for by the Workmen's Compensation Acts or Schemes framed thereunder being injured or killed while attending trials or tests of H.M. submarines, shall in future be calculated in accordance with the provisions of the Treasury Warrant, dated 17th January, 1919, which regulates the awards which may be made under the Superannuation Acts to persons, or to the dependants of persons, injured or killed while employed as fliers or observers, or otherwise, in aircraft being flown for experimental or testing purposes. This arrangement will apply only to trials and tests and not to ordinary trips where no special risk is involved.

2. This Warrant will also be applicable to Officers in receipt of salaries between £250 and £350 per annum, but any award will be subject before payment to a deduction equivalent to the award payable under the Workmen's Compensation Acts or Schemes framed thereunder.

3. In making awards in the case of Officers who are under the Federated Superannuation Scheme for Universities, it will be necessary to take into account the benefits of the scheme, and the annuity value of the surrender value of policies under this scheme will accordingly be deducted from the salary and emoluments on which awards under the Warrant are calculated, provided:—

(i) That the sum deducted shall not exceed the amount which would have been deducted had the Officer been entitled to an award under the Superannuation Acts.

(ii) That the injury award shall not exceed £300 per annum, nor when added to the said annuity value five-sixths of the salary and emoluments at the date of the injury.

4. A copy of the Treasury Warrant dated 17th January, 1919, is included in the Digest of Pension Law and Regulations (1924), which may be purchased (price 6d.) from H.M. Stationery Office, or through any bookseller.

1932.—*Issued Confidentially.*1938.—**Gun Mountings, 4.7 in. H.A. XII—Canvas Covers.**

(G. 7248/28.—3.8.1928.)

Drawings E.F.O. 74/28 (1-4) show the arrangement and details of new types of canvas covers for 4.7 in. H.A. XII mountings which have been approved for manufacture when renewal of existing covers becomes necessary, and for future supply.

2. Prints of the drawings can be obtained from H.M. Dockyard, Portsmouth, if required.

1939.—**Ordnance, Q.F. 4 in., Mark V and V\*—Memoranda of Inspection—Equivalent Full Charges.**

(G. 8304/28.—3.8.1928.)

In recording rounds fired in memos. of inspection of the above guns the following equivalents are to be used :—

Charge for.	Present M.D. or M.C.			Future S.C.			Equivalent Full Charge.		
	Weight.			Size.	Approx. Wt.			Size.	
	lb.	oz.	dr.		lb.	oz.	dr.		
L.A. separate ...	7	11	0	16	7	13	8	100	1
L.A. fixed ...	7	14	2	16	8	0	0	100	1
H.A. fixed ...	5	14	0	11	6	1	4	061	$\frac{3}{4}$
All reduced and star	3	2	0	8	3	2	4	044	$\frac{1}{16}$

2. Attention is drawn to the H.A. fixed charge, which is not to be treated as a  $\frac{1}{2}$  charge (*i.e.*,  $\frac{1}{2}$  E.F.C.), but as three-quarters of one E.F.C.

3. Ships' Officers will only be responsible for future entries in memos. of inspection, and the necessary corrections to entries already made and reassessment of total E.F.Cs. to date will be made on the next occasion that memos. are received in Naval Armament Depôts.

1936.—**21 in. Q.R. II Torpedo Tubes of "Kent" Class—Examination—REPORT.***Dockyards concerned.*

(G. 9461/28.—3.8.1928.)

When examining the 21 in., Q.R. II. tubes of "Suffolk," it was found that certain local portions of the racer showed slight signs of compression along the actual path of the rollers. This compression was of a maximum depth of .006 in., and was caused by the compressive load on the individual rollers being high, as the whole 12 rollers did not engage the roller path simultaneously, due to slight deformation of the racer.

2. When carrying out the next refit of these vessels, the dockyards concerned are to examine the roller paths for local compression and forward reports.

## 1992.—Electrical Equipment—Procedure to be adopted with Main and Sub-contractors for the Provision of Drawings—**REPORTS.**

*District Electrical Engineers and Electrical Departments of Home Yards.*

(C.P. 8771/28.—3.8.1928.)

The question of the method to be adopted in dealing with the supply of schedule drawings of electrical equipment has been under consideration, and the following procedure is to be followed until further notice.

*Schedule Drawings.*—The following clause will be inserted in future ship specifications :—

“The main contractors shall inform the firms whom they invite to tender for schedule articles that copies of the latest schedules can be sighted for tender purposes at the appropriate Admiralty District Electrical Engineer’s office.”

The Main Contractor should apply to the Admiralty District Electrical Engineer of the district for copies of schedule drawings required by the sub-contractors for manufacturing purposes.

The Admiralty District Electrical Engineer shall arrange to requisition the pertinent Dockyard for the copies required, and for their return from the Main Contractor upon completion of the contract.

*D.E.E. Standard Drawings (not schedules).*—The current practice is to supply the Admiralty District Electrical Engineer of the district in which a ship is being built, with a duplicate set of the drawings sent to the main contractor. Should an application be made to a District Electrical Engineer in another district by a contractor or sub-contractor to examine these drawings, the District Electrical Engineer should apply (by telegram if the matter is urgent), to the Director of Electrical Engineering, Admiralty, for copies of the drawings required, in order that they may be sighted by the sub-contractor. The latter should produce the order to tender from the main contractor before being allowed to examine the drawings.

The Contractors are always to be informed in connection with the examination of these drawings, that the drawings are liable to revision and attention is to be called to the standard clause in the Admiralty Specifications :—

“The drawings quoted in this specification are liable to revision, and are intended to apply to the latest revision thereof.”

If any later revision is made by the Admiralty to any drawing, after the acceptance of the tender by the main contractor, which involves extra cost, the alteration is not to be proceeded with without prior Admiralty approval for the extra cost being obtained by the main contractor.

*D.T.M. Drawings.*—Arrangements will be made for the supply to the Admiralty District Electrical Engineers of sets of standard drawings issued by the Director of Torpedoes and Mining, and the procedure laid down for D.E.E. Standard Drawings (not schedules) is to be followed, except that applications for drawings of this nature should be forwarded to the Admiralty. (Director of Torpedoes and Mining).

*Miscellaneous Drawings.*—These drawings are applicable to any particular ship or class of ships, and refer mainly to wiring diagrams, layouts and special arrangements.

It is unlikely that drawings of this group will concern any but the District Electrical Engineer of the district in which the ship is building. Should there be any reason, however, for the District Electrical Engineer of any other district to have a drawing of this group, he should apply to the Director of Electrical Engineering giving the reasons therefor.

The procedure detailed in this order is not to apply in the case of the supply of W/T and A/S drawings, which are issued at the Admiralty.

Reports on the working of the system are to be submitted at the expiration of a period of twelve months from the date of this Order.



**1993.—Cooking and Baking Plant, Power-operated and otherwise, and other Domestic Machinery for H.M. Ships and Naval Shore Establishments—Classification on Purchase, etc.**

(D.A.D. 8157/27.—3.8.1928.)

Purchases of power-operated cooking and bakery plant and other domestic machinery as detailed below, required for H.M. ships and naval shore establishments are classified to Section III of Vote 8. Purchases for H.M. ships are chargeable to Subhead B, and purchases for shore establishments to the relevant subheads for the machinery equipment of the establishment concerned.

2. For power-operated cooking plant required in connection with dining halls of H.M. dockyards the head of charge is Vote 8/III.H. For similar plant for cook-houses specially provided for the use of the crews of ships in dock, or any similar Fleet Service the head of charge is Vote 8/III.B.

3. The items of machinery in question are the following :—

Combined steam and fuel cooking apparatus, oil-fired firehearth (all patterns), bakery plant, including ovens, motors and dough kneaders.

Wet steam ovens.

Steam heated hot closets.

Potato peeling machines.

Sausage machines.

Meat slicing machines.

Mixing machines.

Dish washing machines.

Knife cleaning machines.

Continuous steam water boilers.

Steam heated carving tables.

Milk sterilisers.

Milk pasteurisers.

} When power-driven.

Electric hot cupboards. Patterns 5957 and 5958 are to continue to be purchased and stocked under Vote 8, II.F 1.C.

4. The existing procedure whereby the cost of replace parts of machinery originally purchased under Vote 8, Section III, Subhead B, is charged to Subhead E of that Section, is to apply similarly to the replace parts of domestic machinery, but store pattern items available for immediate requirements of replace parts, such as tubes, firebricks, firebars, etc., should be charged to the pertinent heading in the Expense Accounts as "Materials" under Vote 8, Section II.

5. In the case of new construction, plant included as part of the main ship contract will continue to be chargeable to Vote 8, Section III, Subhead C.

6. The head of charge for the installation and upkeep in shore establishments, etc., of ordinary domestic and general cooking apparatus when heated by gas, coal, wood or coke is Vote 10. The term ordinary domestic and general cooking apparatus does not include any apparatus described in paragraph 3 or fire hearths of Admiralty pattern or similar type, however operated or heated, which should continue to be dealt with as a charge to Vote 8.

7. Ships firehearth, coal burning, of Rate Book patterns purchased for H.M. ships or shore establishments are chargeable to Vote 8, Section II.

**\*1996.—Short Service Medical Officers—Transfer from Small to Larger Ships.**

(C.W. 6544/28.—10.8.1928.)

In order that short service medical officers may obtain as much variety of professional experience as possible, it has been decided that when such officers have served from twelve to fifteen months in small ships on foreign stations, such as sloops, gunboats and surveying vessels, the Commander-in-Chief is, at his discretion, to arrange for them to be exchanged with the junior medical officers of larger ships on the station.

### \*1999.—Dental Treatment.

(M.D.G. 2838/28.—10.8.1928.)

The following revised regulations governing operative dental treatment and the supply, remodelling, repair and replacement of dental appliances are issued.

#### SECTION I.—GENERAL INSTRUCTIONS.

1. Necessary operative dental treatment is allowable at the public expense to all Royal Naval and Royal Marine officers, men and boys, while serving in H.M. Navy, to officers and men of the Naval Reserve Forces while under training in H.M. ships or Naval establishments, the R.N. Shore Signal and Wireless Services, members of the Royal Marine Police Force, Pensioner Recruiters and other pensioners serving under non-continuous service engagements or Royal Marine Enlistments, and the permanent staff of the Royal Naval Volunteer Reserve Force. Members of Queen Alexandra's Royal Naval Nursing Service are eligible to receive necessary operative treatment at the public expense, provided such treatment can be given by a Naval Dental Officer. Personnel serving in Royal Fleet Auxiliaries are not entitled to dental treatment at the public expense except in case of emergency, when extractions or treatment urgently necessary for the relief of pain may be given, and the cost within the prescribed limits is allowable as a charge to Naval funds.

2. The regulations governing the treatment of officers on leave are shown in the King's Regulations and Admiralty Instructions, Article 1439. Officers on the Retired List and officers on half-pay or unemployed pay, are not eligible to receive dental treatment at the public expense. The conditions governing emergency dental treatment undertaken by civilian dental surgeons when Service facilities are not available are shown below.

3. Persons not borne on the books of H.M. ships, *e.g.*, civilians employed under the Admiralty, pensioners serving in a civilian capacity, etc., are not entitled to treatment at the expense of Naval funds unless they have had their teeth or jaws injured on duty as the result of an accident attributable to the Service. In such cases, provided the injury was reported at the time of its occurrence, and there is satisfactory evidence that the accident was attributable to the Service, necessary operative treatment may be undertaken and the Crown will bear the cost of treatment necessitated by the injury. Where in addition to the treatment actually necessitated by the injury it is desired to remedy pre-existing dental defects, the patient will be liable for the additional expense involved.

4. The loss of teeth and consequent dependence upon artificial substitutes greatly reduce a man's service efficiency. Every effort should therefore be made to encourage men to pay proper attention to their teeth, and not to defer necessary treatment, but to avail themselves of every favourable opportunity to receive it.

5. Naval Service dental facilities should be utilised whenever possible. Treatment should generally be obtained from the Naval Dental Officer appointed for duty with the ship, squadron or base to which the officer or man is attached, or at a Naval Hospital, but where more than one Naval Dental Officer is borne in a fleet, the Senior Dental Officer present should arrange for the dental work to be apportioned to the best advantage.

#### *Reciprocal Dental Arrangements between the Navy, Army and Royal Air Force.*

6. (i) In exceptional circumstances where dental treatment by a Military or Royal Air Force Dental Officer is not available, dental treatment may be rendered to military and air personnel by Naval Dental Officers, provided that Naval requirements are not interfered with, and that the employment of additional staff is not thereby entailed. Similarly, where no Naval Dental Officer is available, Naval personnel may be accorded necessary treatment at Army or Air Force Dental Centres under the same conditions.

(ii) Treatment will be provided reciprocally between the three Services, and no financial adjustment will be made between the Admiralty, War Office and Air Ministry in respect of treatment afforded by the Dental Officers of one Service to the personnel of either of the two other Services.

(iii) (a) *Naval Personnel*.—Naval Personnel (other than those seconded, lent or attached to the Army or Royal Air Force) should, when applying for treatment at an Army or Air Force Dental Centre, be accompanied by a requisition on Form S.31, signed by the Commanding Officer on the recommendation of the Naval Medical Officer (if one is borne). This form, showing details of the treatment, and indicating the centre at which it was given, will be returned to the Commanding Officer of the ship or establishment to which the patient belongs for transmission by him to the Medical Director-General of the Navy.

In cases where denture work is required, Form M.234 should be sent with the patient. This form will be completed by the Army or Air Force Dental Officer, and returned to the patient's Commanding Officer for approval, in accordance with the conditions shown in Section III below, before the work is commenced.

(b) *Military Personnel*.—Military personnel (other than those seconded, or lent to the Royal Navy) will, when applying for treatment by a Naval Dental Officer, be accompanied by a written request in the case of officers, or, in the case of warrant officers, non-commissioned officers and men, by Army Form B.256, signed by the patient's Commanding Officer. Treatment may also be given to personnel absent from a unit on leave, etc., on production of sufficient evidence of identity.

On completion of the treatment, particulars should be sent by the Naval Dental Officer on Form M.228 to the patient's Commanding Officer.

In cases where denture work is required, Form M.234 should be completed by the Naval Dental Officer, and forwarded to the patient's Commanding Officer for approval before the work is commenced.

(c) *Air Force Personnel*.—Air Force personnel (other than those seconded or lent to the Royal Navy) will, when applying for treatment by a Naval Dental Officer, be accompanied by Air Ministry Form 632, signed by the Medical Officer or Commanding Officer of the station. This form, showing particulars of the treatment given, should be returned by the Naval Dental Officer to the patient's Commanding Officer.

In cases where denture work is required, Air Ministry Form 632 will be received in duplicate. This form should be completed in duplicate by the Naval Dental Officer, and forwarded to the patient's Commanding Officer, for approval before treatment is commenced. On completion of the work, the Naval Dental Officer should obtain the signature of the patient in Section 5, complete Section 6, and forward one copy to the patient's Commanding Officer, the other copy being transmitted with the next statistical return (M.235) to the Medical Director-General of the Navy.

(iv) Records of treatment given to Army or Air Force personnel are not to be included by Naval Dental Officers in the main body of the Statistical Return of Dental Operations (Form M.235), but are to be rendered as an addendum to it.

#### *Treatment by Civilian Dental Surgeons.*

7. (i) Payment will not be made from public funds for treatment obtained from civilian dental surgeons who have been consulted without the prior sanction in writing (Form S.31) of the responsible Naval authority. In cases where treatment by a Naval, Military, or Air Force Dental Officer is not available and emergency treatment for the relief of pain has to be obtained from a civilian dental surgeon in anticipation of authority, the Admiralty will be prepared to consider a claim for repayment of reasonable expenses in respect of treatment necessary for the relief of pain only, provided the circumstances are satisfactory.

(ii) When Naval service dental facilities are not available, and it is not possible to obtain treatment at an Army or Air Force dental centre, officers and men may be sent to qualified civilian dental surgeons for necessary treatment who may be paid at the rates specified below. Subject to these limits, local contracts with qualified dental surgeons may be made whenever necessary by the Senior Naval Officer at the Bases, and the particulars at once reported to the Accountant-General of the Navy. The arrangements made should also be communicated to the local surgeon and agent or Naval agent, if there is one in the vicinity.

(iii) Before authorising dental treatment by civilian dental surgeons, the nature and extent of the proposed work should be ascertained, and consideration should be given as to the probable time that will elapse before treatment can be obtained at a Naval, Army or Air Force dental centre. Conservative treatment may be given, but if it is considered that the teeth cannot be usefully conserved and their extraction will necessitate the provision of dentures, only such extractions as are urgently necessary should be undertaken. In such cases the dental chart on Form S.31 should be used to indicate the dental condition, and should be forwarded with a completed report on Form M.234 to the Medical Director-General of the Navy (or, if abroad, to the Senior Medical Officer of the Station), who will decide the action to be taken.

(iv) Form S.31 is to be used in all cases where dental work of any kind is undertaken by dental practitioners other than Naval Dental Officers, care being taken that all of the required information is correctly entered on both portions of the form which is to remain intact. The dental surgeon's attention should be drawn to the general instructions governing treatment at the expense of Naval funds (Form S.31A) and he should be informed that payment for appliance work of any description will not be made from Naval funds unless the responsible Naval authority has previously sanctioned the supply, or repair, etc., and the expenditure involved. Pending the receipt of the revised edition of Form S.31, and Form S.31A, showing the conditions governing treatment, etc., the dental surgeon's attention should specially be drawn to the revised scale of fees in force.

(v) In all cases requiring special treatment for which provision is not made in the schedule, or involving expenditure beyond the rates specified below, *prior* approval of the responsible Naval authority is required.

## SECTION II.—SCALE OF FEES FOR OPERATIVE DENTAL TREATMENT (AT HOME).

The following is the maximum scale of fees that will be allowed to qualified civilian dental surgeons at home:—

The amount payable in respect of dental treatment (including anaesthetist's fee and necessary appliance work) for any single patient will not exceed £8, even if the detailed charges at the following rates exceed this amount, unless the circumstances are exceptional and the estimated expenditure has received the prior sanction of the Medical Director-General of the Navy.

Note.—All operations performed and charged for in the account should be indicated on the dental chart on Form S.31 in the manner described thereon.

### 1. Examination and Report. (Forms S.31 and M.234).—

Payable only when the patient does not return for treatment	£	s.	d.
... .. .	0	2	6

Note.—When the examination is undertaken with a view to treatment, the actual dental requirements should be indicated clearly on the appropriate form. When reports are required for any other purpose, *e.g.*, examination of ratings prior to discharge from the Service, the dental surgeon should be informed that treatment at the public expense is not approved but a detailed dental report is required for record purposes, and that all dental defects, restorations, etc., should be clearly indicated on the chart (Form S.31).

### 2. Scaling and treatment of the gums. £ s. d.

Per individual	...	...	...	...	...	...	...	...	0	7	6
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### 3. Fillings.

Per filling	...	...	...	...	...	...	...	...	0	7	6
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(Limited to 15s. per tooth for two or more fillings.)

Note.—All filling material to be of first grade quality, manufactured by the best known manufacturers and suitable for each individual cavity.

4. Root treatment.	£ s. d.
Six front teeth, upper or lower, per tooth ... ..	0 5 0
Remainder, upper or lower, per tooth ... ..	0 7 6

Note.—The term “root treatment” is understood to mean either of the following:—

(i) The devitalization of the pulp of a tooth and the subsequent removal of the pulp, followed by the necessary treatment and filling of each root of the tooth.

(ii) The treatment of septic root canals and subsequent filling of each root. The term “root treatment” does *not* include any dressing or treatment of the pulp of a conservative nature.

5. (a) Extractions.	£ s. d.
With or without local anæsthetic, per tooth ... ..	0 2 6
Maximum fee for upper <i>or</i> lower ... ..	0 15 0
Maximum fee for upper <i>and</i> lower ... ..	1 5 0
(b) General anæsthetics.	

Should the services of a medical practitioner be required for the administration of anæsthetics, the Medical Officer of the ship or establishment to which the patient belongs should attend. In the event of a Naval Medical Officer not being available, a civilian medical practitioner, or skilled dental anæsthetist may be called in. The written consent of the patient, or the patient's parent or guardian, is to be obtained in these cases. (King's Regulations and Admiralty Instructions, Art. 1441).

(i) Administration fee. (Payable when the anæsthetic is administered by a civilian medical practitioner or skilled dental anæsthetist specially employed.)

	£ s. d.
For upper <i>or</i> lower extractions ... ..	0 7 6
For upper <i>and</i> lower extractions ... ..	0 10 0
Where nitrous oxide or similar anæsthetic (simple administration) is used, only one administration fee to be charged for each patient.	
Fee for each tooth extracted (additional) ... ..	0 2 6
Maximum fee for extractions, excluding simple administration of general anæsthetic.	
Upper or lower ... ..	0 15 0
Upper and lower ... ..	1 5 0

(ii) Under prolonged anæsthesia.

Except in cases of emergency, the administration of prolonged anæsthesia other than nitrous oxide gas should receive prior approval of the Medical Director-General of the Navy. In all cases where this is not possible the circumstances are to be reported.

Where not less than twelve teeth are extracted at one operation under prolonged anæsthesia, excluding the simple administration of nitrous oxide or similar anæsthetic, administered by a civilian medical practitioner or skilled dental anæsthetist specially employed.

	£ s. d.
Dentist's fee (including all extractions) ... ..	1 5 0
*Anæsthetist's fee (including cost of the anæsthetic) ...	1 1 0
*Or such lower sum as the anæsthetist is ordinarily prepared to accept.	

The civilian anæsthetist's account for the administration of dental anæsthetics should accompany the dental surgeon's account, the name and rank or rating of the patient to whom the anæsthetic was administered, and the nature of the anæsthetic being indicated.

(iii) Fee for the use of apparatus.

If a Naval Medical Officer administers the anæsthetic, the civilian dental surgeon may be paid an additional allowance of 5s. if the nitrous oxide and the gas apparatus used are provided by him.

6. *Pyorrhœa Treatment*.—Reasonable expenses will be allowed, subject to the prior approval of the treatment and estimated expenditure by the Medical Director-General of the Navy (or of the Commanding Officer of H.M. ships and establishments abroad, provided the Medical Officer certifies the proposed treatment to be necessary and the expenditure reasonable).

### SECTION III.—DENTURES.

#### *Eligibility for the Supply, etc., at the Public Expense.*

1. All persons who have sustained an injury to their teeth or jaws as the result of an accident clearly attributable to the Service, and of such nature as to merit the award of a Hurt Note or Certificate, or have lost or broken their dentures by a casualty of the Service for which compensation can fairly be claimed under the King's Regulations and Admiralty Instructions, Article 1697 (1), or, in the case of civilian employees, Home Dockyard Regulations, Article 455, are eligible for the supply, etc., of such dental appliances as may be necessary to remedy the direct effects of such injury or loss. In such cases the supply will be effected at the public expense, provided the injury or loss and the circumstances in which it was sustained are reported to a responsible Naval authority at the time of its occurrence. A recommendation for the retention of their services is not required, but the application for the supply, etc., must be accompanied by a statement that a Hurt Certificate or its equivalent has been granted, or other corroborative evidence of the injury or loss, together with full particulars of the extent of the dental defects caused thereby.

In cases where it is desired to replace teeth lost as the result of disease, in addition to those lost as a result of the injury, the extent of the additional requirements should be clearly defined. The Admiralty will bear the cost of appliances necessary to remedy the defect caused by the injury, and the patient should be warned that he will be liable to pay the cost of the additional work involved.

The certificates on Form M.234 should be completed before the work is commenced.

2. Application for the repair, etc., of dentures broken as the result of an accident sustained on duty should, in the case of dockyard employees, be submitted to the Admiralty through the Admiral Superintendent (*vide* Home Dockyard Regulations, Article 455). The patient should be sent to the Naval Dental Officer, if one is employed in the vicinity, for examination, and the report should show the extent of the damage sustained and the estimated cost of the work necessary to remedy the defect, and of any additional work it may be desired to carry out at the patient's expense. If the work is to be undertaken by a Naval Dental Officer, the scale of charges in respect of appliance work will be four-fifths of the rates shown in Section V of this Order.

3. Subject to the prior approval of the Admiralty, dentures supplied under foregoing conditions to replace natural teeth lost as the result of an injury, may be repaired (or renewed if irreparable) at the public expense, provided they have become unserviceable by fair wear and tear, or circumstances clearly beyond the man's control, *e.g.*, marked alveolar absorption or the subsequent eruption of natural teeth. Application for such repair (or renewal) should be accompanied by the certificate of a qualified dental surgeon (a Naval Dental Officer if one is available) to the effect that the denture has become unserviceable through fair wear and tear or causes entirely beyond the man's control. This does not, however, apply to the repair, etc., of dentures supplied to replace existing dentures privately obtained.

4. If the patient is employed in the Naval Service and it is impracticable to obtain prior Admiralty sanction, *e.g.*, when serving abroad, the application should be referred through the usual Service channels to the Senior Naval Officer who may, on the recommendation of the Senior Medical Officer, authorise the repair (or renewal) at the public expense. If the person preferring the claim has been discharged from the Naval Service, and the jaw injury for which the original supply was effected was sustained prior or subsequent to the war, the application for necessary repair (or renewal) should be made to the Admiralty and prior approval obtained.

When, owing to peculiar circumstances this procedure is not practicable, the Admiralty will be prepared to consider a claim for refund of reasonable cost of repair (or renewal) provided such claim is supported by the certificate of a qualified dental surgeon that the repair (or renewal) was necessitated by fair wear and tear or circumstances entirely beyond the patient's control. Such claims must be accompanied by the receipted account of the dental surgeon consulted (preferably a dental surgeon holding a contract for the treatment of Naval personnel), and the Admiralty will only consent to refund the reasonable expenses provided they are satisfied as to the circumstances.

5. Active Service ratings who have not less than one year to serve and whose services it is desirable to retain are eligible to receive an *initial* supply of dentures at the public expense if necessary to prevent their discharge as invalids. The free supply will, however, be restricted to cases in which the man is clearly dentally unfit for the Service and a fit subject to be brought before a Medical Board of Survey for invaliding, and the provision of dentures is the only means of rendering him efficient for retention. The supply of dentures may be also effected at the public expense in cases where the extraction of the teeth has undoubtedly formed part of medical treatment which would otherwise be ineffective, and the supply is necessary to restore efficiency.

In the event of dentures supplied under these conditions becoming unservicable through fair wear and tear, or through circumstances obviously beyond the man's control, *e.g.*, alveolar absorption, they may be remodelled (or replaced if remodelling would not be satisfactory) or repaired at the public expense, provided the Dental Officer is satisfied that such renewal is necessary to maintain the man's fitness to complete the normal period of his active service engagement.

6. If, on examination of records, it is discovered that a rating has received a second issue of dentures at the public expense without divulging the fact that he has already received an initial supply, he may be required to refund the whole of the cost of the original or duplicate dentures whichever is the greater.

7. Dentures which have not been supplied gratuitously to prevent invaliding should not be repaired or remodelled at the public expense unless they have been broken as the result of an accident attributable to the Service.

8. Officers are not eligible for the supply, repair or replacement of dentures at the public expense except when necessitated by a casualty of the Service.

#### SECTION IV.—ARRANGEMENTS FOR THE SUPPLY, REPAIR OR REPLACEMENT OF DENTURES AT THE PUBLIC EXPENSE.

1. Application for the supply, repair or replacement of dentures at the public expense in the case of persons eligible under the foregoing regulations should be made ordinarily, by the Naval Dental Officer. When there is no Naval Dental Officer available, and the supply is considered necessary to prevent the man's discharge as an invalid by a Medical Board of Survey, the application may be made by the nearest Naval Medical Officer, but the dental surgeon who will undertake the work, if approved, should be consulted, and the form made out in conjunction with him.

2. Form M.234—Dental Report—which can be obtained on demand from R.N. Hospital at Haslar, Plymouth, Chatham, Malta, Hong Kong, Bermuda, and Cape of Good Hope, and the Flag Ship on the East Indies Station, is to be used in connection with all applications, care being taken that all required information is accurately furnished.

3. Except as indicated below, the supply, etc., is not to be effected at Crown expense without the prior sanction of the Medical Director-General.

4. On foreign stations the applications are to be referred through the usual Service channels to the Senior Naval Officer who may authorise the supply, repair or replacement at the public expense, provided the man is

eligible under the foregoing conditions, and the supply, etc., is certified by the Senior Medical Officer as being necessary to prevent the man's discharge from the Station as an invalid and, in the case of repairs, etc., to existing dentures, it can be shown that the need for the repair, etc., is not consequent upon the man's carelessness or neglect. All cases referred for the approval of the Senior Naval Officer are to be reported to the Medical Director-General by the Officer making the application, the local decision and the expense involved being indicated in each case.

5. Whenever the supply, repair or replacement of dentures has to be effected at the public expense, the fact is to be recorded on the Medical History Sheet of the man concerned. If the work has been undertaken by a Naval Dental Officer, he is to transmit the necessary information to the Medical Officer of the ship or establishment in which the man is serving, to enable the necessary notation to be made.

SECTION V.—ARRANGEMENTS FOR THE CONSTRUCTION AND REPAIR OF DENTURES AND DENTAL APPLIANCES AT THE PUBLIC EXPENSE.

(a) *At Home.*

1. When dental appliance work is to be undertaken for ratings serving at Home Establishments or in H.M. ships in home waters, the patient should, when practicable, be dealt with by a Naval Dental Officer who will send the authority for the supply, together with the necessary models, etc., to the Central Dental Laboratory where constructional work will be effected. All models, etc., should be securely packed and forwarded to the Dental Officer, R.N. Barracks, Chatham.

2. In the event of it being impracticable for the appliance to be constructed (or repaired) at the Central Laboratory and it is necessary for the work to be undertaken by a qualified civilian dental surgeon, he may be paid at rates not exceeding those specified below. Local contracts made with qualified civilian dental surgeons should, whenever possible, include provision for dental appliances.

Denture work (including repairs or remakes), or treatment with a view to the provision of dentures at the public expense, is not to be undertaken by civilian dental surgeons without the prior approval of the Medical Director-General of the Navy, and in no case is the construction of dentures to be commenced until alveolar absorption appears complete, unless the facts have been fully reported and special authority obtained.

*Scale of Fees for Dental Appliance Work undertaken by Civilian Dental Surgeons (at Home).*

A.—New Dentures.

(a) Full, or nearly full (10 teeth or more per denture).	£	s.	d.
Upper and lower dentures ... ..	6	0	0
Full, or nearly full (10 teeth or more). Upper or lower denture ... ..	3	0	0
(b) Partial dentures—			
For first two teeth on denture ... ..	1	0	0
For each additional tooth ... ..	5	6	

*Note.*—Where the fee for full or nearly full denture applies to the single denture, no charges under items (2), (3), or (4) of Section II of this Order will be payable in respect of the jaw concerned. Where the fee for full or nearly full dentures applies to the double dentures, no charges under (2), (3), or (4) of Section II of this Order will be payable.

B.—Re-making dentures.

Fees to be calculated at two-thirds of the scale, with necessary additional teeth at 5s. per tooth.	£	s.	d.
Maximum fee, including additional teeth, per denture ...	2	10	0

C.—Repairs and additions to dentures.

Minimum fee for repairs and/or additions ... ..	7	6	
Maximum fee for repairs and/or additions ... ..	1	10	0



Classification of repairs and additions.

The minimum fee of 7s. 6d., including the cost of taking impressions where necessary, shall apply to any of the following:—

- (1) Cracks, fissures or fractures of dentures.
- (2) The replacing of a loosened tooth, or loosened band or wire.
- (3) The adding of one new tooth, or one band or one wire.
- (4) An extension of the plate, even when that extension embraces part of a natural tooth.

In cases of repairs involving more than one of the above items, or one of the above items more than once (*e.g.*, one tooth and one band, or two teeth), the additional fee for each additional item or repetition of an item shall be 5s.

*Specification of Materials to be used in Dental Appliance Work undertaken by Civilian Dental Surgeons.*

1. If pin teeth are used in prosthetic vulcanite work all pins to be of (a) platinum, (b) nickel gold-cased, or cased with other precious metal, or (c) nickel alloy gold-cased, or cased with other precious metal, such as are made by the best known manufacturers.

*N.B.*—Pins, gold or platinum, sheathed (*i.e.*, anchored) within the porcelain are within the above specification.

2. If diatorics are used for anterior teeth, they are only to be used in cases where artificial gum is necessary, and the upper anterior teeth must be wired in.

3. (a) All vulcanite partial dentures must be sufficiently rigid.

(b) Metal strengtheners must be compatible with vulcanite and not liable to corrode in the mouth.

4. All rubber to be of first-grade quality, manufactured by the best-known manufacturers.

5. Bands, wires and fastenings to be of 16 carat gold, and bands to be not less than 7 gauge.

(b) *Abroad.*

1. Arrangements exist for a limited amount of dental appliance work to be undertaken at Malta, and all dentures (or repairs) required for ratings serving in the Mediterranean should, if the supply, etc., has been approved in accordance with the foregoing conditions, be sent there, the necessary impressions, etc., being addressed to the Dental Officer, R.N. Hospital, Malta.

2. Where there is no Naval Dental Officer available, or it is impracticable for the construction or repair of dentures to be undertaken at a Naval Dental Laboratory, arrangements for dental treatment and/or dental appliance work should be made locally with qualified civilian dental surgeons on the most economical terms, unless there is an Army or Air Force Dental Officer in the vicinity who can undertake the work.

3. In making arrangements for dental treatment or denture supply, Senior Naval Officers are to use the scale of charges allowable at home as a general guide, and by comparing the relative purchasing value of the pound sterling at the place where the work is to be carried out, should thereby be able to arrive at a comparative estimate of the sum to be allowed.

4. Local contracts should be made where necessary, the particulars of such contracts, including professional qualifications held by the contractor, being reported to the Accountant-General of the Navy.

SECTION VI.—ARRANGEMENTS FOR THE SUPPLY, REPAIR OR REPLACEMENT OF DENTURES TO RATINGS ON REPAYMENT OF COST.

1. Where the Dental Officer (or Medical Officer, if a Dental Officer is not available) considers the provision of dentures is desirable or is necessary to restore dental efficiency and render an Active Service rating fit for General Service, or the repair or remodelling of existing dentures is considered

necessary to render them efficient during a man's period of Active Service, and the rating is not eligible under the foregoing conditions for the work to be undertaken at the public expense, the supply, etc., may be effected through the usual service channels upon repayment of the cost involved, provided the retention of the man's services is desired. In such cases medical examination may be dispensed with, and in cases where the immediate repayment of the cost would cause hardship, the Commanding Officer may sanction recovery of the amount, or any unpaid balance, by instalments spread over a period not exceeding six months, provided that the instalments shall in no case be less than 2s. 6d. per week. The full amount to be repaid should be charged in one sum on the ledger, and recovery effected by abatements from fortnightly or monthly advances.

Similar facilities may be accorded to ratings who desire to re-engage on completion of their first period to render them dentally fit for re-engagement, or for enrolment in the Royal Fleet Reserve, provided the man is in all respects fit and suitable for enrolment, and the work can be completed before the termination of his period of Active Service without detriment to other requirements; payment, however, must have been completed before the period of Active Service expires.

Ratings who have obtained dentures on repayment of the cost during their service will not thereby be rendered ineligible for an initial supply at the public expense at a future date under the conditions shown in Section III of this Order.

2. Applications for the supply, etc., on repayment of the cost must be voluntary and should be made ordinarily through the Naval Dental Officer. The attention of all ratings in need of dentures to restore dental efficiency should be drawn to the facilities for obtaining them at special rates at Naval Dental Centres at home and on the Mediterranean Station.

3. The application (Form M.234) is to be submitted to the Commanding Officer of the Ship or Establishment in which the man is serving, who may approve the supply on repayment of the cost, provided the retention of the man's services is desired and the proposed terms of repayment are regarded as reasonable.

4. Provided that all of the work in connection with the supply and fitting of vulcanite dentures supplied to ratings under this scheme has been undertaken by Naval Dental Officers and civilian dental mechanics employed for duty in Naval Establishments, the cost to be recovered from the rating will be *four-fifths* of the rates allowed to civilian dental surgeons for similar work (*see* Section V of this Order), but in the event of it being necessary to use precious metals other than for clasps, in the construction of the denture, the man should be informed that the additional cost involved will be charged against him.

5. Should the services of a civilian practitioner be employed in connection with the supply, fitting or adjustment of dentures issued to ratings under this scheme, any sums paid by the Naval authorities in connection therewith will be recoverable from the man.

The supply of new dentures will not ordinarily be effected through Army and Air Force Dental Centres, except when necessary to prevent invaliding, and under the conditions shown in Section III of this Order.

6. When the remake or repair of a denture supplied under this scheme is certified by a Naval Dental Officer to be necessary within a period of six months of the date of the original supply, and the need for it is due to causes clearly beyond the man's control, *e.g.*, undue strain while being worn, the circumstances should be reported to the Medical Director-General of the Navy, with a view to the defect being remedied at the public expense.

7. When the supply is to be effected by a Naval Dental Officer, and the construction or repair is to be undertaken at a Naval Dental Laboratory (*i.e.*, at R.N. Barracks, Chatham, or R.N. Hospital, Malta), the authority for the supply is to be forwarded with the necessary models, etc., to the Dental Officer in charge of the laboratory. The authority will be returned

with the completed work, and the Dental Officer who fits the denture will, after satisfying himself that it is satisfactory in all respects, obtain the man's receipt on the form. The Commanding Officer of the ship or establishment in which the man is serving is to be informed immediately the supply has been effected, and the exact amount to be recovered from the man is to be stated. The financial arrangements originally approved are to be stated in order that the necessary recovery may be effected on the ship's ledger.

8. Medical and Dental Officers making applications for the provision, etc., of dentures under this scheme are to furnish a report to the Medical Director-General on the first day of each month, giving full particulars of all patients for whom the supply, etc., on repayment has been approved during the preceding month and the approximate cost of the supply in each instance. The names should be arranged in alphabetical order.

9. All financial transactions in connection with the provision or repair of dentures under this scheme are to be shown in the ships' ledgers, or, in the case of recoveries from civilian employees, under the last part of Section III (i) of this Order, in the Cash Account of the establishment, and recoveries are to be credited to Vote 3L; the authority for the charge being indicated by quoting the number of this Admiralty Fleet Order.

#### SECTION VII.—CLAIMS FOR CIVILIAN DENTAL SURGEONS. METHOD OF PAYMENT.

1. For payment of claims for civilian dental surgeons, Form S.31, which can be obtained on demand, is to be used.

2. A copy of this form is to accompany each officer or man sent to a civilian dental surgeon for advice or treatment, the patient's name, rank, or rating and official number, etc., being previously inserted on *both* sections of the form by the officer sending the case. The surname should be inserted in block letters, and the full christian names should be given. The dental surgeon will retain the form until completion of the treatment for which approval has been given, and will insert thereon under the heading "Operations" the details of treatment rendered; the operations performed being diagrammatically indicated on the chart and particulars of his claim inserted in the appropriate section of the form. On completion, the form should be forwarded to the ship or establishment in which the man is serving. If satisfied that the conditions are fulfilled the Senior Medical Officer should complete the appropriate certificate on the form.

3. Providing the charges are in accordance with this Order, and within the prescribed limits, Commanding Officers may authorise payment direct to the dental surgeon. Any claims, however, which are not strictly in accordance with this Order are to be referred to the Admiralty for approval prior to payment.

4. When denture work has been undertaken, Form M.234, showing the authority for the supply, etc., to be effected at the public expense, or on repayment of cost, is to accompany the Form S.31, and if anæsthetics have been administered by a civilian medical practitioner, his receipted account should be attached to the claim. When denture work has been undertaken on repayment of the cost, the arrangements made for the recovery of the actual cost of the appliance work are to be indicated.

5. The dental surgeon's receipt and any certificates furnished in connection with treatment requiring special authority, are to be attached to the Form S.31, which should be forwarded intact to the Admiralty as a voucher to the Paymaster's Cash Account. The lower portion of the form, showing details of treatment, etc., will be detached at the Admiralty and despatched to the appropriate filing centre after scrutiny of the account.

**2010.—Depth Charge Equipment—Hydraulic Tubing.***Ships Fitted.*

(G. 17443/27.—10.8.1928.)

An examination of the tubing for depth charge hydraulic release gear is to be carried out by ships' staffs, as opportunity offers, in all vessels so fitted.

If made of iron or steel and excessive external corrosion is found, an item is to be included in the next defect list for replacing the iron or steel tubing by the standard tubing specified for this service, viz., copper, solid drawn, 25 in. diameter bore, 64 W.D.G.

2. In vessels of new construction the following sizes of solid drawn copper tubing (64 W.D.G.) will be fitted:—

- (a) If fitted with Newitt hydraulic release gear,  $\frac{1}{4}$  in. bore if length of tubing does not exceed 200 ft. For greater lengths,  $\frac{3}{8}$  in. bore is to be used.
- (b) If fitted with the new design of hydraulic release gear (operated by a lever),  $\frac{1}{4}$  in. bore up to 300 ft. and  $\frac{3}{8}$  in. bore for greater lengths.

**2020.—Gyro Transmitter, Pattern 1504—Supply to Vessels with Sets, Types 113 to 116.**

*2nd and 6th Destroyer Flotillas, "Thruster," "Torrid," "Rowena," Submarines "Oberon," "L.54," "L.56," "L.69," "L.71" and "X.1."*

(N.S. 0244/28.—10.8.1928.)

It has been approved to supply the new type gyro transmitter, Pattern 1504, referred to in A.F.O. 2354/27, to all vessels fitted with sets, Types 113 to 116, in lieu of the Pattern 1501 gyro transmitter at present fitted, without waiting for the latter to become defective.

2. Supply will be made from Slough, without demand, when the articles are available.

3. On receipt on board of the Pattern 1504 gyro transmitter, the Pattern 1501 transmitter replaced is to be returned to the Deputy Naval Store Officer, Admiralty Compass Observatory, Slough. Instructions for fitting the new type transmitters are given in A.F.O. 2354/27.

4. All new construction, where fitted with sets of the nature indicated will be supplied with the new Pattern 1504 gyro transmitter.

5. *Slough only.*—An order, C.P. 14621/28/F.1007, dated 25.6.28, has been placed with Messrs. Sperry Gyroscope Co., Ltd., to meet the above requirements.

Separate arrangements have been made for supply to H.M.A. Submarines "Oxley" and "Otway" and for reserve.

(A.F.O. 2354/27.)

**2023.—Applications for Permission to take out Patents by Naval and Civil Officers.**

(C.P. Patents 4193/28.—10.8.1928.)

The Treasury have made regulations regarding the exploitation, in the interests of the State, of inventions made by Government servants in the course of their duty or with the aid of facilities supplied at public expense. It has been laid down that whenever it is considered desirable to exploit an invention commercially, the department to which the patent has been assigned shall assume full responsibility for making all the necessary arrangements. It is recognised, however, that for a number of such inventions the more satisfactory course may be, *not* to assign the invention, but to leave the commercial rights with the inventor and to give him liberty to exploit them subject to an appropriate share of the proceeds being paid to the Admiralty.

2. In order that the conditions under which applications to take out patents by Naval and civil officers may be decided in relation to the above-mentioned Treasury instructions, Commanding Officers and Heads of Establishments should state, when forwarding applications, whether the invention has been evolved in the course of the officer's duty or with the aid of facilities supplied at the public expense, and if so, to what extent.

3. Whenever the Admiralty successfully exploit a patent the inventor is not debarred from putting forward a claim to the department for payment of an *ex gratia* award.

4. It is not proposed at present to make amendments to Dockyard Regulations or King's Regulations in regard to patents.

### 2032.—Repayment Services for Private Individuals—Votes 2, 3, 9 and 10—Deposits and Advances to be Reported.

(C. (I) 2936/27.—10.8.1928.)

The procedure laid down in Article 81 of the Expense Accounts Instructions, Repayment Services, 1926, in regard to deposits and advances obtained for services rendered or stores supplied or lent to private individuals by Vote 8 establishments is, in future, to be applied, *mutatis mutandis*, at Victualling, Royal Marine, Medical, Naval Armament and Works Establishments in respect of similar services performed by Votes 2, 3, 9 and 10, the deposits or advances which are to continue to be classified to private individuals, being reported in future on the relative Returns V.108, O.87 or D.719.

### 2040.—Royal Navy and Royal Marines—Re-entries.

(N. 1352.—17.8.1928.)

Re-entry in the Royal Navy is for the present open only to men under 25 years of age with former Naval or Royal Marine service, and in the Royal Marines to men under 27 years of age (in the case of those discharged under A.F.O. 1359/22, *et seq.*) or 31 years of age (in the case of those discharged otherwise than under the reduction scheme) with former Royal Marine service, and is restricted to men who are willing to accept the lowest rating for which they are eligible by age, etc., in classes in the Royal Navy for which recruiting is at present open (including Seaman, Signal and W/T ratings), or the lowest grades in the Royal Marines. For artificer and artisan ratings the age limit for re-entry is the same as for entry, viz., 28 years. The age limit for re-entry of Stokers is 30 years (except those discharged under A.F.O. 1359/22, *et seq.*) provided that by reckoning former service they can complete 22 years' service for pension before attaining the age of 50. The age for re-entry of Stokers discharged under A.F.O. 1359/22, *et seq.*, is 28 years.

2. Applications for re-entry on the ground of unemployment or other special hardship may be submitted through the proper channels for consideration, notwithstanding that men may be above the limits of age laid down for re-entry, provided :—

- (i) that they are members of the Royal Fleet Reserve ;
- (ii) that their previous record renders re-entry desirable (*vide* Articles 27 and 66, Recruiting Instructions) ;
- (iii) that by reckoning former service they can complete time for pension before attaining the age of 50 (Article 1984, King's Regulations and Admiralty Instructions).

3. Article 120, R.F.R. Regulations, Clause 1, final sentence, which debars Special Service men, and men discharged free or on reduced terms in order to join the Royal Fleet Reserve, from rejoining the Royal Navy except in special cases, is suspended until further orders in the case of candidates for re-entry as Ordinary Seaman (Special Service) or Stoker 2nd Class.

4. Where men who have been discharged under the reduction scheme (A.F.O. 1359/22, *et seq.*) are allowed to re-enter, all time served prior to discharge, including any Army and R.A.F. time, will be forfeited for seniority, pay, good conduct badges or pension, and they will not therefore be required to refund gratuities or bonuses awarded to them under the above scheme.

5. In order to avoid misapprehension, these conditions are to be explained to all candidates for re-entry who have previously been discharged under the reduction scheme, and a statement that they accept and understand these conditions is to be included in the Acknowledgment Form signed by them.

6. Men who have previously held the "A.B." rating in their respective branches, and who re-enter in the "Ordinary" rating of the same branch, may be advanced to the "A.B." rating of their branch (without counting former service in the case of men discharged under A.F.O. 1359/22, *et seq.*) as soon as they are certified as fit in all respects for the rating.

7. Candidates for re-entry in the Royal Navy are to be informed of the Regulations in regard to the supply of clothing set out in Article 1868, King's Regulations and Admiralty Instructions, and are to sign a certificate that they are prepared to pay for their kit. This certificate is to be attached to the candidate's entry papers.

8. Royal Marines re-entered, who were discharged under A.F.O. 1359/22, *et seq.*, are to be brought on at the lowest rate of pay, and advanced to the rate for which they are qualified (without counting former service) after they have been kitted up, and are certified as qualified in all respects for the higher rate of pay.

### \*2041.—Advancement to Leading Telegraphist—Educational Qualification.

(N. 4314/26.—17.8.1928.)

Telegraphists who passed professionally in the Signal School for advancement to Leading Telegraphist before 16th July, 1926, are not required to obtain Educational Certificate, Part I, as a condition of advancement to Leading Telegraphist.

### 2060.—Electrolyte for Nickel Iron Type Batteries, Pattern 8117.

(N.S. 10348/27.—17.8.1928.)

It has been decided to supply the electrolyte for the nickel iron alkaline type of battery, Pattern 8117, referred to in A.F.O. 1428/27, in solid form, *i.e.*, pure caustic potash—the solution being prepared by ships' staffs, as required for use, from the solid material and distilled water.

2. The following allowances of pure caustic potash per annum have been approved :—

	<i>Lb.</i>
Battleships ... ..	7
Battle cruisers ... ..	7
Aircraft carriers ... ..	7
Cruisers ... ..	3½
Depôt ships ... ..	3½
Minelayer ("Adventure") ... ..	3½
Flotilla leaders ... ..	1½
Destroyers ... ..	1½
Sloops ... ..	1½
Minesweepers ... ..	1½
Submarines ... ..	1½
Gunboats ... ..	1½

In vessels fitted for central storekeeping the above quantities should be regarded as a first supply, subsequent replenishments being on the basis of expenditure.

3. A first purchase of 1,456 lb. of pure caustic potash is being arranged in containers of 7 lb., 3½ lb. and 1½ lb. capacity for delivery as follows, and any further quantities required should be demanded in the periodical demands for subhead E,

item 6, or by supplementary demand, if necessary, stating the size of the containers in which required. All outstanding dues of electrolyte should be considered cancelled.

	<i>W.I. Docks (A). Chatham.</i>		<i>Sheerness.</i>		<i>Portsmouth.</i>		<i>Devonport.</i>	
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
7 lb. tins ... ..	126	28	14	84	42			
3½ lb. tins ... ..	266	28	14	84	42			
1½ lb. tins ... ..	392	56	28	168	84			
Estimated value ...	£45	£6	£3	£19	£10			

(A) For distribution as shown :—

	<i>Malta.</i>	<i>Gibraltar.</i>	<i>Hong Kong. Trincomali.</i>		<i>Cape.</i>	<i>Bermuda.</i>
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
7 lb. tins ... ..	112	—	14	—	—	—
3½ lb. tins ... ..	119	7	77	21	14	28
1½ lb. tins ... ..	217	7	133	14	14	7

4. A large amount of heat is generated when caustic potash dissolves in water, and this is liable to crack a glass container unless very great care is exercised in the mixing, and the container is of good quality glass. Iron buckets, being galvanised, are unsuitable for mixing electrolyte; containers of ebonite or similar materials are also unsuitable. Proposals should therefore be made by Portsmouth yard officers, in consultation with the Captain, H.M.S. "Vernon," for the introduction of a suitable earthenware container, about 1 gallon capacity, provided with a large open mouth and a suitable pouring lip, to be added to the Rate Book of Naval Stores under subhead E, item 11.

5. The following instructions for the mixing, etc., of the solution are to be strictly adhered to :—

- (i) The preparation of the liquid electrolyte from the solid material should be done only in an earthenware container, which should be perfectly clean.
- (ii) The proportion for mixing should be 3·5 lb. of solid material per gallon of distilled water. (The actual quantity of pure caustic potash free from water required to produce an electrolyte of S.G. 1·21 is 2·80 lb. per gallon of distilled water, so that the 3·5 lb. specified allows for some water being present in the solid material when mixed). Distilled water only is to be used.
- (iii) The solution should be mixed to a specific gravity of 1·21 to allow for a fall to the correct working figure of 1·19, which takes place over a period after the solution has been poured into the cells. The fall in specific gravity is caused by the distilled water remaining in the plates after the cells have been washed out by the process described in the Secondary Battery Handbook, page 69, clause (iii). It may be found that the solution as obtained by the above method is stronger than S.G. 1·21. Accordingly, small quantities of distilled water should be added to the solution and vigorously stirred until the solution is brought down to the correct filling strength of S.G. 1·21. If by any chance the solution was originally made too weak, it should be strengthened by the addition of small pieces of solid material. The solution should be thoroughly stirred after each addition of distilled water or solid material before testing the specific gravity in order to ensure that the solution is completely mixed. The materials are rather slow to dissolve and it is most important to keep the liquid regularly stirred in order to prevent the possibility of any solid settling at the bottom of the mixing vessel. The stirring should be continued until a clear solution free from all traces of solid is obtained and a clean unpainted wood stick should be used. During the process of mixing, considerable heat is generated, and the liquid should be allowed to cool thoroughly before being poured into the cells. Any floating scum should be removed before the solution is used.
- (iv) The electrolyte is a highly corrosive solution and care should be taken to prevent it from coming into contact with the hands and clothes, etc. Rubber gloves should be worn while mixing the electrolyte and filling batteries.

(A.F.O. 1428/27.)

## 2070.—Hektograph Lists of Naval Stores for W/T Installations, etc.—Supply.

(N.S. 7781/28.—17.8.1928.)

Attention is drawn to the existing method of promulgating information concerning allowances of stores to W/T and S/T installations, etc., which have not been in existence sufficiently long for inclusion in the printed W/T Establishment.

2. Lists of stores in hektograph form are produced by H.M. Signal School for all new installations. Copies of these lists and errata thereto are issued to ships and shore establishments from the Admiralty after approval. When so issued they have the same authority for raising replenishment demands as is given by the current edition of the W/T Establishment. Advance copies of a new list may be supplied direct from Signal School when considered desirable, but such copies are for information only.

3. Copies of the lists (and corresponding errata lists) are at present supplied without demand, as follows :—

One copy to each vessel in which the set is fitted.

One copy to each Flagship, Squadron Flagship, Parent ship and Depot ship to which a ship fitted with one of the sets in question may be attached.

One copy to the Naval Store Officer of each Dockyard from which the stores for replacements, etc., in the sets in question may be drawn.

4. In future the Overseer of each ship building by contract will be supplied with two copies of each list which is applicable to a set for the ship concerned. These copies will be supplied without demand, and will be additional to the distribution outlined in paragraph 3 above. They should be returned to Admiralty immediately upon the completion and handing over of the ship concerned.

## 2085.—*Issued Confidentially.*

## \*2088.—Officers and Men of the New Zealand Naval Forces serving in H.M. Ships and Establishments—Pay, etc., Arrangements, and Rates of Pay and Allowances.

(N.P. (II) 1136/28.—24.8.1928.)

### PART I.

Notwithstanding any difference between the rates of pay and allowances authorised in the Regulations for the Government and payment of the New Zealand Division of the Royal Navy, and those authorised by King's Regulations and Admiralty Instructions, officers and ratings of the New Zealand Naval Forces serving in H.M. (Imperial) Ships and Naval Establishments shall, whilst so serving, receive pay and allowances as follows:—

- (a) Full pay (substantive and non-substantive);
- (b) Deferred pay (except loan personnel). NOTE.—Credit of Deferred pay will be effected by the Navy Office, Wellington;
- (c) Marriage allowance (*see* Part III);
- (d) Dependant's allowance;

at rates and under the conditions authorised in the Regulations for the Government and payment of the New Zealand Division of the Royal Navy; and

- (e) All other allowances; and
- (f) Extra pay for the performance of special duty at rates and under the conditions authorised in King's Regulations and Admiralty Instructions.

2. The accounts of officers and men are to be entered on separate lists of the ledger (List 14 or 17, N.Z.N.F.). The pay and victualling are also to be shown separately in the Ledger Abstract and Classified Summary of Victualling.



3. A complete extract from the ledger showing details of accounts, etc., in respect of all New Zealand ranks and ratings borne during the period covered by the ledger is to be forwarded to the Accountant-General of the Navy, as soon as possible, after the ledger is closed. The extracts of accounts are to be addressed to the Accountant-General of the Navy (Branch 11A for officers, and Branch 10, Cornwall House, Stamford Street, London S.E.1, for men).

4. Any clothing, etc., taken up on repayment from Government Stock is to be paid for by cash, and the charges are not to appear in the ledger.

5. Officers of the New Zealand Naval Forces serving in H.M. Ships are to be given the usual service certificate, a copy of which is to be forwarded by the Commanding Officer direct to the High Commissioner for New Zealand (415, Strand, London, W.C.2). A notation that this has been done is to be made on the counter-part, and the date of transmission should also be recorded.

6. No advancement in rating should be made without reference to the Secretary of the New Zealand Naval Board, Navy Office, Wellington, except in the case of stokers sent to England for the purpose of undergoing the Mechanical Training Course, who should be advanced to the rating of Acting Leading Stoker on selection for the Mechanical Training Course.

7. Good conduct badges should be awarded and restored under Admiralty Regulations by the Commanding Officer of the ship in which ratings are borne.

8. Non-substantive ratings should be granted, and pay therefor credited from date of qualification, at New Zealand rates (*see* Part III).

9. Declarations, alterations and stoppages of allotments payable in the United Kingdom should be addressed to the Accountant-General of the Navy (Branch 18), Cornwall House, Stamford Street, London, S.E.1, and declarations, etc., should be clearly endorsed "Chargeable against New Zealand Government." Forms declaring, altering, or stopping allotments paid in New Zealand should be sent to the Naval Secretary, Navy Office, Wellington (duplicates being forwarded to the Accountant-General, and marked "For information only"). Allotments paid in New Zealand should be noted in ship's ledger accordingly.

10. The High Commissioner for New Zealand should be immediately notified of the death or desertion of any members of the New Zealand Naval Forces. Effects of deceased persons or deserters should not be disposed of until authority has been received from the High Commissioner, and it should be noted that the disposal of effects will necessitate reference to New Zealand.

11. Officers and men, New Zealand Naval Forces, when sick on shore or sent to hospital, are to be dealt with under Admiralty Regulations. Members of the New Zealand Naval Forces recommended for invaliding will be finally surveyed on return to New Zealand. Where such recommendations are made on account of injuries received, or disease contracted, due to service, a full report of the circumstances should be made on the Report of Survey.

12. In the case of persons who are liable for the payment of Income Tax, information will be furnished by the Naval Secretary, Navy Office, Wellington, in regard to charges on that account. Persons with income not exceeding £300 are not liable for the payment of New Zealand Income Tax.

13. Whilst serving in H.M. Ships and Establishments, officers and men of the New Zealand Naval Forces may be allowed leave under Admiralty Regulations. All officers, New Zealand Naval Forces, as well as petty officers and men, are entitled to the payment of leave allowance.

14. Claims for travelling and subsistence expenses should be dealt with in accordance with the instructions issued in the consolidated Admiralty Fleet Order on Travelling and Subsistence Expenses of Naval and Royal Marine officers and men.

## PART II.

The rates of pay and allowances payable to officers, are published in A.F.O. 1045/28.

*Substantive Rates of Pay : Ship's Company.*

## SEAMEN RATINGS.

		<i>Per Diem.</i>
		<i>s. d.</i>
Boy, 2nd class ... ..		1 0
Boy, 1st class ... ..		1 9
Boy, 1st class (over 17) ... ..		2 6
Ordinary seaman ... ..		5 0
Able seaman ... ..		7 0
After 3 years' man's service ... ..		7 2
After 6 years' man's service ... ..		7 4
Leading seaman ... ..		8 0
After 1 year's service as such, if passed for petty officer ... ..		8 3
Petty officer ... ..		9 0
After 3 years' service as such ... ..		9 4
After 6 years' service as such ... ..		9 8
Chief petty officer ... ..		10 6
After 3 years' service as such ... ..		11 0*
Chief petty officer—Instructor for reservists ... ..		16 6

## SIGNAL AND TELEGRAPHIST BRANCHES.

Signal-boy and boy-telegraphist ... ..		1 9
Ordinary signalman and ordinary telegraphist, 2nd class ... ..		2 6
Ordinary signalman and ordinary telegraphist ... ..		5 0
Signalman and telegraphist ... ..		7 3
After 3 year's man's service ... ..		7 6
After 6 years' man's service ... ..		7 8
Leading signalman and leading telegraphist ... ..		8 6
After 1 year's service as such (if passed for yeoman of signals, petty officer telegraphist, or for higher standard) ... ..		8 8
Yeoman of signals and petty officer telegraphist ... ..		9 6
After 1 year's service as such if recommended by his Commanding Officer, or after 3 years' service in any case ... ..		9 8
After 3 years' from date of receiving preceding rate ... ..		10 0
Chief yeoman of signals and chief petty officer telegraphist ... ..		11 0
After 3 years' service as such ... ..		11 6*

*The service certificates of yeoman of signals and petty officer telegraphists shall be suitably noted on their being granted the 9s. 8d. rate of pay.*

ENGINE-ROOM ARTIFICERS, ELECTRICAL ARTIFICERS, ORDNANCE ARTIFICERS,  
MECHANICIANS AND SHIPWRIGHTS.

Artificer, 5th class ... ..		8 6
Mechanician ... ..		11 0
Artificer, 4th class, acting 4th class, and mechanician after 3 years' service as such ... ..		11 6
Artificer, 3rd class, and mechanician after 6 years' service as such ... ..		12 0
Artificer, 2nd class, and mechanician after 9 years' service as such ... ..		12 6
Artificer, 1st class, and mechanician after 12 years' service as such ... ..		13 0
Chief, 2nd class ... ..		13 6
Chief, 1st class ... ..		14 6

\* With subsequent triennial increments of 6d. per diem.

## BLACKSMITHS, PLUMBERS, PAINTERS, JOINERS AND COOPERS.

										<i>Per Diem.</i>		
										<i>s.</i>	<i>d.</i>	
5th class	...	...	...	...	...	...	...	...	...	9	0	
4th class	...	...	...	...	...	...	...	...	...	9	6	
3rd class	...	...	...	...	...	...	...	...	...	9	10	
2nd class	...	...	...	...	...	...	...	...	...	10	2	
1st class	...	...	...	...	...	...	...	...	...	10	6	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	10	10	
Chief	...	...	...	...	...	...	...	...	...	11	6	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	12	0	
After 6 years' service as such	...	...	...	...	...	...	...	...	...	12	6	
<b>SAILMAKER BRANCH.</b>												
Sailmaker's mate	...	...	...	...	...	...	...	...	...	8	4	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	8	6	
After 6 years' service as such	...	...	...	...	...	...	...	...	...	8	8	
Sailmaker	...	...	...	...	...	...	...	...	...	9	6	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	9	10	
After 6 years' service as such	...	...	...	...	...	...	...	...	...	10	2	
Chief Sailmaker	...	...	...	...	...	...	...	...	...	11	0	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	11	6*	
<b>REGULATING BRANCH.</b>												
Regulating petty officer	...	...	...	...	...	...	...	...	...	10	0	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	10	4	
After 6 years' service as such	...	...	...	...	...	...	...	...	...	10	8	
Master-at-arms	...	...	...	...	...	...	...	...	...	11	6	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	12	0*	
<b>SICK-BERTH STAFF.</b>												
Sick-berth attendant	...	...	...	...	...	...	...	...	...	5	6	
After training	...	...	...	...	...	...	...	...	...	7	4	
After 3 years' service, if passed for leading sick-berth attendant	...	...	...	...	...	...	...	...	...	7	6	
After 6 years' service, if passed for leading sick-berth attendant	...	...	...	...	...	...	...	...	...	7	8	
Leading sick-berth attendant	...	...	...	...	...	...	...	...	...	8	6	
After 3 years' service as such, if passed for sick-berth petty officer	...	...	...	...	...	...	...	...	...	8	8	
Sick-berth petty officer	...	...	...	...	...	...	...	...	...	9	6	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	9	10	
After 6 years' service as such	...	...	...	...	...	...	...	...	...	10	2	
Sick-berth chief petty officer	...	...	...	...	...	...	...	...	...	11	0	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	11	6*	
<b>WRITER AND SUPPLY RATINGS.</b>												
Boy (under 17)...	...	...	...	...	...	...	...	...	...	2	0	
Boy (over 17) ...	...	...	...	...	...	...	...	...	...	2	6	
3rd writer and supply assistant	...	...	...	...	...	...	...	...	...	7	6	
Leading rate	...	...	...	...	...	...	...	...	...	9	0	
Petty officer rate	...	...	...	...	...	...	...	...	...	10	2	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	10	6	
Chief petty officer rate	...	...	...	...	...	...	...	...	...	11	3	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	11	9*	
<b>STOKER RATINGS.</b>												
Stoker—												
3rd class (under 18 years)	...	...	...	...	...	...	...	...	...	2	6	
2nd class	...	...	...	...	...	...	...	...	...	5	6	
1st class	...	...	...	...	...	...	...	...	...	7	6	
After 3 years' man's time	...	...	...	...	...	...	...	...	...	7	8	
After 6 years' man's time	...	...	...	...	...	...	...	...	...	7	10	
Acting leading stoker	...	...	...	...	...	...	...	...	...	8	6	
Leading stoker	...	...	...	...	...	...	...	...	...	8	6	
After 3 years' service as such	...	...	...	...	...	...	...	...	...	8	8	

\* With subsequent triennial increments of 6d. per diem.

STOKER RATINGS—*contd.*

Stoker—							<i>Per Diem.</i>	
							<i>s.</i>	<i>d.</i>
Stoker petty officer	...	...	...	...	...	...	9	6
After 3 years' service as such, if in possession of stokehold certificate	...	...	...	...	...	...	9	10
After 6 years' service as such	...	...	...	...	...	...	10	2
Chief stoker	...	...	...	...	...	...	11	0
After 3 years' service as such	...	...	...	...	...	...	11	6*

## ARMOURERS.

Probationary armourer's crew	...	...	...	...	...	...	7	10
Armourer's crew	...	...	...	...	...	...	9	2
Armourer's mate	...	...	...	...	...	...	9	6
Armourer	...	...	...	...	...	...	10	2
After 3 years' service as such	...	...	...	...	...	...	10	6
Chief armourer	...	...	...	...	...	...	11	6
After 3 years' service as such	...	...	...	...	...	...	12	0
After 6 years' service as such	...	...	...	...	...	...	12	6

## SHIP'S COOK RATINGS.

Assistant cook (under 18 years of age)	...	...	...	...	...	...	2	6
Assistant cook	...	...	...	...	...	...	5	6
Cook	...	...	...	...	...	...	7	6
After 3 years' man's time	...	...	...	...	...	...	7	8
After 6 years' man's time	...	...	...	...	...	...	7	10
Leading cook	...	...	...	...	...	...	8	6
After 3 years' service as such	...	...	...	...	...	...	8	8
Petty officer cook	...	...	...	...	...	...	9	6
After 3 years' service as such	...	...	...	...	...	...	9	10
After 6 years' service as such	...	...	...	...	...	...	10	2
Chief petty officer cook	...	...	...	...	...	...	11	0
After 3 years' service as such	...	...	...	...	...	...	11	6*

## OFFICERS' STEWARDS AND COOKS.

Boy-servant (under 17)	...	...	...	...	...	...	1	9
Boy-servant (over 17)	...	...	...	...	...	...	2	6
Officers' steward and cook 4th class (over 18)	...	...	...	...	...	...	5	6
Officers' steward and cook 3rd class	...	...	...	...	...	...	7	4
After 3 years' man's service	...	...	...	...	...	...	7	6
After 6 years' man's service	...	...	...	...	...	...	7	8
Officers' steward and cook 2nd class	...	...	...	...	...	...	8	6
After 3 years' service as such	...	...	...	...	...	...	8	8
Officers' steward and cook 1st class	...	...	...	...	...	...	9	6
After 3 years' service as such	...	...	...	...	...	...	9	10
After 6 years' service as such	...	...	...	...	...	...	10	2
Officers' chief steward and cook	...	...	...	...	...	...	11	0
After 3 years' service as such	...	...	...	...	...	...	11	6*

## ROYAL MARINES.

Marine, musician or bugler—								
On enlistment under 17	...	...	...	...	...	...	1	9
On enlistment over 17	...	...	...	...	...	...	2	6
On enlistment over 18	...	...	...	...	...	...	5	0
After 1 year or on completion of drills	...	...	...	...	...	...	7	0
After 3 years' man's time	...	...	...	...	...	...	7	2
After 6 years' man's time	...	...	...	...	...	...	7	4
Corporal	...	...	...	...	...	...	8	3
After 3 years' service as such	...	...	...	...	...	...	8	6
Sergeant	...	...	...	...	...	...	9	0
After 3 years' service as such	...	...	...	...	...	...	9	4
After 6 years' service as such	...	...	...	...	...	...	9	8
Colour-sergeant	...	...	...	...	...	...	10	6
After 3 years' service as such	...	...	...	...	...	...	11	0
After 6 years' service as such	...	...	...	...	...	...	11	6*

\* With subsequent triennial increments of 6d. per diem.

## PART III.

*Non-substantive Ratings and Allowances : Ship's Company.*

To ratings acting as or performing the duty of—

SEAMEN RATINGS : GUNNERY, TORPEDO, ETC.		<i>Per Diem.</i>
		<i>s. d.</i>
Turret director-layer ... ..		1 3
Light director-layer ... ..		1 0
Gunner's mate. Open to leading seamen passed for petty officer and all higher ratings, who pass the prescribed course ... ..		1 6
Gunlayer, 1st class. Open to all ratings above A.B. holding a higher gunnery rating than S.G. Men selected must pass the prescribed course ... ..		1 0
Gunlayer, 2nd class. Open to A.B.s and all higher ratings passing the prescribed course ... ..		0 8
Gunlayer, 3rd class. Open to A.B.s and all higher ratings passing the prescribed course ... ..		0 3
Seaman-gunner. Open to leading seamen and A.B.s only. Must qualify in the courses laid down ... ..		0 4
Gunnery and torpedo lieutenant's writer. Open to seaman rating employed on gunnery duties or torpedo duties with Lieutenant (G.) or Lieutenant (T.) respectively, when definitely allowed in the complement. (Must not hold a higher non-substantive rating than S.G. or S.T.) ... ..		0 3
Rangetaker, 1st class ... ..		1 0
Rangetaker, 2nd class ... ..		0 6
Rangetaker, 3rd class ... ..		0 2
(Subject in each case to passing the prescribed course.)		
Torpedo gunner's mate. Open to leading seamen passed for petty officer and all higher ratings, who pass the prescribed course ... ..		1 6
Leading torpedoman. Open to A.B.s and all higher ratings. Must be a S.T. and have qualified in accordance with the instructions laid down ... ..		0 8
Seaman-torpedoman. Open to A.B.s and leading seamen only, who pass the prescribed course ... ..		0 4
Torpedo coxswain. Open to seamen, chief and petty officers, holding G. or T. ratings not higher than S.G. or S.T. ... ..		0 8
Physical-training instructor. Open to leading seamen, chief and other petty officers, who are well developed, suitable from the point of view of physique, and in every way in a fit state of health to undertake the physical-training course. The rating of staff and P.T.I., 1st class, will be given to selected men holding the 2nd class rating who show exceptional ability and are recommended by their Commanding Officers—		
Senior staff ... ..		2 0
Staff ... ..		1 6
1st class ... ..		1 0
2nd class ... ..		0 6
Fire-control duties. To ratings qualified and employed as defined in Admiralty Regulations ... ..		0 3
Seamen qualified in ordnance (Q.O.). Open to able seamen ... ..		0 2
Bugler. To boys who qualify in bugling from date of passing: payable only whilst in training ship ... ..		0 1
Training allowances—(payable, subject to approval of Naval Board)—		
To all petty officers (including P. and R.T. Instructors) who have definite responsibility and charge of boys or ordinary seamen, 2nd class, out of instructional hours ... ..		0 6
To leading seamen employed in the same capacity as above ... ..		0 3
Seaman Bugler ... ..		0 3

## ENGINE-ROOM, STOKEHOLD, ETC.

	<i>Per Diem.</i>
	<i>s. d.</i>
Machinery allowance—	
(a) To chief engine-room artificers, engine-room artificers, chief mechanics, and mechanics in possession of a charge certificate when in charge of the propelling machinery of His Majesty's ships or vessels in commission with a full or reserve crew ... ..	1 0
(b) To engine-room ratings (other than engine-room artificers and mechanics) when placed in charge of the machinery of small craft (whether steam or motor driven), the indicated horsepower or brake horse-power of which exceeds 100 ... ..	0 6
Senior engineer's allowance: To chief engine-room artificers, engine-room artificers, chief mechanics, and mechanics in possession of a charge certificate when performing the duties in ships with a full or reserve crew allowed an Engineer Commander ... ..	1 0
E.R.A., certificate allowance to—	
On obtaining the certificate of capability of taking charge of a watch in the engine-room of a small ship ... ..	1 0
On obtaining the certificate of capability of taking charge of the engines of a small ship, but not to be paid until rated chief E.R.A., 2nd class ... ..	1 0
Yeoman of stores. To a chief stoker, stoker petty officer, or leading stoker while actually employed on the duties in ships allowed the rating—	
Battleships, battle cruisers, repair ships and depot ships for destroyers ... ..	1 0
“Hawkins” Class cruisers ... ..	0 9
Other cruisers ... ..	0 6
Flotilla leaders and destroyers ... ..	0 3
<i>The rates payable in respect of ships not included in the foregoing categories shall be as approved by the Naval Board.</i>	
Engineer's writer. To the stoker rating actually doing the duty in ships allowed the rating ... ..	0 6
Electrical and acetylene welding. Artificers and mechanics qualified in, and requalifying every 3 years ... ..	0 3
ACCOUNTANT STAFF: CLERICAL DUTIES, VICTUALLING, ETC.	
Writer—	
(a) To senior writer when no accountant officer is borne ... ..	1 0
(b) To writer when actually employed in the dual capacity of Captain's clerk and in the ship's office ... ..	1 0
(c) To writer acting as clerk to the Senior Naval Officer of a division of a Naval Station (at the discretion of the Naval Board) ... ..	2 6
(d) To writer doing duty as Captain's clerk in sea-going ships commanded by a Captain (including flagships, where the normal rate of command money is 10s. a day) ... ..	1 0
(Note.—ONLY allowances (a) and (c) can be drawn concurrently.)	
Shorthand and typewriting. On qualification and requalification every 3 years:—	
Shorthand 70 words per minute ... ..	0 9
Shorthand 120 words per minute ... ..	1 6
Clerical duties. To ratings assisting in the clerical duties of the ship under the conditions laid down in Art. 1630 K.R. and A.I. (The day to be reckoned as of six hours, including intermediate dinner hour)	1 3
Clerical duties. To ratings of the Victualling branch when employed on ships office work in addition to their own under the conditions laid down in Art. 1630 K.R. and A.I. ... ..	1 3
Breadmaking. To the senior cook rating in ships—	
With complements over 600 ... ..	1 0
With complements less than 600 ... ..	0 6

*The above allowance is to cover the extra responsibility of the senior cook rating in combined charge of galley and bakery, and is only payable whilst bakery is worked to satisfaction of Commanding Officer. In ships fitted with bakeries the ship's complement provides for the necessary additional cooks for baking purposes, and baking is the ordinary duty of such ratings, for which no extra payment shall be made.*

ACCOUNTANT STAFF: CLERICAL DUTIES, VICTUALLING, ETC.—*contd.*

	<i>Per Diem</i>
	<i>s. d.</i>
Cook. To person acting as such in a small vessel or tender, whose complement does not include the rating :—	
(a) In a vessel with numbers victualled of less than fifteen ...	0 3
(b) In a vessel with numbers victualled of fifteen or more ...	0 6
Victualling store allowance. Victualling petty officer or victualling assistant when in charge of the victualling of a ship (no Accountant Officer being borne) ...	0 6
To the rating carrying out the duties of a victualling rating in the prolonged absence of such rating, or in small ships not allowed the rating in the complement :—	
(a) In a vessel with numbers victualled of less than fifteen ...	0 3
(b) In a vessel with numbers victualled of fifteen or more ...	0 6
Butcher. To seaman or stoker rating or Marine detailed as such, in ships allowed the rating, but when none is borne ...	0 3
Charge of mess-traps (officers' messes) :—	
Flag Officer's set ...	0 7
Flag Captain's set ...	0 5
Commodore or Captain's set ...	0 6
Commander in Command's set ...	0 4
Lieutenant-Commander or Lieutenant in Command's set ...	0 3
Ward-room officers' mess :—	
Mess of 1 to 4 officers ...	0 2
Mess of 5 to 14 officers ...	0 4
Mess of 15 to 34 officers ...	0 6
Gun-room and warrant officers' messes—	
Mess of 1 to 10 officers ...	0 2
Mess of 10 to 22 officers ...	0 4

## SICK BERTH STAFF.

Dispensing allowance. To all sick-berth ratings serving afloat (above grade of sick-berth attendant) and when acting as dispenser on shore ...	0 3
X-ray assistant. To sick-berth rating qualified (rating must requalify every 3 years) ...	0 6
Masseur. To sick-berth rating qualified (rating must requalify every 3 years) ...	0 6
Laboratory assistant. To sick-berth rating qualified (rating must requalify every 3 years) ...	0 6
Sick-berth attendant. To any rating employed on this duty—	
In a ship in which a sick-berth rating is allowed but not borne, or in a ship in which a sick-berth rating is not allowed nor a Medical Officer borne ...	0 3
In a ship in which a sick-berth rating is not allowed but a Medical Officer is borne... ..	0 2
Operating-room assistant. Qualified ratings to be paid continuously from date of qualification while efficient ...	0 6
Zymotic ward attendant. Payable only when employed in hospitals	0 6

## MISCELLANEOUS ALLOWANCES.

Lamp-trimmer. To seaman or stoker rating detailed for duty as lamp-trimmer in ships allowed the rating ...	0 3
Warrant officers' servant. To able seamen (not holding higher gunnery or torpedo rating) or stoker, 1st class, while actually performing the duty afloat, in lieu of warrant officers' steward or cook ...	0 4
Acting schoolmaster. To the rating giving school instruction in his spare time, and subject to the Captain being satisfied that the duty has been diligently performed ...	0 8

MISCELLANEOUS ALLOWANCES—*contd.*Per Diem.  
s. d.

Ship's library, allowance for care of. Where no schoolmaster or acting schoolmaster is borne; to the rating managing the library ...	0	3
Tailor. To seaman below rating of petty officer ... ..	0	4
Store allowance. In ships whose complement does not include a warrant or commissioned shipwright; to chief shipwright or, at the discretion of the Commanding Officer, to any experienced shipwright rating having charge of carpenter's stores ... ..	0	6
Diver—		
Diver, 2nd class ... ..	0	3
Diver, 1st class ... ..	0	6
Payable under the conditions laid down in the King's Regulations and Admiralty Instructions.		
Artificer Diver—		
Artificer Diver, 2nd class ... ..	0	6
Artificer Diver, 1st class ... ..	0	9
Payable under the conditions laid down in the King's Regulations and Admiralty Instructions.		
Diving instructor. To the chief petty officer or other rating instructing divers or artificer divers ... ..	0	9
Good conduct badges. For each badge up to a maximum of three ...	0	3
Grog-money. To be credited quarterly in advance at the rate of £1 ls. per quarter, and paid in a lump sum in the next quarterly settlement. The allowance is to be credited at the rate of 3d. per diem for parts of a quarter or for broken periods, and adjusted at this rate on discharge, etc., during the quarter, subject to the maximum of £1 ls. not being exceeded. The option to change from "temperance" to "grog" can only be exercised quarterly, <i>i.e.</i> , from the first day of the subsequent quarter.		
Captains of heads, ratings performing duties ... ..	0	6
Senior allowance. Payable at the discretion of the Naval Board.		
Chief Yeoman of Signals ... ..	}	0 6
Chief Petty Officer Telegraphist ... ..		
Gunnery Instructor, Royal Marines ... ..	1	6

## TROPICAL ALLOWANCE.

Tropical allowance at 1s. 6d. per diem is payable under the conditions laid down in the King's Regulations and Admiralty Instructions.

## MARRIAGE ALLOWANCE.

On production to the High Commissioner for New Zealand of satisfactory evidence of marriage, marriage allowance shall be payable to ratings at a flat rate of 2s. per diem, with the addition of 6d. per diem for each child under the age of 16 up to a maximum total of 5s. in all, *i.e.*—

For wife ... ..	2	0
For wife and 1 child ... ..	2	6
For wife and 2 children ... ..	3	0
For wife and 3 children ... ..	3	6
For wife and 4 children ... ..	4	0
For wife and 5 children ... ..	4	6
For wife and 6 children or more ... ..	5	0

The following conditions shall govern the payment of marriage allowance :—

- (a) In the case of a chief petty officer, petty officer, or man, an allotment must be declared of at least one-half of his active pay (excluding allowances) plus the full amount of the marriage allowance.



- (b) Marriage allowance may be paid to widowers with children under the age of 16 years in accordance with the following scale, subject to an allotment being declared in favour of a guardian of one-quarter of active pay (excluding allowances) plus the full amount of marriage allowance :—

							<i>Per Diem.</i>
							<i>s. d.</i>
One child	...	...	...	...	...	...	1 6
Two children	...	...	...	...	...	...	2 0
Three children	...	...	...	...	...	...	2 6
Four children	...	...	...	...	...	...	3 0
Five children	...	...	...	...	...	...	3 6
Six children or more	...	...	...	...	...	...	4 0

Application for the allowance should be made on the appropriate form which is obtainable from the Office of the High Commissioner for New Zealand. On completion by the man, the form should be handed to the Accountant Officer who should re-transmit it to the New Zealand Government Offices in London.

(A.F.Os. 1045/28 and 2394/28.)

**2089.—Naval Observers—General Progress Book.**

(C.W. 2843/28.—24.8.1928.)

A general progress book is to be kept in all H.M. ships carrying Naval observers.

2. A suitable form is S.519—Midshipmen’s Journal—which will be supplied, on demand, in accordance with following establishments:—

“ Argus ”	}	2 copies annually.
“ Hermes ”		
“ Eagle ”		
“ Furious ”		
“ Courageous ”		
“ Glorious ”		

Other ships carrying aircraft 1 copy annually.

3. The form in which the record is to be kept is immaterial, but it should contain the following information:—

- (a) The types of exercises carried out in the air by each observer, and the dates.
- (b) A brief narrative of all exercises carried out in the air, with the remarks of the senior observer upon them.
- (c) Remarks and suggestions by observers themselves.
- (d) Remarks by signal and photographic officers on the work of their own departments.
- (e) Any other information which the Commanding Officer of the carrier may consider desirable.

4. The book is to be signed, monthly, by the Captain and is to be produced at inspections.

**\*2091.—Bugler—Relinquishment of Rating.**

(N. 1679/28.—24.8.1928.)

No difficulty is to be placed in the way of relinquishment of the Bugler rating by men desirous of qualifying for confirmed non-substantive rating.

2. A Bugler may qualify as acting rangetaker, 3rd class, acting seaman gunner, or acting seaman torpedoman, without dropping the Bugler rating.

3. The Bugler rating must, however, be relinquished on advancement to leading seaman, on qualifying as a submarine detector rating, seaman gunner, or seaman torpedoman, or on being employed as an acting rangetaker, 3rd class, acting seaman gunner, or acting seaman torpedoman, in a vacancy in complement, as provided for in King’s Regulations and Admiralty Instructions, Appendix XVII, Part 3, No. 54.



2. These loaders can be attached to any mounting fitted with the necessary pad piece. The rear end of the loader is held in position by the carrier hinge pin. The loaders will be issued complete with dummy breech mechanisms and interceptors. The shot guides fitted to the parent guns are to be used at the loaders when required.

3. The general arrangement of the loaders and instructions for fitting are shown on sketches E.F.O. 87/28 (1) and (2). The work of fitting is to be carried out by the artificers of the fleet.

4. The Rear-Admiral (D) is to allocate the loaders provided for the use of the ships of the 3rd and 4th Flotillas, other than the leaders.

5. No loading teachers are available for ships now in reserve. In the event of any of these ships being brought forward for service in place of vessels supplied with loaders, the latter are to be transferred.

### 2103.—*Issued Confidentially.*

#### 2106.—M Type Transmitters, Mark II, as Fitted in the Combined High and Low Angle Directors.

“Nelson,” “Rodney,” “Tiger,” “Adventure,” “Courageous,” “Albatross,”  
“Medway” and “Resource.”

(G. 4242/28.—24.8.1928.)

Missing step has occurred in motors working off the above type of transmitters due to the springs being too weak to maintain sufficient pressure between the brushes and the transmitter drum.

2. The pull required to just lift the brush off the drum of transmitters of this type should be from 8 to 12 oz.

3. Brush pressures should be tested and adjusted to give the pressures stated above, either by cutting off one or two turns of the spring or fitting new springs.

#### 2107.—Mildew in Ammunition Packages.

(G. 8404/28.—24.8.1928.)

Mildew has been found present on the internal fittings of certain ammunition boxes. Mildew will not develop without moisture, but when developed is highly infectious and will spread to other wood work. In the event of mildew being discovered in an ammunition package, the box and fittings should be thoroughly cleaned with strong disinfectant, the felt packing piece destroyed, and the package returned to Naval armament depot on the first convenient opportunity. A report is also to be rendered giving—

- (i) Full particulars of all markings on the package.
- (ii) Information of the condition of the lining, particularly as regards water-tightness, and condition of luting.
- (iii) Any circumstance under which it was possible for moisture to have entered the box since receipt on board.

### 2108.—*Issued Confidentially.*

## 2111.—Temperature Detectors for Dynamos and Large Motors Installed in H.M. Ships.

(S. 4757/28.—24.8.1928.)

With a view to gaining definite information, under service running conditions, regarding the internal temperatures of coils of dynamos and large motors, arrangements were made for temperature detectors to be installed in the undermentioned ships, viz:—

H.M.S. "Adventure."	H.M.S. "Sussex."
H.M. Submarine "X.1."	" "Shropshire."
H.M.S. "Kent."	" "Oberon."
" "Suffolk."	" "Osiris."
" "Cornwall."	" "Oswald."
" "Berwick."	" "Otus."
" "Cumberland."	" "Olympus."
" "London."	" "Orpheus."
" "Devonshire."	" "Odin."

2. Sufficient information for design data has now been obtained and it is not proposed to extend the fitting of temperature detectors or embedded thermo couples to any other ships. Ordinary thermometer readings when considered in conjunction with the specified allowable limits give ships' officers sufficient information regarding temperature for operational purposes. Should, however, there be modifications in the types of dynamos and motors now in use, or in the method of ventilation, thermo couples may again be required for the purpose of obtaining design data.

3. In the ships mentioned above in which the instruments have already been fitted they are to be retained on board, but in the event of their becoming defective they should be surrendered and returned to store.

4. The thermo couples specified for H.M.S. "Osiris" and class will be disconnected and returned to store after further comparative design data has been obtained during the shop and sea trials of these ships.

5. Attention is drawn to the fact that in many instances where thermo couples have been inserted in the field windings for design purposes, but for which no indicators have been supplied, the terminals for the thermo couples remain on the field coils and no connection should be made to these terminals. In the event of any field coil becoming defective and requiring re-winding, the thermo couples should be omitted.

## 2112.—Watertight Compartments in H.M. Ships—Securing of Fittings.

(S. 3113/28.—24.8.1928.)

Attention is drawn to the instructions in the King's Regulations and Admiralty Instructions and the Engineering Manual regarding the maintenance of watertightness of compartments in H.M. ships and to the importance of strict adherence to these regulations.

2. As the difficulties in maintaining compartments efficiently watertight are largely due to the existence of holes left unplugged when new fittings have been added, and as these difficulties would be obviated by the use of welded studs, it has been decided that in future, for all fittings such as instruments, electrical lead clips, furniture securing clips, etc., which require securing by screwed connections to bulkheads and decks, holes are not to be drilled, but that the "cyc-arc" or other welding process is to be adopted for all studs up to and including half-inch.

3. Where drilling and tapping may be necessary, such work should only be carried out by requisition on the Constructive Department of H.M. Dockyards, or with the direct concurrence of the Officer-in-charge of that department, who is held responsible for watertightness generally.

**2113.—R.N. Volunteer Reserve Ships—Refits of Boats.**

(D. 9827/28.—24.8.1928.)

The following is an extract from a letter dated 30th May, 1928, from the Commanding Officer, London Division, R.N. Volunteer Reserve, relative to the boats of H.M.S. "President":—

"It is suggested that the boats should be taken away to the firm's establishment and painted under cover, as the dirt and dust from the Embankment spoils the first coat as soon as it is put on, hence the second and final coat does not give the boats a fair chance to keep up their appearance for the remainder of the year."

2. The foregoing proposal is approved and this procedure is to be followed in future in the case of H.M.S. "President" and any other R.N.V.R. vessels where similar conditions apply.

3. The contractors are to be responsible for the boats whilst in their charge.

**2123.—Oil Fuel—H.M. Ships Fitted and Partly Fitted with Heating Coils.**

(N.S. Fuel 8335/27.—24.8.1928.)

Ships at present fitted and partially fitted with heating coils in their bunker tanks are as follows:—

**BATTLESHIPS AND BATTLE CRUISERS.***Ships Fitted with Heating Coils.*

"Barham."	"Ramillies."	"Rodney" (except Diesel oil fuel tanks).
"Hood."	"Renown."	"Royal Oak."
"Malaya."	"Repulse."	"Royal Sovereign."
"Nelson" (except Diesel oil fuel tanks).	"Resolution."	"Valiant."
"Queen Elizabeth."	"Revenge."	"Warspite."

**CRUISERS.***Ships Fitted with Heating Coils.*

"Adventure" (Minelayer).	"Cleopatra."	"Dunedin."
*"Australia."	"Comus."	"Durban."
"Berwick."	"Concord."	"Effingham."
"Cairo."	"Conquest."	"Emerald."
"Calcutta."	"Cornwall."	"Enterprise."
"Caledon."	"Coventry."	"Exeter."
"Calypso."	"Cumberland."	"Frobisher."
*"Canberra."	"Curaçoa."	"Hawkins."
"Canterbury."	"Curlew."	"Kent."
"Capetown."	"Danae."	"London."
"Caradoc."	"Dauntless."	"Norfolk."
"Cardiff."	"Delhi."	"Suffolk."
"Carlisle."	"Despatch."	"Sussex."
"Centaur."	"Devonshire."	"Shropshire."
"Ceres."	"Diomedea."	"Vindictive."
"Champion."	"Dorsetshire."	"York."
	"Dragon."	

\*Australian vessels.

*Ships Partly Fitted with Heating Coils.*

"Calliope."	"Carysfort."	"Constance."
"Cambrian."	"Castor."	

**AIRCRAFT CARRIERS.***Ships Fitted with Heating Coils.*

"Argus."	"Furious."	"Hermes."
"Courageous."	"Glorious."	"Pegasus."
"Eagle."		

## PATROL BOATS.

*Ship Fitted with Heating Coils.*  
 "Spey."

## MINESWEEPERS.

*Ships Fitted with Heating Coils.*  
 "Bridgewater" (except Diesel oil fuel tanks)      "Sandwich" (except Diesel oil fuel tanks).

## DESTROYERS.

*Ships Fitted with Heating Coils.*

"Acasta."	"Restless."	"Thruster."
"Achates."	"Romola."	"Tormentor."
"Acheron."	"Rowena."	"Torrid."
"Active."	"Salmon."	"Umpire."
"Amazon."	"Saumarez."	"Valentine."
"Ambuscade."	"Seymour."	"Valhalla."
"Antelope."	"Shikari."	"Valkyrie."
"Anthony."	"Skate."	"Valorous."
"Ardent."	"Swallow."	"Vanquisher."
"Arrow."	"Taurus."	"Vimiera."
"Broke."	"Teazer."	"Whitehall."
"Codrington."	"Tempest."	"Witch."
"Grenville."	"Tetrarch."	"Worcester."
"Keppel."	"Thisbe."	"Wren."

*Ships Partly Fitted with Heating Coils.*

"Abdiel."	"Shakespeare."	"Tyrant."
"Sabre."	"Spenser."	"Vanoc."

## REPAIR SHIPS.

*Ship Fitted with Heating Coils.*  
 "Resource."

**2124.—Filters for Drinking Water.**

(N.S. 8817/28.—24.8.1928.)

Filters for drinking water are not to be supplied in future for any service, and arrangements should be made for any at present in use to be returned to store for disposal. The Establishment of Naval Stores for Overseas W/T Stations, page 202, the Establishment for R.N. Camp, Diyatalawa, and any other Establishments affected should be amended accordingly.

2. Water for drinking purposes may be purified by boiling or chlorination in accordance with the existing instructions.

3. Clarification can be carried out by boiling the water, allowing it to stand until cool and filtering through clean flannel. Where there is any danger of pollution during this process, the water should finally be boiled again.

**\*2158.—H.M.S. "Greenwich"—Drafting of Ratings.**

(N. 2729/28.—31.8.1928.)

All ranks and ratings detailed for H.M.S. "Greenwich" at Rosyth are to be sent to Inverkeithing Station (L.N.E.R.), and the Commanding Officer, H.M.S. "Greenwich" (telegraphic address:—"Reserve, Rosyth"), is to be informed of the time of the arrival of their train.

2. Necessary arrangements for transport from the station to H.M.S. "Greenwich" are to be made by the Commanding Officer, H.M.S. "Greenwich."

## 2160.—Naval and Naval Armament Stores for H.M. Ships building at Contractors' Works—Procedure for Consigning, Charging and Transferring.

(G. 11359/27.—31.8.1928.)

An instance having occurred in which considerable unnecessary delay and confusion were caused through non-observance of the procedure laid down regarding the above, the following instructions concerning the accounting for Naval, and Naval Armament Stores, supplied to ships building at contractors' works are to be carefully observed in future.

1. All Naval, and Naval Armament Stores except such Naval Stores as are properly dealt with by the gun mounting, or engineer overseers, are to be consigned to, and will remain in the charge of, the Admiralty ship overseer concerned at the building yard, until such time as the Accounting Officers appointed to the ship are able to take full responsibility for the safe custody of their stores. The name of the ship or ships for which the goods are intended should be indicated on the consignment notes and packages. Where two or more ships are being built at a private yard under the supervision of separate overseers, the stores should be consigned to, and correspondence addressed to, the respective overseers.

2. If, for any reason, stores destined for a ship are ordered to be delivered elsewhere than on board, they are nevertheless to be consigned, and charged, to the ship overseer, a notation being inserted on consignment notes and vouchers as to the actual place of delivery.

3. When Naval Armament Stores in the charge of an Admiralty ship overseer are returned, vouchers on Form O.2, in addition to the usual Consignment Note on Form D.80, are to be furnished to the depôt to which the stores are returned. These vouchers should show, in addition to the usual data, the name of the depôt (if known), from which the stores were originally received. Supplies of Forms O.2 may be obtained in the usual way.

4. When Naval Armament Stores in the charge of one Admiralty ship overseer are transferred to the charge of another overseer, the transferring officer is to secure on Voucher Form O.2 the signature of the receiving overseer for the stores and packages transferred, and is to transmit the voucher to the depôt which supplied the items originally, if known. If not known, such vouchers are to be forwarded to the Chief Superintendent of Armament Supply, Admiralty (Branch E).

5. When a ship's store rooms have been completed, and in other respects conditions on board are favourable to the necessary oversight of stores being exercised, the several ship's accounting officers, on a date to be agreed upon with the overseer, are to take over charge of their respective stores.

(a) *Naval Armament Stores.*—Two lists of the stores taken over from the overseer are to be prepared by the Accounting Officer. One copy signed by him is to be given to the overseer as an acknowledgment of receipt of the stores. The other copy is to be signed by the overseer, and retained by the ship's Accounting Officer in the Guard Book for supply vouchers in support of the "first charge" (*vide* paragraph 7, page IV, S.1423—Gunners' Naval Armament Store Ledger).

(b) *Naval Stores.*—The relative supply notes are to be handed over by the overseer to the Accounting Officer on the latter assuming charge, and a receipt duly obtained for these vouchers and the articles detailed thereon.

6. In order that any subsequent issues made to the ship whilst at contractor's works may be properly consigned, and charged, each ship's Accounting Officer is to inform the issuing officers at the yards and depôts with which he is concerned, of the date on which he has taken over the charge of his stores.

**2165.—Torpedo Warheads—Care and Maintenance.**

(G./N.O. 1493/28.—31.8.1928.)

3017/31

Dents in torpedo warheads which are considered by Inspecting Officers not to affect the serviceability of the heads will in future be painted white over the whole area of the dent.

2. The monogram of the dépôt (at Woolwich the workmark of the examiner) passing the dent will be stencilled alongside.

3. The object of this marking is to determine whether a warhead has received any further damage subsequent to last examination.

**2167.—Q.F., 2 pdr., Sub-calibre B.L., 4 in., Mark IX-IX\*\*\*, and 4.7 in., Mark I-I\* Guns, L.A., Mark I—Modification to E.M. Firing Gear.**

(G. 11750.—31.8.1928.)

The electro mechanical firing gear supplied for use with Q.F., 2 pdr., sub-calibre B.L., 4 in., Mark IX-IX\*\*\*, and 4.7 in., Mark I-I\* guns, L.A., Mark I, is to be modified by the trigger securing pin being altered to prevent head of pin turning and fouling breech ring and cutting away of supporting bracket to suit. The work should be carried out to the gear on board H.M. ships and in store by R.N.A. Dépôt Staff when opportunities offer in accordance with Instructional Print N.O.D. 2157/58, copies of which will be distributed to dépôts concerned shortly.

(A.F.O. 2397/27.)

**2169.—Gun Mountings—Director Change-over Pistols.***"Nelson," "Rodney," "Adventure" and "Kent" Class.*

(G. 11558/28.—31.8.1928.)

The following extract from a report by the Commanding Officer, H.M.S. "Rodney" is circulated for information viz. :—

\* \* \* \* \*

2. It appears desirable to fit a quick action release, to come into operation as soon as the grasp of the hand starts to be relaxed. At present the release is a trifle slow and, as a result cases have occurred in "Rodney" as follows:—

Salvo fired.

Director layer starts to relax grasp.

Another gun brought to the ready as soon as salvo fires.

As soon as interceptor of this gun is made, the gun fires, presumably because contact has not been immediately broken at the director pistol when the layer started to relax his grasp.

\* \* \* \* \*

2. The delay in breaking contact is most probably caused by the presence of stiff grease in the trigger plunger.

This may be eased by the introduction of light mineral oil and if no improvement is effected the pistol is defective and should be stripped down for examination.

**2170.—Box Slides "K," Mark I\*\*, II\* and III.**

(G. 4236/28.—31.8.1928.)

Reports rendered show that the modifications carried out to the above box slides have been generally effective in preventing tubes jumping out of the vent on closing the breech, provided that the correct drill is carried out.

(C18807)

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2. The action of the tube retainer is as follows:—

- (a) On opening the breech the tube is ejected as usual and the retainer held to the left by the spring stop.
- (b) A tube having been inserted the spring stop must be tripped by pulling the T handle to the rear and releasing it. This allows the tube retainer to move to the right over the head of the tube.
- (c) On closing the breech the lock forces the retainer to the left clear of the tube till the spring stop engages and holds the retainer.

3. *Caution.*—(i) If the breech is nearly closed and the B.M. lever then withdrawn, ejection may commence before the tube retainer is cocked. This will cause a jam and may result in fracture of the retainer.

(ii) Care must be taken that the mechanism is kept thoroughly clean and that only light oil is used for lubrication.

(A.F.O. 103/26.)

### 2178.—Supply and Branch Breakers—Overheating of Brush Contacts—REPORTS.

*Battleships, Battle Cruisers and Cruisers.*

(G. 11171/28.—31.8.1928.)

Trouble having been experienced with the brush, Pattern 2914, fitted to supply and the larger sizes of branch breakers through overheating, attention is drawn to the necessity of carefully checking the working parts of the operating mechanism.

2. If the brush contact is not maintained with sufficient pressure, owing to worn working parts or other causes, considerable heating may be experienced even though the brushes have been properly bedded down.

3. Reports should be forwarded through the appropriate Administrative Authority by all Commanding Officers of battleships, battle cruisers and cruisers of any future trouble experienced with these breakers, and should state in all cases—

- (i) The millivolt drop across the brushes.
- (ii) The approximate current at the time of the millivolt test.
- (iii) The actual temperature attained, with the approximate average current during the period of an hour preceding the taking of the temperature.

### 2190.—Gyro Compass Repeater Cards—Trials of Mica Cards—REPORTS.

*Commander-in-Chief, Atlantic Fleet and China Station and Slough.*

(N.S. 7192/28.—31.8.1928.)

With a view to obviating the shrinkage and warping experienced with the present type of gyro compass repeater cards, a new type of card made of mica has been designed, and twelve cards, complete with lubber rings, spacer rings and baffle rings, suitable only for use with gyro compass repeaters, Admiralty design Mark V, have been purchased for trial. With regard to the graduations, two alternative processes have been employed, particulars of which are as shown below and six sets of each have been provided for.

- (1) White markings on a black background, the markings being produced by machine engraving over a thin coating of black paint. In the case of the lubber ring the under surfaces of the port and starboard halves have been coloured red and green respectively.
- (2) Black markings on a white background for the card and red and green markings for the lubber ring. This is photographic process.

2. The trials are to be carried out in ships of the Atlantic Fleet and on the China Station. Two sets of each of the above description of cards will be sent to the Commander-in-Chief, Atlantic Fleet, and four sets of each to the Commander-in-Chief, China Station from Slough, when available, and the Commanders-in-Chief are requested to report the names of the ships in which the trials will be carried out.

3. The new cards and their components should be fitted in place of the existing cards and their components, in accordance with diagram E.F.O. 134/27.

4. Reports should be forwarded after six months' experience stating whether :—

- (a) These cards are free from the tendency to shrink and warp which has been found with celluloid cards.
- (b) There is any tendency for the paint to crack or peel off, more particularly when exposed to tropical sunlight.
- (c) The cards with white figures on black are considered preferable to the ordinary marking for all purposes.
- (d) It is considered that mica cards should be used in lieu of celluloid for all gyro compass repeaters in the future.

5. *Slough only*.—An order, C.P.15633/28/F.1026, dated 30th July, 1928, has been placed with Messrs. Henry Hughes & Son, Ltd., for six sets of each of the cards referred to herein to be delivered at Slough for distribution as stated.

### **2191.—Replace Springs for Cockburn-MacNicoll Safety Valves— Local Purchases.**

(C.P. 11160/28.—31.8.1928.)

Whenever purchases of replace springs for safety valves of the Cockburn-MacNicoll type are made in future, tenders are to be invited from recognised spring makers in addition to Messrs. Cockburns, Ltd.

### **2193.—Naval Artificer Apprentices—Supply of Tools.**

(N.S. 5528/27.—31.8.1928.)

When Naval Artificer Apprentices are desirous of obtaining their first outfit kit of tools through the Mechanical Training Establishment, the procedure to be adopted is as follows :—

- (a) Admiralty pattern tools are not to be supplied from stock, but purchase of commercial tools of approved design and quality (i.e., articles not stamped with the broad arrow) should be made by the Superintending Naval Store Officer in consultation with the Mechanical Training Establishment and the yard officers.
- (b) The usual percentage charges applicable to supplies to private individuals are not to be charged in this instance, but an agency fee of 5 per cent. is to be charged on all such purchases, provided the tools on receipt are issued direct to the Mechanical Training Establishment, thus obviating charges for stowage and custody in the dockyard.
- (c) The usual percentage charges applicable to supplies of Naval stores to private individuals (at present 15 per cent.) is, however, to be added to the value of all material used by the Mechanical Training Establishment in making tools for apprentices.
- (d) The recovery of the amounts due from apprentices for tools supplied is to be made by instalments deducted from their wages over a period not exceeding six months.

- (e) The sums due from each apprentice for tools supplied (whether manufactured in the Mechanical Training Establishment or purchased from the trade) should be charged in one sum on the ledger at the time of issue (Cr. Vote 8, II, J.1.c), the resulting balance debtor being liquidated by each apprentice being paid less than his normal fortnightly advance by the amount of the instalment agreed upon.

In order that purchase may be arranged on the most economical terms and so that the most suitable tools may be selected, catalogues of tools from various firms showing trade prices and discounts have been sent to Portsmouth.

## 2206.—“ Teakoid ” and similar Composition Deck Coverings— Precautions to be taken when applying in H.M. Ships.

*H.M. Dockyards.*

(D. 9036/28.—31.8.1928.)

With a view to the prevention of corrosion of metal surfaces in spaces where flooring of “ Teakoid ” or of similar material is laid, it has been decided that in such spaces, before laying, all metal surfaces (steel or aluminium) which are liable to be in contact with the composition are to be coated with two good coats of bituminous solution.

2. Care should be taken that these coats are unbroken and that all moisture is dried out before applying the “ Teakoid ” or other flooring.

## 2214.— Acting Gunnery Ratings—Training at Sea.

(N. 2661/28.—7.9.1928.)

Attention is drawn to the importance of training the proportion of acting gunnery ratings in sea-going ships as laid down in Part III of O.U. 5362, 1926.

2. An examination of reports of inspection shows that in a number of ships this has not been done, due possibly to length of courses as laid down being longer than can normally be carried out in the time available.

3. In addition to the necessity of training acting ratings as required in the normal course of preparation of a ship for war, acting gunnery ratings should be trained with a view to their temporarily filling vacancies in the authorised complement, and to provide candidates for courses at the Gunnery Schools.

4. For reasons of economy no increase in the length of shore courses is possible, and if full value is to be obtained from these courses, more individual training at sea is necessary.

5. Revised instructions for the training of acting gunnery ratings have been issued as an amendment to the Gunnery Training Manual, which should enable a class to be completed in a period of 6 weeks under the normal conditions of Fleet routine.

(*K.R. and A.I., Arts. 426, 428, and 430.*)

2226.—*Issued Confidentially.*

**2227.—Breech Mechanisms, B.L. 8 in., Mark VIII-VIII\*, Guns  
—Modification to Lock, Electric, E.H.**

(G. 9543/28.—7.9.1928.)

During drill with B.L. 8 in. guns, an instance has occurred of the retaining pin of lock body contact arm having sheared on closing breech, allowing the contact arm to fall off.

2. Arrangements should therefore be made for the existing pins to be replaced by stronger pins of  $\frac{3}{8}$  in. diameter in accordance with sketch, E.F.O. 92/28. The necessary modification to locks, E.H., on board H.M. ships should be carried out by ship's staff.

**2230.—Swivel Hook Blocks for Hoisting Ammunition.**

*Flotilla Leaders, Destroyers of "V" and "W" Classes.*

(D. 11846/28.—7.9.1928.)

In H.M. Ships "Stuart" and "Vanessa" new pattern blocks of a strengthened type are to be fitted for hoisting ammunition.

2. Drawings of the new blocks will be supplied from Portsmouth Yard.

3. This item should be inserted in the next list of alterations and additions forwarded by the Commanding Officers of these vessels.

4. Similar leaders and destroyers are to include in their next lists of alterations and additions tests of the swivel hook blocks at present fitted for hoisting ammunition. The tests are to be those due to the requirement that the heaviest ammunition case lifted weighs 200 lbs. If the tests show that present blocks are not suitable the new pattern blocks are to be fitted in lieu thereof.

**2232.—Ammunition—Amounts to be carried in Peace Time.**

(G. 9145/28.—7.9.1928.)

The following are the amounts of ammunition which should be carried in peace time:—

(a) Only the approved outfit allowance of full calibre cartridges is supplied to ships, with the exception of fixed ammunition made up with practice projectiles, for which *see* (c) below.

The only variation to this rule is in cases where it is desirable to issue a whole "lot" of cordite, *vide* Article 51 of the Naval Cordite Regulations, 1928.

(b) Cartridges allowed for practice firings are to be taken from the outfit, which should be replenished at the first opportunity.

(c) Up to 12 months' allowance of 1 in. aiming rifle ammunition may be carried and up to 6 months' allowance of sub-calibre ammunition and Q.F. fixed ammunition made up with practice projectiles provided stowage is available.

(d) .303 in. ammunition for aiming rifles is to be taken from the outfit of Mark VII ammunition allowed for small arms and machine guns.

2. No filled shell are to be carried in addition to the outfit allowance, any allowed for practice being taken from the outfit, which should be replenished at the first opportunity.

3. Up to six months' allowance of practice projectiles will be supplied if stowage is available.

4. No additional ammunition is to be embarked in ships ordered to proceed to or from foreign service without special Admiralty approval.

In the interests of economy it is desirable that full use be made of any available ammunition stowage for the conveyance of explosives.

Armament Supply officers requiring transport are to obtain from the Commander-in-Chief the necessary particulars as to stowage available.

2235.—*Issued Confidentially.*

2239.—**Hydrophone Installations—Nomenclature.**

(S.D./G. 13372/28.—7.9.1928.)

The following approved nomenclature for hydrophone installations in surface craft and submarines is promulgated for general information.

2. These sets are now distinguished by "Type" numbers (in a similar manner to W/T and other electrical signalling equipment) of the "700" series.

3. In order to avoid confusion in correspondence, officers preparing alteration and addition lists, rendering reports, etc., on hydrophone equipment, should be careful to use the new nomenclature.

<i>Type No.</i>	<i>General description of installation.</i>	<i>Remarks.</i>
700	Two Mk. IV (microphone) plate hydrophones. In certain cases, where specially approved, an additional (stern) hydrophone may be fitted. One Mk. VI R.D.H. with shaft drive. Type "D" switchboard.	Late Mk. VI. "H," "L," "M" and "R" class submarines. Mk. VI R.D.H. to be superseded by Mk. VIII as opportunity offers.
701	Three Mk. V (microphone) plate hydrophones. One Mk. VIII (microphone) R.D.H. with telemotor drive. (Otherwise similar to Type 700).	Late Mk. VII. Submarine "X.1" only.
702	Three Mk. V plate hydrophones. One Mk. VIII (microphone) R.D.H. with shaft drive. Special intercommunication switchboards. Electromegaphones.	Late Mk. VII*. H.M. Australian submarines "Otway" and "Oxley."
703	Three Mk. VI (moving-coil) plate hydrophones. One Mk. VIII* (microphone) R.D.H. with shaft drive. Special intercommunication switchboards.	Late Mk. VIII. Submarine "Odin" and class.
704	Three Mk. IV (converted to moving-coil) plate hydrophones. One moving-coil R.D.H. with shaft drive. Type "E" switchboard.	Experimental set. Submarines "L.23," "L.26," "L.27," "H.31" and "H.48."
705	Three Mk. VI plate hydrophones (port, starboard and stern). One R.D.H. with shaft drive. Special intercommunication switchboards.	Experimental (moving-coil) set.
706	Two "Hervey-Gardner" hydrophones (port and starboard). Controlled in Chart House.	Submarine "Oberon." Late model outfit UC. Certain surface craft.
706*	Two modified "Hervey-Gardner" hydrophones. Arrangement otherwise as for type 706.	As for type 706.
707	Two Mk. IV plate hydrophones (port and starboard). Controlled in Chart House; also remote reception in D/F office (or D/F bay in C.R.R.).	Late model outfit UD. Certain surface craft.

**2241.—Indicating Instruments for Motors.**

(G. 11110/28.—7.9.1928.)

It has been decided to fit Admiralty pattern ammeters and shunts in lieu of ampere gauges for use with motor-driven machines in H.M.S. "Exeter" and future vessels.

These ammeters will be fitted—

- (i) in cases where the service for which the motor is installed, is particularly important;
- (ii) in cases where it is easily possible to overload the motor in operating the machine, and
- (iii) in cases where the mechanism connected to the motor may be subject to large variations in friction during ordinary working.

2. The following motor-driven machines will accordingly be fitted with ammeters :—

350 ton submersible pumps.  
 100 ton submersible pumps.  
 50 ton bilge pumps.  
 Fire and bilge pumps.  
 General service H.P. air compressors (all sizes).  
 General service L.P. air compressors (all sizes).  
 N.H., compressors.  
 C.O., compressors.  
 Boat hoists.  
 Steering equipment.  
 Forward capstan.  
 After capstan.  
 Deck winches, electro-hydraulic.  
 Deck winches, direct-electric.  
 Seaplane cranes.  
 Catapults.  
 Distilling plant.  
 Turbine turning.  
 Turbine lifting.  
 Diesel engine turning.  
 Forced lubrication pumps.  
 Main circulating pumps.  
 Extraction pumps in engine room.  
 E.A. plant—primary.  
 E.A. plant—secondary.  
 Bakery plant.  
 Fire control table air compressors.  
 Motors for all gun mountings including those for pump units.  
 Motors in all director towers and revolving hoods.  
 Motors for operating all ammunition hoists excluding ammunition bollards.

3. In the case of other motors where, owing to their relative positions, it is difficult to ascertain from the controlling position whether the motor is running, a "running" indicating lamp wired off the motor armature terminals in the starter will be fitted on or near the starter.

4. Prior Admiralty approval must be obtained before the work of fitting this indicating arrangement is put in hand by the shipbuilders.

5. "Running" indicating lamps may accordingly be fitted to the starters of the following electrically driven machines :—

Ammunition bollards.  
 Diesel engine circulating pumps.  
 Fresh water pumps.  
 Cooling water pumps.  
 Water service pumps.  
 Engine room fresh water pumps.  
 Water extraction and fresh water pumps in connection with de-aerating plant.  
 Pneumatic transmission pumps.  
 Lubricating oil pumps for dynamos.

Oil purifier pumps.  
 Water circulating pumps for turbo fans.  
 Kneading machines.  
 Workshop motors.  
 Saw benches.  
 Drilling machines.  
 Crucible furnace blowers.  
 Forge motors.  
 Galley air compressors.  
 Sounding machine.  
 35 in. fans.  
 30 in. fans.  
 25 in. fans.  
 17½ in. fans.  
 12½ in. fans.  
 10 in. fans.  
 7½ in. fans.  
 5 in. fans.  
 Turret danger signals motor alternator.  
 Hummer motor alternator.  
 Armament gyro motor alternator.  
 Warning telephone motor generator.

6. Arrangements will also be made for the motor starters for all machines to have suitable provision for inserting the shunt of a portable testing set.

7. In all existing ships, including new construction vessels, not later than H.M.S. "Exeter," where ampere gauges are fitted, as instruments become defective they should be replaced by the same type of instrument until existing stocks are exhausted. Approval should be sought in all cases for replacing a defective ampere gauge by an ammeter. The pertinent specifications will be amended accordingly.

8. These instructions are not applicable to machines included in the existing W/T and A/S Power boards and Fitting-out Specifications.

**2288.**—*Issued Confidentially.*

**2297.**—**Obturator, B.L. 5·5 in.—Introduction of New Type.**

(G. 19743/26.—14.9.1928.)

It has been decided as the result of extended trials to introduce a new (Mark III) obturator for 5·5 in. guns.

2. This differs from the earlier marks in that it is tapered to the same cone as the obturator seating and thereby conforms to the general practice of B.L. guns in this respect. As the clearance between the solid rear disc of the new obturator and the seating is only five thousandths of an inch, great care should be taken to see the latter is in good condition before the former is shipped.

3. New obturators will be supplied as soon as available. Trial obturators in H.M.S. "Hood" should be retained till service supply has been received.

(A.F.O. 1787/29.)

**2302.**—*Issued Confidentially.*

## 2308.—Procedure in ascertaining Plate Thicknesses when making Drill Tests of Boilers and other Steam Containers.

(D. 13077/28.—14.9.1928.)

The drill test reports on boilers and other steam containers show that there is a growing practice to withdraw fusible plugs, or screwed plugs which have been fitted in test holes at previous examinations, to ascertain plate thicknesses.

2. This practice is not acceptable, and in future when it is considered necessary to gauge plate thicknesses, special holes are to be drilled for the purpose.

## 2324.—Civil Service (Approved Associations) Regulations, 1927 —List of Organisations.

(C.E. 4314/28.—14.9.1928.)

A list of organisations, etc., in respect of which a certificate of approval has been issued and is in force under the Civil Service (Approved Associations) Regulations, 1927, has been promulgated. The following is an extract from this list, showing those organisations which are of interest to members of the Admiralty staffs :—

### I.—ORGANISATIONS OF WHICH THE MEMBERSHIP IS NOT CONFINED TO ONE DEPARTMENT.

Civil Servants, Society of.	Government Buildings Employees' Association.
Civil Service Clerical Association.	Government Minor Grades Association.
Civil Service Designers and Draughtsmen, Association of.	Government Service Society.
Civil Service Legal Society.	Government Storeholders, Foremen and Inspectors, National Association of.
Civil Service Record Keepers, Association of.	Professional Civil Servants, Institution of.
Executive Officers and other Civil Servants, Association of.	Professional Civil Servants, Institution of (Headquarters Association).
Ex-Naval and Military Civil Servants, United Association of.	Women Civil Servants, Federation of.
Ex-Service Civil Servants, Association of.	Women Civil Servants (Higher Grades), Council of.
First Division Civil Servants, Association of.	Women Officers, Higher, in the Civil Service, Association of.

### II.—ORGANISATIONS OF WHICH THE MEMBERSHIP IS CONFINED TO ONE DEPARTMENT.

#### ADMIRALTY.

Ballistic Association.  
 Chargemen's Association, H.M. Dockyards.  
 Chatham Dockyard and District Civil Servants' Association.  
 Chatham Royal Dockyard Ex-Apprentices' and Apprentices' Association.  
 Chemists' Association.  
 Civil Engineer-in-Chief's Department, Association of Professional Officers.  
 Compass Department, Professional Officers' Association.  
 Contracts Department, Technical Officers' Association.  
 Draughtsmen's Association.  
 Electrical Engineers' Association.  
 Established Civil Servants' Federation.  
 Examiners of Dockyard Work, Association of.  
 Hydrographic Department, Association of Cartographers of the.  
 Masters in H.M. Dockyard Schools, Association of.  
 Overseeing Staff Association.  
 Portland and District Established Men's Association.  
 Portsmouth Dockyard and District Established Men's Benefit Society.  
 Portsmouth Royal Dockyard Ships Joiners' Association.  
 Professional Accountants, Association of.  
 Professional Officers' Associations, Federation of.



Royal Corps of Naval Constructors' Association.  
 Royal Dockyard Association of Mechanics on Estimating Duties.  
 Royal Dockyards Associated Professional Officers' Society.  
 Royal Naval Armament Supply Depôt, Subordinate Officers' Association.  
 Royal Naval Cordite Factory Established Men's Association.  
 Royal Naval Cordite Factory Technical Association.  
 Royal Naval Torpedo Factory Established Men's Civil Service Association.  
 Royal Observatory, Greenwich, Association of Astronomers of the.  
 Royal Victualling Yards Subordinate Officers' Association.  
 Scientific and Technical Officers, Association of.  
 Storehouse Staffs, Association of.  
 Technical Officers' Association, Admiralty and Royal Dockyards.

### 2327.—Packing Material for Stores Shipped to Australia.

(N.S. 10409/28.—14.9.1928.)

The instructions contained in A.F.O. 1397/27 forbidding the use of hay, straw or chaff as a packing material for stores shipped to New Zealand are to be applied to shipments to Australia. In the case of Australia, the prohibition covers hay, straw, chaff, oat hulls or material of a similar character.

(A.F.O. 1397/27.)

### \*2334.—Eyesight Standards for R.N., R.M. and R.F.R.—Supply of Glasses to certain Ratings.

(N. 2806.—21.9.1928.)

*New Entries.*—The standards of vision required for men and boys on entry in the Royal Navy and Royal Marines are laid down in Article 47, Recruiting Instructions, as amended.

2. *Glasses.*—All men in the R.N. and R.M. are required to be capable of performing their duties without the aid of glasses, with the exception of the following, who may be permitted to wear glasses to enable them to carry out their duties :—

W/T ratings.  
 Writers (including Boy Writers).  
 Supply Branch ratings.  
 Sick Berth ratings.  
 Regulating Branch ratings (in offices only).  
 Officers' Stewards and Cooks.  
 Ships' Cooks.  
 Boy Servants.  
 Royal Marine Band Ranks.  
 Royal Marine Police.

3. Glasses will be supplied at the public expense to any rating in the classes permitted to wear them whose eyesight becomes defective after entry in the Service, provided he is not considered a fit subject for invaliding. When the defective vision is not attributable to or aggravated by the Service, a recommendation from the Commanding Officer that the retention of the man's services is desirable will be necessary before the provision of glasses at the public expense is approved.

4. Only steel-rimmed spectacles can be supplied at the cost of public funds, or their equivalent value allowed; and supply should always be arranged through the man's depôt unless unreasonable delay would result through this procedure, when supply may be arranged by local purchase. The expenditure involved must only be incurred with duly qualified opticians, and the Commanding Officer must satisfy himself that the price is fair and reasonable, having due regard to the prices obtaining in the district where purchase is made.

5. The cost of replacement or repair of glasses lost or damaged through misconduct or negligence will be charged against the pay of the rating concerned.

6. Refusal on the part of a man to wear glasses, where it has been certified that they are necessary to prevent invaliding, will be regarded as unreasonable, and, if persisted in so as to necessitate invaliding, may result in any award due on discharge being withheld, or granted at a reduced rate, at the discretion of the Admiralty.

7. *Re-engagement*.—All men are to be medically examined before being allowed to re-engage, the visual standards for each rating on re-engagement being as follows :—

Seamen	...	...	...	...	...	6/12 ; 6/12, with the exception of Signal ratings, who must have not less than 6/6 in one eye and 6/12 in the other, and W/T ratings, who must have 6/12 and 6/18.
Sailmakers	...	...	...	...	...	6/12 ; 6/18.
Leading Stokers and Stokers	...	...	...	...	...	6/12 ; 6/18.
Chief Stokers and Stoker P.Os.	...	...	...	...	...	6/9 ; 6/9.
Mechanicians	...	...	...	...	...	6/9 ; 6/9.
E.R.As. and Ordnance Artificers	...	...	...	...	...	6/9 ; 6/9.
Electrical Artificers	...	...	...	...	...	6/12 ; 6/12.
Writers	...	...	...	...	...	} 6/12 ; 6/24.
Supply Branch ratings	...	...	...	...	...	
Sick Berth staff	...	...	...	...	...	
Cooks	...	...	...	...	...	} 6/12 ; 6/18.
Regulating Branch	...	...	...	...	...	
Artisan ratings	...	...	...	...	...	6/12 ; 6/18.
Royal Marines	...	...	...	...	...	6/12 ; 6/12.
Bandsmen	...	...	...	...	...	6/12 ; 6/24.

The defects of vision in all cases should be due to errors of refraction only, and if there is any reason to suspect corneal, choroidal, retinal or optic nerve diseases, or a high degree of hypermetropia, the opinion of an ophthalmic specialist should be obtained before re-engagement is completed.

8. All defects of vision should be capable of correction to 6/6 (both eyes) by glasses, with the exception of those obtaining in W/T ratings, Writers, Supply Branch ratings, and Sick Berth staff, Cooks and Bandsmen, which should correct to at least 6/9 (both eyes).

9. All men re-engaging should be capable of reading D. = 0.6 with both eyes tested separately *without glasses*.

10. Colour vision must be normal for all ratings, except Officers' Stewards and Cooks, and Ships' Cooks.

11. All men re-engaging in the Royal Navy and Royal Marines will be required to be capable of carrying out their duties without the aid of glasses, with the exception of the following, who will be allowed to wear glasses to carry out their duties :—

- Writers.
- Supply Branch ratings.
- Sick Berth ratings.
- Regulating Branch ratings (in offices only).
- Officers' Stewards and Cooks.
- Ships' Cooks.
- R.M. Bandsmen.
- W/T ratings.
- Stokers employed as Engineer Writers.
- Artisan ratings.

12. The fact that a man has been examined and found medically fit for Active Service is to be noted on the re-engagement form, the notation being signed by the Medical Officer.

13. *Re-entry and Re-enlistment*.—For men re-entering the Service within less than 12 years from the original date of entry, the visual standards should be the same as those on entry, except for W/T ratings, who may be re-entered subject to a visual standard of 6/12, provided the defect of vision is due to errors of refraction only and not to disease. If 12 years or over have elapsed since original entry, the same standards as those demanded for re-engagement should be accepted.

14. *R.F.R.*—R.F.R. ratings, Class B, on first enrolment, are to have the same visual standards as Active Service ratings on *re-engagement*.

15. The standard of vision for men in Class A, R.F.R., and men in Class B over the age of 35, should not be below 6/12, except in the case of

W/T ratings, Stokers, and  
Sailmakers, Regulating Branch ratings,  
Leading Stokers,

in whom a standard of 6/12 and 6/18 may be accepted.

16. Mechanics, Chief Stokers and Stoker Petty Officers, R.F.R., must be able to pass the tests laid down in A.F.O. 2959/18.

17. All R.F.R. ratings (except W/T ratings) should be capable of performing their duties without the aid of glasses.

18. *Royal Marine Police.*—The standard of vision for R.M. Police should be not less than 6/12 in both eyes.

## SUMMARY.

Ratings.	New entries, Naval ratings re-entering, and Marines re-enlisting (within 12 years from date of original entry or enlistment), and Royal Marine Police on enlistment.	Re-engagements, Naval ratings re-entering, and Marines re-enlisting (if 12 years or more have elapsed since date of original entry or enlistment), and R.F.R., Class B, on enrolment.	
	R.N. and R.M.	R.N., R.M. and R.F.R.	
Boys (Seaman Class) ... ..	6/6	—	—
Seamen, C.S. ... ..	—	6/12	6/12
Signal ratings ... ..	6/6	6/6	6/12
W/T ratings ... ..	6/12	6/12	6/18
Sailmakers ... ..	6/12	6/12	6/18
Artificer Apprentices ... ..	6/6	—	—
Shipwright Apprentices ... ..	6/6	—	—
Engine Room Artificers ... ..	6/6	6/9	6/9
Ordnance Artificers ... ..	6/6	6/9	6/9
Cooks ... ..	6/12	6/12	6/24
Leading Stoker and Stokers	6/9	6/12	6/18
Chief Stokers and Stoker P.Os....	—	6/9	6/9
Mechanicians ... ..	—	6/9	6/9
Electrical Artificers ... ..	6/9	6/12	6/12
Shipwrights ... ..	6/9	6/12	6/18
Joiners ... ..	6/9	6/12	6/18
Blacksmiths ... ..	6/9	6/12	6/18
Plumbers ... ..	6/9	6/12	6/18
Painters ... ..	6/9	6/12	6/18
S.S. Seamen ... ..	6/9	6/12	6/12
Writers ... ..	6/12	6/12	6/24
Supply Branch ratings ... ..	6/12	6/12	6/24
Boy Writers ... ..	6/12	—	—
Sick Berth Attendants ... ..	6/12	6/12	6/24
Regulating Branch ... ..	6/12	6/12	6/18
Officers' Stewards and Cooks ...	6/12	6/12	6/24
Boy Servants ... ..	6/12	—	—
<i>Royal Marines.</i>			
Marines and Buglers ... ..	6/6	6/12	6/12
R.M. Band ranks afloat and ashore.	6/12	6/12	6/24
Royal Marine Police ... ..	6/12	—	—

Each eye is to be tested separately without the aid of glasses.

All ratings on entry must be able to read D. = 0.6 with both eyes tested separately, without glasses, and should a high degree of hypermetropia be suspected, the candidate should be examined by an ophthalmic specialist before being finally entered.

(A.F.Os. 2959/18 and 1045/29.)

**2339.—Issued Confidentially.****2340.—Blowing Heads—Defective Cocking Levers.**

(G. 5543/28.—21.9.1928.)

Trouble has recently been experienced with some cocking levers for blowing heads—Stamp No. T.241—owing to the after toe not engaging near the centre of the dashpot plunger disc. When this occurs there is a tendency to bend the dashpot plunger which may result in a blowing head failure and loss of torpedo.

2. The sketch E.F.O. 115/28 shows the correct position for the toes of the cocking lever. The after toe is designed to be central over the dashpot plunger when maximum effort is required.

3. Ships are to examine their cocking spanners carefully onboard and, if there is any doubt as to their dimensions, they are to be returned to the nearest torpedo depot for checking.

**2341.—Issued Confidentially.****2345.—Star Shell Firing from Semi-Automatic Guns and Mountings—4 in. C.P. H, and 4 in. H.A. III.**

(G. 6995/28.—21.9.1928.)

In the 4 in. C.P. II and H.A. III mountings the short recoil with star shell charges prevents the controlling ram in the recoil cylinder being sufficiently withdrawn to allow of the cavity being completely filled with liquid. The result is a violent run out and straining and twisting of the cam and crank axis.

2. To avoid such damage to these mountings the gun is to be in "Quick Firing" when firing star shell.

3. The Gunnery Drill Book will be amended in due course.

**2347.—Tracers, Night, Internal, for H.E. Shell and Practice Projectiles, 7.5 in. and below—Distribution.**

(G. 7925/27.—21.9.1928.)

Supplies of increased quantities of internal night tracers are now becoming available, and it will shortly be possible to supply the full outfits to H.M. ships for H.E. shell and practice projectiles 7.5 in. and below (except fixed ammunition).

2. Issue of outfits will be arranged in the following order, viz. :—

- (a) China Squadron.
- (b) Mediterranean Fleet.
- (c) New Zealand.
- (d) East Indies.
- (e) America and West Indies.
- (f) Africa.
- (g) Atlantic Fleet.

3. Demands should be put forward for sufficient tracers to complete to full outfits, and these will be supplied as they become available.

4. Any N.T., H.E. shell on board in excess of the authorised numbers should be returned to store, and non-tracer shell drawn in lieu.

5. Existing stocks of H.E. shell designed for night tracers should not be issued from depôts in future to meet requirements for non-tracer H.E. shells unless such action is specially authorised.

6. Reserves of night tracers will not be distributed until all requirements for outfits have been met, but sufficient for six months' practice replacements are to be maintained at depôts abroad and intermediate demands should be forwarded as necessary.

(A.F.O. 2131/27.)

**2350.—Searchlight Iris Shutter Motors.***Battleships, Cruisers and Destroyers.*

(G. 8464/28.—21.9.1928.)

Defects have been reported in the searchlight Iris shutter motors which are attributed to a lack of lubrication in the friction clutches.

2. Attention is, therefore, called to the necessity for the periodical examination, cleaning and lubrication of the clutches.

3. Where the position of the control switch is such that the control switch handle may sustain damage, a guard, as shown in E.F.O. 96/28, is to be fitted.

**2351.—Junction Boxes for L.P. Services—Clamping Strips for Channel Terminal Blocks.**

*“Nelson,” “Rodney,” “Kent” and “London” Classes.  
“Amazon” and “Ambuscade,” “Oberon” and “O” Class Submarines.*

(G./N.S. 11069/28.—21.9.1928.)

It has been decided to extend the use of clamping strips in channel type terminal blocks fitted in the new designs of low power junction boxes to all No. 1 and No. 3, B.A., terminal blocks, in order to provide protection of the conductor (solid and flexible) against damage from the terminal screw.

2. Arrangements have been made to purchase under Vote 8, Section II, F.1<sup>a</sup>, the following quantity of clamping strips as shown on Drawings Nos. D.T.M. 161/23 and 95/28:—

	<i>Chatham.</i>	<i>Portsmouth.</i>	<i>Devonport.</i>
For No. 1, B.A., block ...	100,000	50,000	50,000
“ 3, “ “ “ ...	25,000	12,500	12,500

3. Ships concerned should forward the necessary demands to the storing yards for the quantities required, the work of fitting being carried out by ships' staffs when the clamping strips are available.

4. The work of fitting these strips in junction boxes of H.M. ships of “London” class should be carried out by the shipbuilders, and the necessary demands for contract-built ships should be forwarded to the storing yards by the overseers concerned.

5. The necessary action for the modification to drawings and instructions applicable to the low power junction boxes for future construction is being taken separately.

**2354.—Condenser Shell Plates—Corrosion.**

(D. 13715/28.—21.9.1928.)

Cases having occurred in which the lower steel shell plating of main condensers was found to be considerably reduced in thickness by external corrosion, careful examination should be made periodically of such plating in all main condensers with a view to any corrosion which may be taking place being dealt with in its early stages.

**2359.—Hervey-Gardner Signalling Apparatus (Model U.C.)—Removal.**

(N.S. 10324/28.—21.9.1928.)

It has been decided that, as Model U.C., at present fitted in H.M. ships, becomes defective, an item is to be inserted in the “Alterations and Additions” List to remove the apparatus and plate the holes in the hull at the next refit.

2. Stocks of Model U.C. apparatus have been disposed of, and the sets removed from H.M. ships should be dealt with similarly.

3. The question of fitting Model U.D. will be considered on the completion of trials now being carried out.

4. In certain cases, however, where in the opinion of Captain A/S representative, the condition of the apparatus justifies it, a minor conversion will be made which will maintain the apparatus in good working order until such time as its removal becomes necessary.

5. Where this conversion is made the ships are authorised to demand from Superintending Naval Store Officer, Portsmouth, the following stores :—

1 in No.	...	...	...	...	Patt. 4805 Transformer.
2 "	...	...	...	...	Patt. 6818 Microphones.
2 "	...	...	...	...	Adaptors, special for Patt. 6818 microphones.

6. *Portsmouth.*—The adaptors will be forwarded to Superintending Naval Store Officer from A/S Establishment, Portland.

7. The conversion will be carried out under the supervision of Captain A/S representative.

8. After conversion the model is to be termed Type 706\*.

9. When ships insert an alteration and addition item as asked for in paragraph 1 the state of the apparatus should be stated in order that its conversion may be considered.

10. Establishment of Stores will be amended in due course.

### **2365.—Oil, Mineral, for Recuperators, Pattern 924—Supply.**

(N.S. 8281/27.—21.9.1928.)

Supplies of oil, mineral, for recuperators, Pattern 924, will be delivered by contractors in returnable sealed drums of 10 gallons and 5 gallons capacity, and care should be taken to ensure that the seals are intact when supplies are issued for use.

2. The oil should be issued in complete containers as received from contractors, and not decanted.

3. The acceptance of consignments of this grade of oil is dependent upon the reports of tests of samples by the Admiralty Chemist and the Engineer Officer in Charge, H.M. Oil Fuel Experimental Works, Haslar. A one-gallon sample from each consignment is to be forwarded to each of the officers referred to for the necessary tests to be carried out.

4. The examining officers should indicate in their reports whether or not the samples conform to the specification and are in agreement with the contract samples.

5. Admiralty decision is to be sought before deliveries are accepted or rejected in cases where an adverse opinion is expressed on either of the points referred to in paragraph 4 in the report of test of any delivery sample.

6. To avoid risk of contamination, samples are invariably to be drawn in glass stoppered bottles, which must be scrupulously clean.

7. The containers from which samples are taken for test should be re-sealed immediately after the samples have been taken.

### **2369.—“Stag” Brand Weatherproof White Paint—Introduction.**

(N.S. 7921/28.—21.9.1928.)

Trials of Macarthur's “Stag” brand weatherproof white paint which have been carried out under Service conditions since February, 1927, have shown that this paint is more satisfactory than the Service pattern white paint, and also more economical owing to its greater covering capacity.

2. “Stag” brand weatherproof white paint has, therefore, been adopted for Service use, but its application is at present to be restricted to inside work only. Future requirements of white paint for this purpose and also of Pattern 517, white flattening ordinary, and Pattern 519, white ground for enamel, should be met by supply of “Stag” brand paint in paste form to the extent of 50 per cent. of the requirements. Exposure tests of this paint are still in progress, and when the result of these tests is known, the extension of its use will be considered.

3. Demands for paint materials by H.M. ships on storing yards should be regulated accordingly.
4. Consequent on the introduction of this paint, allowance should be made in future demands for a corresponding reduction in the expenditure of the ingredients for Pattern 537 white paint, Pattern 517 white flattening ordinary, and Pattern 519 white ground for enamel.
5. "Stag" brand paint, when mixed with Service driers, is somewhat slower in drying than Service pattern white paint. Demands for driers should, therefore, include a proportion of special cobalt driers, which are recommended for use with "Stag" brand paint when quick drying is required.
6. Demands have not yet been received from Malta, Hong Kong and Trincomali, and should be forwarded as soon as possible, provision being made for any increased requirements in consequence of the extension in use of this material.
7. The remaining foreign yards should report as early as possible whether any alterations are necessary to the quantities already demanded.
8. Provision for any additional requirements arising at home yards should be included in Subhead E.6 and 7, Review Demand.

### **\*2373.—"Guide to Civil Employment."**

(N/Sta. 6784.—21.9.1928.)

Ratings who are within 12 months of completing time for pension may be supplied free of charge with a copy of the pamphlet "Guide to Civil Employment," but they are not to be supplied with a second copy on discharge.

2. In order to avoid over-issues, inquiry should be made of men about to be discharged whether they have received a copy of the pamphlet, prior to one being supplied to them.

### **2381.—Temporary Staff—Engagement.**

(C.E. 3546/28.—21.9.1928.)

The following arrangements have been approved for adoption in connection with the future entry of male or female employees in situations for which a Civil Service Certificate is not required and where a medical examination is not already part of the usual arrangements for entry. Where it is already the practice to subject candidates for entry to a medical examination, the practice is not to be modified.

2. Candidates selected for appointment will be required to furnish certain particulars bearing on their health. These should be inserted by the candidate in a Form E.14A, copies of which can be obtained on demand from West India Docks. Where the information furnished by a candidate is such as to afford doubt in the mind of the officer responsible for making the entry as to the candidate's medical fitness for entry, the medical officer of the establishment should be consulted.

3. The above arrangements may be waived for employees entered on a purely casual basis, *e.g.*, for periods of less than three months, and for part-time employees, where in the view of the responsible officer the duties of the post do not bring the employee into contact with other servants of the Crown.

4. References should be obtained from at least two responsible persons as to the character of candidates, and enquiry should be made of the referees as to the state of health of the candidate during the period he or she has been known to the referee.

5. The above procedure will not be applicable to employees allocated through the Joint Substitution Board or the Divisional Selection Committees of that Board, or to other employees on the occasion of interdepartmental transfer.

### 2382.—Private Motor Cars, etc.—Use for Official Journeys.

(C. (II) 4076/28.—21.9.1928.)

The rates of mileage allowance payable to civilian officials in respect of the use of their private motor cars and motor cycles on official duty have been revised as follows with effect from 1st July last:—

	<i>A mile.</i>
(a) Motor cycles without side-car ... ..	2½ <i>d.</i>
(b) Motor cycles used with side-car ... ..	3½ <i>d.</i>
(c) Tricars, and light cars up to and including 8 h.p. ...	4½ <i>d.</i>
(d) Four-wheeled motor cars over 8 h.p. and up to and including 12 h.p. ... ..	5½ <i>d.</i>
(e) Four-wheeled motor cars over 12 h.p. ... ..	6½ <i>d.</i>

2. The rate of allowance for motor cycles is not applicable to motor-assisted bicycles, pedal-assisted motor cycles, motor scooters, or vehicles of similar type, for which a higher rate than 2*d.* should not be allowed.

3. The above rates apply equally whether or not official passengers are carried, and no addition to mileage allowance can in any case be made in respect of a passenger.

4. In any case where the normal mileage rate has been allowed for a total of 7,500 miles in a calendar year the following reduced rates will apply for mileage in excess of 7,500 during the same year, viz., (a) 1½*d.*, (b) 2½*d.*, (c) 2½*d.*, (d) 3½*d.*, (e) 4*d.* For the purpose of this paragraph the expression "calendar year" will be interpreted as the period 1st July to 30th June inclusive.

In view of this regulation the special arrangement in force at Singapore, under which mileage in excess of 500 in any one month is paid for at half rates, is cancelled.

5. Any officer authorised to use his own motor vehicle on official business, whether mileage allowance is payable or not, is required to effect insurance under a "comprehensive policy" (covering use of the vehicle *on official business* and third party risks) and to produce his policy and annual receipts for premiums for inspection. Officers at present authorised to use their own motor vehicles on official business who are not so insured must effect the necessary insurance within a period of one month.

6. All claims in respect of the use of private cars, etc., on official duty should in future be supported by a certificate from the paying officer in the following terms:—

"I certify that \_\_\_\_\_ has produced to me an insurance policy, and receipts for premiums showing that his private car (motor cycle, etc.) is insured under a comprehensive policy (covering the use of the vehicle on official business and third party risks) for the period covered by the claim."

7. The necessary amendments to Article 1163, Home Dockyard Regulations, are being promulgated separately.

### 2391.—Royal Marines—Annual Clothing—Revised Method of Accounting and Issue.

(R.M./V. 922/28.—28.9.1928.)

It has been decided that in future the *annual* clothing for Royal Marine detachments serving in H.M. ships and Naval establishments shall be supplied direct to the R.M. Officer. Such clothing will not pass through the clothing account of the Accountant Officer.

2. Demands for annual clothing are to be signed by the R.M. Officer and approved by the Commanding Officer.



3. The following procedure is to be carried out on receipt of the clothing :—

- (a) The R.M. Officer is to furnish a receipt on the duplicate copy of Form S.89 to the First Quartermaster of the R.M. Division concerned for the whole consignment, except packages.
- (b) The clothing is then to be retained in the charge and custody of the R.M. Officer until actually issued or otherwise disposed of. In no case is the clothing to be issued before the date on which it becomes due.
- (c) The Royal Marine Officer is to hand over to the Accountant Officer the empty packages in which the clothing was contained. Such packages will be vouched direct to the Accountant Officer, who is to bring them to account in the usual manner, and furnish a receipt to the Quartermaster of the R.M. Division concerned. Form S.96 will be used for this purpose.

Forms S.89 are to be prepared in quadruplicate and disposed of as follows :—

- (a) Original ... }  
Duplicate ... } To be forwarded to the R.M. Division concerned.  
Triplicate ... }
- (b) Duplicate ... }  
Triplicate ... } Will be returned to the ship with the clothing.
- (c) Duplicate ... To be used as a receipt for the whole consignment and disposed of in accordance with paragraph 3 (a).
- (d) Triplicate ... To be signed by the recipients of the clothing when issued, the issues certified and the form returned to the R.M. Division. The totals actually issued to N.C.Os. and men are to be entered in red ink below the original totals. This form is not necessarily to be held up until all issues have been completed.
- (e) Quadruplicate. To be signed by the recipients of the clothing when issued and to be retained by the R.M. Officer as his record.

Provision for the foregoing will be made on the reprint of Form S.89.

5. Clothing not issued, *i.e.*, for men disembarked to headquarters, D.D., D., "Run," etc., after demands were prepared, is to be returned to the R.M. Division from which supplied accompanied by a supply and receipt note on Form S.96.

6. Clothing for men transferred to other ships is, if possible, to be issued to them personally. If a personal issue is not practicable the articles are to be supplied to the R.M. Officer of the ship concerned, and a receipt in duplicate on Form S.96 obtained. One copy of the receipt is to be sent to the Quartermaster of the R.M. Division.

7. Clothing for Royal Marines in hospital or detention is to be retained on the charge of the R.M. Officer until issued or the man concerned is discharged from ship's books. If the issue is made after the triplicate copy has been returned to the Division, a receipt is to be obtained from the man on Form S.96 and forwarded to the Quartermaster. Clothing not issued to men before discharge from ship's books is to be returned to the R.M. Division from which supplied as provided for in paragraph 5.

8. On a ship paying off, any unissued clothing is to be disposed of in accordance with paragraph 5.

9. On a change of the R.M. Officer, the new R.M. Officer is to sign a receipt, in duplicate, for the clothing remaining on charge. One copy of the receipt is to be sent to the R.M. Division from which the clothing was supplied.

10. Discrepancies will be adjusted between the Royal Marine Officers and the First Quartermasters of R.M. Divisions. The R.M. Officer will be notified by the Quartermaster when the whole of the consignment has been cleared.

11. All demands, receipts and correspondence in connection with annual clothing are to be headed :—

"H.M.S. .... Annual Clothing (year)....."

12. These instructions are to apply to the issue of annual clothing due in April, 1929.

13. The foregoing in no way affects the existing arrangements whereby the issue of annual clothing to R.M. detachments of ships at home ports may be made at the local R.M. Division, or the issue to ships of the Mediterranean Station through the Royal Marine Clothing Depot at Malta, as provided for in King's Regulations and Admiralty Instructions, Articles 779 (7) and 781.

14. King's Regulations and Admiralty Instructions will be amended in due course.

**\*2394.—Ratings of the New Zealand Naval Forces serving with H.M. (Imperial) Ships and Establishments—Hospital Stoppages.**

(N.P. (II) 1136/28.—28.9.1928.)

Ratings of the New Zealand Naval Forces serving in H.M. (Imperial) ships and establishments are subject to the following regulations in respect of hospital stoppages :—

Men sick on shore or sent to hospital suffering from venereal disease, or from disabilities which are the result of the man's own misconduct, carelessness or neglect, shall be placed on half-pay at the expiration of thirty days, and cease pay at the expiration of ninety-one days.

All such men again checked sick on shore or in hospital within fourteen days from the expiration of their previous period of sickness on shore or in hospital shall be considered as being under continuous treatment, but only those days actually so checked shall be counted for the purposes of reduced pay in accordance with the terms specified above.

For the purpose of hospital stoppages, "half-pay" is to consist of half substantive and half non-substantive pay, but marriage allowance, dependant's allowance, kit upkeep allowance and deferred pay (where payable) will continue in full.

After ninety-one days all pay is to cease (*i.e.*, including marriage, etc., allowance, kit upkeep allowance and deferred pay (where payable)).

(A.F.O. 2088/28, clause 11.)

**2400.—Torpedo Sights—Check Alignment.**

*Vessels Refitting.*

(G. 13990/28.—28.9.1928.)

On all occasions of refitting, ships are to include in their defect lists an item for the check alignment of their torpedo sights and gyro compass repeaters supplied for torpedo control purposes. In the case of submarines this item is to be for the check alignment of the periscope bearing rings and night firing sights, and it is essential that the periscopes are in place and in working order at the time of alignment.

2. In the case of ships refitting at home ports, the dockyard concerned will arrange with the Captain, H.M.S. "Vernon," for the attendance of "Vernon's" Alignment Officer. If this officer is not available, the work will be carried out by the dockyard.

3. Instructions and requirements for alignment are given in O.U.s. 5225, 6146 and C.B. 1675.

**2403.—Director Installations—"Adventure" Type Director Elevation Receivers—Defects.**

*H.M. Ships "Nelson," "Rodney," "Courageous," "Glorious," "Tiger," "Adventure," "Amazon," "Ambuscade," and H.M.A.S. "Albatross."*

(G. 13899/28.—28.9.1928.)

The following report has been received from one of H.M. ships fitted with the above type of director elevation receivers:—

"On removal of the motor the 'red pointer' mechanism was found to be stiff, and on examination it was found that the cone nut of the red minute pointer ball race had eased back, allowing some of the balls to over-ride and jam the mechanism. This cone nut was secured originally only by faint centre punch marks between the threads."

2. All ships concerned should examine receivers of this type as opportunity offers, and to prevent the occurrence of similar defects the following action should be taken:—

A screwed pin should be fitted into the threads of the ball race cone and the boss to which the race is secured; one half of the pin should be in the ball race and the other in the boss.

## 2408.—Transferable Gun Mountings, 4·7 in., 4 in., and 3 in.— Illuminated Open Sights.

*All Dockyards and Parkhead.*

(G. 13992/28.—28.9.1928.)

Arrangements have been made for the supply of fittings for the attachment of illuminated open sights for the following types of reconditioned mountings:—

4·7 in. P.V	4 in. P.II*	4 in. P.IV*
4·7 in. P.X	4 in. P.VI	4 in. P.IV**
4 in. P.II	4 in. P.III*	4 in. P.V

2. Demands for the quantities required to complete mountings in store should be sent to Portsmouth.

3. In the case of 4·7 in. P.V and 4·7 in. P.X mountings which have been reconditioned but have not been fitted with the gear, all Dockyards concerned and Parkhead are to forward an estimate of the cost of fitting if this has not been done.

4. Where 4·7 in. P.V and 4·7 in. P.X mountings have not yet been reconditioned the gear is to be retained in store with the mountings in readiness for fitting when the mountings are reconditioned.

For the remaining mountings indicated above, the gear provided should be placed with the mountings, but should not be fitted pending further instructions.

5. Arrangements have also been made for a supply of tube, fore, and "H" rear sights suitable for the following types of mountings:—

4·7 in. P.V	4 in. P.III**	4 in. P.VIII
4·7 in P.X	4 in. P.IV*	4 in. P.IX
4 in. P.II	4 in. P.IV**	3 in. H.A.II
4 in. P.II*	4 in. P.V	3 in. H.A.IIA
4 in. P.III	4 in. P.VI	3 in. H.A.III
4 in. P.III*	4 in. P.VII	3 in. H.A.IV
		3 in. H.A.IVA

6. Demands to complete serviceable mountings should be forwarded to Portsmouth.

7. The fittings are not to be completed with radium compound nor attached to mountings until these are required for issue on service, but should be retained in store.

8. Arrangements are to be made for a stock of these fittings to be maintained at Portsmouth to meet future requirements.

## 2409.—Guns, Machine, Lewis and Savage-Lewis, ·303 in.— Instructions to Improve Functioning.

(G. 17031/27.—28.9.1928.)

Some difficulty having been experienced in arriving at the best adjustment for the tension of the return spring in ·303 in. Lewis and Savage-Lewis guns, the following information is promulgated for information:—

2. These guns can be made to function with a large variation (from 4 lb. to 15 lb.) in the weight of the return spring, but the rate of fire is dependent on the tension and increases as the tension is raised. The rate of fire required is dependent on the target requirements, but it will be found that a good average rate can be

obtained with a tension of approximately 13 lb. This weight should be aimed at, but it is permissible to increase it to 15 lb. if circumstances require it. This higher weight should not be exceeded, as although in some cases the gun can be made to function, the very rapid rate of fire obtained is liable to damage the delicate parts of its mechanism.

3. Arrangements will be made by armament depôts to adjust any guns before issue, and to attach a label showing the most suitable tension for the return spring.

4. The magazines are somewhat fragile, being easily damaged if roughly handled, and care should be taken to avoid rough usage. They are also easily rendered unusable by the presence of foreign matter. A gauge concentricity of magazine for checking the external contour and the position of the separating pins is supplied for service, and after use magazines should be gauged with this gauge, and, if necessary, adjusted with the tool provided with the gauge, the circumferential portion being bent in the direction required, and the pins similarly dealt with if not truly vertical.

5. After use magazines should be carefully cleansed, and this should be done by immersing them in G.S. lubricating oil, when any foreign matter is loosened and can be easily removed.

### **2411.—Main Motor Starting Resistances of Messrs. Whipp and Bourne Design—Repairs.**

*“ H ” Class Submarines.*

(D. 11856/28.—28.9.1928.)

When carrying out repairs to main motor starting resistances of Messrs. Whipp & Bourne design, in H.M. submarines of “ H ” Class, rust-proofed steel washers are to be inserted between the outer mica washer and the resistance strip, on those lengths of strip at the ends of the supporting rods where at present mica washers only are fitted on each side of the strip.

### **2414.—Issued Confidentially.**

### **2416.—Babcock & Wilcox Boilers—Wear of Headers.**

(D. 13977/28.—28.9.1928.)

Recent close examination of boilers, as required by A.F.O. 1902/27, shows that the headers of Babcock & Wilcox boilers are liable to develop cracks in the radius between the front face of the downtake or front header after the boilers have been in continuous use for 14 or 15 years.

2. The cracks are generally located in the wake of the horizontal bridge of steel between the first and second bottom hand holes. They generally commence at the root of the folds in the steel caused during the forming process of the headers, but isolated cases have been observed in other positions.

3. Special attention is accordingly to be given to the condition of the headers when ships fitted with Babcock & Wilcox boilers undergo the periodical drill test examination, and the condition of the headers in this respect is to be inserted on Form S.356B.

4. The renewal of any tubes or headers should be recorded on the boiler history sheets, *vide* Article 172 of the Engineering Manual, 1923.

5. Close attention should also be given to the fit of the hand hole doors, and all dogs securing the doors should be placed in a vertical position when in place on the boilers in order to give the bridges the full support of the doors.

6. A modified type of dog, having a width of foot of  $3\frac{1}{2}$  in., should be fitted in those positions where the bridge of metal between adjacent holes has become worn, or where internal surface cracking is evident.

7. Patterns of the modified dog can be obtained from Portsmouth Dockyard.

(A.F.O. 1902/27.)

**2417.—Issued Confidentially.****2425.—Lubricating Oil for Motor Transport.**

(N.S.M.T. 330/28.—28.9.1928.)

It has been decided that future demands for lubricating oil for motor transport purposes should not specify any particular proprietary brand, but that the demands should be made under the following descriptions:—

M.T. oil, No. 6.—Suitable for Ford engines and gear boxes.

M.T. oil, No. 7.—Suitable for Morris engines and Thornycroft tractor engines.

M.T. oil, No. 8.—Suitable for A.E.C., Austin, Stevens' P.E., Guy, Talbot and Fordson engines, and Austin and Guy gear boxes.

M.T. oil, No. 9.—Suitable for Morris, A.E.C., Talbot, Fordson, and Thornycroft tractor gear boxes, and for the rear axles of vehicles of all makes.

2. Copies of the purchase orders sent to the yards, etc., will indicate the particular services for which the grades of oil are intended.

3. If difficulty is experienced in using the particular brand purchased for any of the purposes detailed, or an ordinary Service oil is found equally suitable and cheaper, a report should be forwarded.

4. The Rate Book of Naval Stores will be amended in due course.

**2426.—Admiralty Motor Ambulances—Use.**

(N.S.M.T. 358/28.—28.9.1928.)

The instructions in A.F.O. 3158/26, paragraph 72, Clause II (a), relative to the employment of Service vehicles for private individuals are not intended to apply to Admiralty motor ambulances.

2. Service motor ambulances may be utilised in an emergency for the conveyance of Service personnel, and private individuals in exceptional cases where no other transport is available, at the discretion of the heads of establishments to which naval ambulances are attached, and on the approved repayment terms where the expense is not chargeable to Navy funds by regulations.

3. In the event of a Service ambulance being used for the conveyance of an Admiralty official taken ill while on detached duty, the question of refunding the charge will be considered on its merits.

(A.F.O. 3158/26.)

**2436.—“Royal Sovereign” Class—Compensating Weights.***H.M. Dockyards.*

(D. 13113/28.—28.9.1928.)

The returns made by refitting yards showing in detail the effect as regards weight and moment of all alterations carried out in H.M. ships of the “Royal Sovereign” class should now be discontinued.

2. The information regarding addition of weights to the mast structure is not affected by the foregoing, this being necessitated by considerations of strength, and returns should be forwarded as heretofore.

**\*2596.—Candidates for Warrant Rank—Loan to Dominion Navies.**

(C.W. 10377/27.—5.10.1928.)

Considerable inconvenience and additional expense may be entailed by ratings lent to Dominion Navies having to return to England on promotion to Warrant rank when an appreciable part of their term of engagement is unexpired, and a rating will, in future, be ineligible for such service if it appears likely that his turn for promotion to Warrant rank would arrive during a period of loan.

2. Steps should accordingly be taken to ascertain whether a rating who volunteers for service in a Dominion Navy is a qualified candidate for Warrant rank, and if so, reference should be made to the appropriate authority as to the probability of his turn for promotion arriving during the period of engagement if accepted:—

Gunner ... ..	} The Captain, H.M.S. "Excellent."
Warrant Ordnance Officer ... ..	
Gunner (T) ... ..	} The Captain, H.M.S. "Vernon."
Warrant Electrician ... ..	
Signal Boatswain ... ..	} The Captain, Signal School, Portsmouth.
Warrant Telegraphist ... ..	

The last published Admiralty Fleet Order giving the result of the annual examination for Warrant Engineer and Warrant Mechanician should be consulted in regard to engine room ratings. In all other cases the enquiry should be addressed to the Secretary of the Admiralty, and any doubtful cases arising in the classes mentioned in the preceding paragraph should be submitted for directions.

### 2606.—Gongs and Buzzers for 16 in., 6 in. and 8 in. Fire Control Systems.

*"Nelson," "Kent" and "London" classes, Admiralty Overseers and Dockyards concerned.*

(G. 01452/28.—5.10.1928.)

Complaints having been received that there is a possibility of confusing the notes which emanate from certain bells in turrets, etc., in ships of new construction, it has been decided to fit bells and buzzers as follows, for the fire control services quoted:—

2.

Service.	At present fitted with.	To be fitted with.
Fire gongs, 16 in., 6 in. and 8 in. fire control systems.	Bell, Pattern 3227 ...	Single stroke gong, Pattern 871A.
Order receiver transmitter, 16 in. and 8 in. turrets.	Gong, Pattern 871A ...	High note buzzer, Pattern 4819 or 4717 (modified).
Evershed receivers in 16 in., 6 in. and 8 in. director control towers.	Evershed gong ...	New type of wire gong of distinctive note.

3. The alterations in ships completed are to be carried out by ships' staffs.

4. The alterations for the ships of the "London" class, and also for reserve turrets, should be carried out by the respective gun machinery contractors, ship builders and dockyards.

5. Demands should be forwarded for any additional bells, etc., and arrangements made to return to store any already supplied and rendered surplus by these changes.

6. The new type of wire gong for the Evershed instruments will not be available for some time, and therefore the Evershed gong at present arranged for should be retained pending the supply of the new gong.

### 2607.—Guns—Mounting in Correct Position in Turrets.

(G. 14126/28.—5.10.1928.)

Instances have occurred of turret guns allocated to ships under construction being mounted in the wrong cradles.

2. The exact allocation, right or left, of each gun will be notified to:—  
 The Captain Superintendent, Contract Built Ships,  
 The Commanding Officer of the ship,  
 The Gun Mounting Erectors,  
 The Gun Mounting Overseer,  
 The Inspector of Naval Ordnance of the district,  
 The Naval Armament Supply Officer, Woolwich;

and the Commanding Officer is to check that each gun is mounted in the correct position.

**2613.—Issued Confidentially.**

**2618.—W/T—Large Silica Valves—Packing and Transport.**

(N.S. 5738/28.—5.10.1928.)

Certain new types of silica valves have been, and are being introduced into Service transmitting sets. The first of these to be standardised was the "NT22A" valve, now being superseded by "NT22c," for use in Type 39X sets, and others are being developed of similar size, such as the "NU23A" (for Rinella). The new valves are of considerably larger size than those of 2½ to 4 kw. rating already in use, such as NT23, NT23B, NT24, NT26, NT27, NU22, etc. All the new valves have silica envelopes of the same diameter and length of body, but differences occur in the number and position of the projecting seals and, consequently, in the overall length of the valves.

2. In view of the delicate and fragile nature of these valves and also their high cost, it is extremely important that the utmost care should be taken in handling and packing. Extensive trials have been carried out with a view to ascertaining the best method of packing for transport, and a satisfactory system has been developed. This method is described hereunder and is always to be strictly observed.

3. Each valve is supplied with a complete packing outfit described as "Box, transport, complete with internal packing, for NT..... valve." This comprises two boxes, inner and outer, and a set of six mattresses for packing between the inner box and the outer one. When packed, the valve body is wrapped in cotton wool and placed in the inner box. Sufficient cotton wool is used to ensure that the valve is firmly held in position and cannot move towards either end. The inner box is placed inside the outer, surrounded by the six mattresses which act as shock absorbers. Full instructions for packing are given on notices which are to be found on the inside surfaces of the lids of both inner and outer boxes. A diagrammatic sketch, showing a silica valve in its transport box, is shown in E.F.O. 120/28 (fig. 1).

4. The "Box, transport," being essentially required for transport, even over very short distances, will always be included as a component of the complete valve. Thus, the NT22A valve, which has been allotted Pattern No. 7420, will be described as "Pattern 7420 valve, wireless, NT22A, complete with transport box." Instances will arise where stowage is not available for the empty transport boxes of the valves actually in use in the set, and the necessity will therefore arise for the return to store of boxes from which the valves have been removed. In order to facilitate accounting under these conditions, a separate pattern number will be assigned to the transport box and a pattern number to the valve itself. The pattern numbers and descriptions of these two components of a complete valve are as follows:—

Pattern 7421. "Box, transport, complete with internal packing, for NT22A valve."

Pattern 7422. "Valve, wireless, NT22A, without transport box."

It should be noted that the allocation of a separate number to the actual valve is solely for book-keeping purposes when the valve is retained in a ship without its transport box, but that under all other conditions the valve can exist only as a component of Pattern 7420. Care should be taken to ensure that the serial number painted on the transport box corresponds to the serial number of the valve. If necessary, the number already on the box used for the return of a defective valve is to be obliterated and the correct number inserted in its place.

5. In view of the different overall lengths referred to in paragraph 1 above, two sizes of transport box will be required. Pattern 7421 is suitable for valve NT22A and will also be suitable for NT22C and NU23A, all of which have seals at one end only. A similar box, of length suitable for valves with seals at both ends, will be introduced when required.

6. Under certain conditions of transport, it will be necessary to make special provision for guarding against damage due to shock, in addition to the careful packing of the valve in its transport box. The three conditions of transport are as follows:—

- (a) Hand transport.
- (b) Transport by road or passenger train.
- (c) General shipment.

(a) For hand transport, no additional precautions are to be observed beyond those described above. The transport boxes are provided with webbing straps for convenience in handling, and if the valve is properly packed it will be adequately protected.

(b) For transport by road or passenger train the box is to be further protected by buffers of hessian cloth stuffed with aspen shavings as shown in E.F.O. 120/28 (fig. 2). The buffers are to be lashed, not nailed, to the box. The buffers are not necessary for road transport if sufficient loose packing is inserted between adjacent boxes, and between a box and the floor of the vehicle, etc., to prevent concussion.

(c) For general shipment the transport box is to be packed in a crate, the construction of which is illustrated in E.F.O. 120/28 (figs. 3 and 4). This crate is sufficiently large to contain the transport boxes of the valves with seals at both ends and can, therefore, be used for both types of valve. The crate is to be lined with waterproof paper and the transport box is to be packed centrally in the crate, surrounded by aspen wood shavings, as shown diagrammatically in E.F.O. 120/28 (fig. 5). Buffers of hessian cloth stuffed with aspen shavings are to be nailed on to the ends of the crate, as shown in this sketch. The crates should be conspicuously marked in red paint—"Fragile," "Handle very carefully," "Do not drop," "Special stowage."

7. Exactly the same precautions as to packing and transport are to be used in returning a damaged valve to store as are used in issuing a new valve, and no valve, damaged or otherwise, is ever to be carried up or down a hatch or over a gangway, except it be first properly packed in its transport box.

## 2655.—Suez Canal—Taxation of Double Bottoms.

(M. 3367/28.—12.10.1928.)

It is the practice of the Suez Canal officers in assessing taxation of double bottoms of ships passing through the Canal (*vide* rules of Navigation of the Canal, page 93), to regard these compartments as being full if the depth of oil exceeds 6 in., but to regard them as empty if the depth of oil fuel is 6 in. or less.

2. So far as may be possible, Commanding Officers of H.M. ships passing through the Canal should arrange to adjust oil fuel in those compartments *en route* to Port Said (outward journey) or Suez (homeward journey), as the case may be, in order to reduce the liability to Canal charges in this respect.

3. When it is not possible to adjust oil fuel in the double bottom compartments below a depth of 6 in., Commanding Officers of H.M. ships are to furnish to the Navy Agent at Port Said full particulars of the double bottom compartments which contain oil fuel in excess of 6 in. This report should be attached by the Navy Agent to the voucher for the relative payment of dues to the Suez Canal Company.



**\*2661.—Flying Operations—Personnel carried in Attendant Destroyer.**

*Aircraft Carriers.*

(N.L. 2341/28.—12.10.1928.)

During flying operations at sea an officer or rating conversant with aircraft construction, and who should preferably be a good swimmer, is to be carried in the attendant destroyer, to go away in addition to the sea boat's crew when salving aircraft.

2. If there are no officers or ratings in the destroyer who have received the necessary instruction to give them this knowledge, one is to be lent from the aircraft carrier on which the destroyer is attending; in the case of two destroyers following up, the leader only need carry this officer or rating.

3. A sick berth rating is to be lent to a destroyer attending on aircraft.

4. The Commanding Officers of attendant destroyers are to be kept informed of the actual numbers of persons in each multi-seater aircraft in the air.

2668. } Issued Confidentially.  
2671. }

**2672.—Deflection Spotting Dials and Speeding-up Deflection Transmission in Range and Deflection Transmitters.**

*Flotilla Leaders of "Scott" and "Shakespeare" Classes, "Keppel" and "Broke," and Destroyers of the "V," "W," and Repeat "W" Classes, and Dockyards concerned.*

(G. 8832/28.—12.10.1928.)

It has been decided to fit deflection spotting dials and speeding-up deflection transmission in the above-mentioned vessels as shown in the sketches (E.F.O. 97/28) as follows:—

A.—*Deflection spotting dials and speeding-up deflection transmission in Flotilla Leaders of "Scott" and "Shakespeare" classes, Destroyers of the "V" and "W" classes.*

B.—*Deflection spotting dials only in Flotilla Leaders "Keppel" and "Broke," Destroyers of the Repeat "W" classes.*

2. The parts required for effecting the modification to the existing range and deflection transmitters of the various patterns are indicated on the sketches, and the whole of these parts for the vessels referred to are being manufactured by Portsmouth Dockyard.

3. The work of fitting is to be carried out by the various yards at which the vessels are taken in hand, and the sets of parts required should be obtained from Portsmouth Yard, which yard should be informed of the patterns of the instruments for which the parts are required.

4. Duplicate copies of full size prints of sketches are also being forwarded separately to Devonport, Chatham, Malta, Gibraltar, and Hong Kong Dockyards for information in effecting the alterations.

5. With regard to the operation of the spotting dial it should be noted that as the counter drum deflection elements of the instruments are of double zero, an error of one knot will be introduced when a spotting correction passes from "right" deflection to "left" deflection or vice versa. The operator should therefore add one knot to the spotting correction being applied, if the correction entails passing through zero.

6. An item for this work should be included in the next list of alterations and additions forwarded by the vessels concerned.

(A.F.O. 419/29.)

## 2677.—Repeating Coils for Coupling Ships' Two-wire Telephone Exchange Systems to Shore Systems.

*Ships, Dockyards, and Admiralty Overseers concerned.*

(G. 13568/28.—12.10.1928.)

The use of repeating coils, G.P.O. Pattern 4006A, fitted for trial in certain of H.M. ships has resulted in much improved communication between the ships' two-wire telephone system and shore systems. These coils are used in lieu of the condenser coupling provided in ships' telephone exchanges.

Arrangements have accordingly been made for repeating coils to be fitted in exchanges ordered for "Medway," "Resource," and later construction.

Arrangements have also been made for supply of repeating coils to those ships of "Kent" class not yet provided for, and also for fitting in "London" class cruisers.

The quantities provided for are as follows:—

"Berwick" ... ..	1
"Cumberland" ... ..	1
"Kent" ... ..	3 (in addition to one already supplied.
	"Kent" is fitted as a C.-in-C's.
	Flagship, and has four shore connection units on the main exchange).
"London" class ... ..	1 each,

making a total of 9 coils.

In the case of ships in commission, the fitting is to be carried out by ships' staffs. In the case of ships building, the work is to be done by dockyards and builders respectively.

The following instructions should be followed when fitting the repeating coils in lieu of the condenser coupling provided in the exchanges.

Referring to Figure 11 of the handbook D.T.M. 255/25/1 (Naval Telephones operating on the two-wire system), the two 4 m.f. condensers should first be disconnected, both from the  $L_1$ ,  $L_2$  terminals on the shore connector unit and also from the  $L_1$ ,  $L_2$  terminal blocks.

The choke coil 120 w. in the key box (the left-hand coil in the diagram referred to) should also be disconnected from its  $L_1$ ,  $L_2$  terminal blocks.

Before fitting, the tags 2 and 5 on the repeating coil should be connected together. Similarly, tags 4 and 7 should be connected together. Tags 3 and 8 form the ends of the primary winding, and should be connected to the  $L_1$ ,  $L_2$  blocks in the exchange.

Tags 1 and 6 form the ends of the secondary winding, and should be connected to the  $L_1$ ,  $L_2$  blocks in the shore connector unit.

The attention of ships using these repeating coils is called to the fact that the coils are in effect variable ratio transformers.

By connecting the ends of the windings as stated above, approximately equal ratio is obtained. This will be found to be the most suitable ratio in most cases, but it cannot be stated with certainty that some other ratio may not be more suitable in the case of connection to certain types of shore exchange. In the event of unsatisfactory results it will be advisable to experiment with other ratios.

Attention is also called to the fact that low insulation on the shore system has a most marked effect in causing weak communication between ship and shore.

## 2680.—Flood Switch—"Emerald" Type.

*H.M. Ships.*

(G. 15319/28.—12.10.1928.)

110 volt ships fitted with the "Emerald" type of flood switch are to replace the salt in the cups by sal ammoniac crystals during the period they are in fresh water.

2. If the switch operates with sal ammoniac crystals in it, then it is necessary at the earliest opportunity to dry out, clean and re-insulate it, before the switch is available for further service.

### 2685.—Signalling Keys, Patterns 1642 and 6585, and Covers, Pattern 607—Issue.

(N.S. 9589/28.—12.10.1928.)

It has been decided that signalling keys of the above patterns are in future to be issued in accordance with the following instructions:—

Description.	In new construction.	In ships other than new construction.	Remarks.
A. Key, Patt. 1642 <i>with</i> cover, Patt. 607.	Not to be issued.	For all services under cover, except as stated at B below.	So long as stocks of Patt. 607 are available. When these have been exhausted, <i>see</i> C below.
B. Key, Patt. 1642 <i>without</i> cover.	For use with Aldis lamps on F.C. circuits.	For use with Aldis lamps on F.C. circuits.	Purchases of this article, without cover, will continue to be made, as necessary for this service. This key may also be used on other services under cover, where skilled ratings only have access to the instrument. It is considerably cheaper than Patt. 6585 key.
C. Patt. 6585, watertight key.	Throughout, except as at B above.	In exposed positions only, except as at B above. When stocks of Patt. 607 cover are exhausted, Patt. 6585 key will gradually be issued for use in positions under cover.	<i>See</i> Para. 3 below.

2. The foregoing instructions are to apply to *future issues* only, and demands on this basis for the replacement of keys already fitted should not be forwarded.

3. *Dockyards only.*—As stated at para. 1 (C) above, when stocks of Patt. 607 covers have been exhausted, a demand for the latter should be met by the supply of a Patt. 6585 key, and arrangements made for the key, Patt. 1642, for which the cover was required, to be returned to store for re-issue as at para. 1 (B).

4. *Home Yards only.*—The estimated requirements of these keys and of cover, Patt. 607, during the current and ensuing financial years should be included in the forthcoming Annual Demand, Subhead F.2A.

Dues on the Review Demand, 1928, should be considered cancelled.

**2689.—Packing Materials—Disposal.**

(N.S. 12274/28.—12.10.1928.)

The following extract from a Memorandum, dated 18th September, 1928, issued by the Ministry of Agriculture and Fisheries, relative to the precautions to be taken against Foot and Mouth Disease is promulgated for information:—

“ Packing hay or straw or other material which has been used for packing merchandise, whether home produced or imported, should not be used as bedding or be allowed to come into contact in any other way with animals. Such packing material must not be removed from the premises where the goods are unpacked, except used as packing or for the purpose of destruction, or of being returned in a crate or box to the sender for further use as packing. If not used again for packing purposes it must be destroyed.”

**2705.—“ Removoil ”—Use.***Dockyards and Oil Fuel Depôts.*

(N.S. 5573/28.—12.10.1928.)

Trials carried out with “ Removoil ” (also known as “ Biggart ” paint) indicate that this material can satisfactorily and safely be used where it is necessary to clean out oil fuel tanks completely, and that it is superior to caustic soda for cleaning greasy machinery parts and fittings.

2. “ Removoil ” consists essentially of a solution of sodium silicate in water containing calcium carbonate in suspension and the sole selling agents are Messrs. T. G. McCulloch & Co., 428, Corn Exchange Buildings, Manchester.

3. The use of “ Removoil ” is authorised when it is essential to remove completely the oil fuel coating from the steel surfaces of tanks and in lieu of caustic soda for cleaning greasy machinery parts and fittings.

4. The following is the method of applying “ Removoil ” to the steel surfaces of tanks, viz. :—

“ The plating should be roughly cleared from thick accumulations of oil fuel and the ‘ Removoil ’ scrubbed into the oil fuel film remaining and the plating then washed down with cold water through a hose; this has the effect of taking off the oil fuel, leaving traces only. Upon a second application of ‘ Removoil,’ the plating should be left clean without any apparent trace of oil fuel.”

5. Requirements of this material should be obtained by local purchase or by special demand on the Admiralty. The approximate cost is £30 per ton.

**2706.—Stores, etc., supplied by the War Office and Air Ministry—Method of Accounting for the Receipt and Return of Containers.**

(C. (I) 404/28.—12.10.1928.)

In order to facilitate the passing of claims for stores supplied by the War Office or Air Ministry, the following procedure is to be followed :—

*Notes 2 and 8.*—All containers, including specially made cases, are to be entered on Accounts of Receipt at the invoiced value and, on return to the War Department or Air Ministry are to be reported on Accounts of Issue.

*Vote 9.*—The containers are to be taken on charge, and issue vouchers utilized on return of the packages.

The War Office or Air Ministry will arrange for credit to be given for empties which are returned. Special O.87A forms should therefore be prepared in these instances and headed in red ink “ Returned Empties—For notation only.”

2. Containers received with supplies from military establishments need not be returned if they can be economically used for Naval purposes or unless they are of a special type.

### 2714.—Director Control Towers—Arrangements for Excluding Water from Sighting Ports, etc.

*“ Kent ” Class.*

(G. 12598/28.—19.10.1928.)

The following item is to be inserted in lists of approved alterations and additions, viz. :—

“ Director control towers, main and secondary armament. Arrangements to be fitted for excluding water from sighting ports and look-out windows.”

Drawings showing typical arrangements have been forwarded to the Commodore-in-Charge, Hong Kong.

### 2715.—Director Firing Circuits—Replacement of Firing Arc Switch and Multicore Cable between Switch and Circuit Breaker by Junction Box and Single Core Cable.

*Destroyers and Flotilla Leaders.*

(G. 14430/28.—19.10.1928.)

When destroyers and flotilla leaders are taken in hand for repair at the dockyards and it becomes necessary to renew the director firing circuits during such repair, the firing arc switch is to be replaced by a Type “ A ” junction box, and single core cables (i.e., main and auxiliary), Pattern 6191, are to be fitted between the junction box and the circuit breakers.

2. The terminal on the supply side of the breakers is to be fitted with a common link.

### 2718.—Lamp Fitting for Illumination of Gun Sighting Telescopes, including Aldis Telescopes, Pattern G.344.

*“ Nelson ” and “ Rodney,” “ Adventure,” “ Kent ” Class and all later Classes, “ Courageous ” and “ Glorious.”*

(G. 3284/27.—19.10.1928.)

An improved pattern of lamp fitting has been introduced for the illumination of gun sighting telescopes and will be used generally in the above-mentioned ships.

The same pattern of lamp fitting will also be used for all Aldis telescopes, Pattern G.344.

2. In cases where it is necessary to detach the cable and lamp connection, in order to stow or remove the telescope, the stowage tube shown on the drawing E.F.O. 116/28, should be fitted in a convenient position near the telescope.

3. The necessary information required for preparing the cable for use with these fittings, together with drawings of the fitting in detail, is contained in the drawings E.F.O. 116/28 (1-4).

4. Pattern numbers 8154 and 8155 have been allocated for the lamp connection and stowage tube respectively.

5. Arrangements are being made to purchase a quantity of stowage tubes for delivery to dockyards. Demands should be forwarded by “ Nelson ” and “ Kent ” classes, also “ Adventure ” and “ Courageous ” for the necessary tubes and these are to be fitted by ship’s staff.

6. The stowage tubes for gun and director mountings of “ London ” and later classes also for the directors of “ Glorious ” will be provided by the respective gun machinery contractors. The stowage tubes for the gun mountings for “ Glorious ” should be fitted by Devonport Yard.

**2722.—Cartridges Filled with S.C. Cordite—Distribution.**

(G. 13861/28.—19.10.1928.)

The distribution of cartridges filled with S.C. cordite has commenced, and supply will be made to H.M. ships and Naval Armament Depôts as stocks of the older types of cordite render this necessary.

2. The main outfits of any individual ship for any particular nature of charge are not to consist of a mixed quantity of S.C. and M.C. and/or M.D., but in order to provide for the expenditure of the older types of cordite, it will be necessary for the latter to be utilised for practice.

3. When stocks of cordite on any station render the action necessary, the complete outfit of an individual ship for a particular nature of cartridge will be withdrawn by the Armament Depôt, and she will be supplied with a fresh outfit consisting of S.C. cordite, except that sufficient M.C. or M.D. will be included to cover 6 months' practice requirements.

4. When this exchange has been carried out in any ship, replenishments for practice will be of M.C. or M.D., and the latter natures only are to be utilised for this purpose unless it has been ascertained that no further quantities are available, when S.C. will be supplied. Preference for practice should be given to M.D. over M.C. when M.D. is available.

5. Armament Supply Officers will review the available stocks continually so as to ensure that the exchanges of outfits are effected during periods when these outfits will be landed for other purposes, e.g., on deposit during refit, etc.

6. An exception to the above rules will be made in the case of ammunition for Q.F. 4.7 in., Mark VIII guns, where the outfits in certain ships will be exchanged completely for S.C. including practice. The necessary instructions to cover this will be issued to R.N. Armament Depôts and H.M. ships concerned, at a later date.

7. No action is being taken for the present to introduce S.C. cordite cartridges for Q.F. 12 pdr. 8 cwt., and Q.F. 2 pdr. guns, and Mark I cordite will continue in supply for these guns. There will be a temporary reversion to the use of Mark I cordite for Q.F. 6 and 3 pdr. practice and sub-calibre ammunition next year, and such cartridges when available may be considered interchangeable for supply with issuable stocks of M.C. for sub-calibre frings.

8. A separate Order will be issued in regard to periodical tests of S.C. cordite cartridges.

**2725.—Guards, Change-over-Contact—Fitting.**

(G. 14104/28.—19.10.1928.)

The guards change-over-contact and washers, packing guard change-over-contacts, referred to in paragraph A 3365 of List of Changes in War Matériel, are to be fitted to guns in the Naval Service with Nos. 1, 2 and 3 breech end change-over-contacts.

2. The work should be carried out at Naval Armament Depôts, where facilities permit, intermediate demands being rendered for the quantities of stores required.

3. Copies of the following drawings will be forwarded to all Naval Armament Depôts for guidance in fitting, viz. :—

- B.L. 7.5 in., Mark VI—N.O.D. 2101/13.
- 6 in., Mark XII—N.O.D. 2123/31 C.
- 5.5 in.—N.O.D. 2122/5.
- 4.7 in.—N.O.D. 2154/7.
- 4 in.—N.O.D. 2181/1.

**2726.—Destroyers—Hull Surveys—Form D.180.***H.M. Destroyers and H.M. Dockyards.*

(D. 15502/28.—19.10.1928.)

A number of H.M. destroyers have now reached an age where some structural deterioration must be expected, especially in engine and boiler rooms.

2. The attention of all officers concerned is therefore called to the importance, in these vessels of light scantlings, of exercising great care in the periodical examinations of the hull structure, in order that corrosion may be detected without delay, and its further development checked.

3. The officers responsible for the survey should not accept apparently good paint surfaces as indicating a satisfactory condition under the paint, and particular attention should be paid to those portions of the structure which contribute to the longitudinal strength of the vessel, e.g., girders under decks, side stringers, longitudinals, vertical keel, etc.

**2731.—Defective Incandescent Lamps—REPORT.**

(N.S. 13081/28.—19.10.1928.)

Whenever a number of incandescent lamps are found to be defective in circumstances which suggest faulty manufacture, arrangements are invariably to be made for samples of the defective lamps to be clearly labelled and returned to the nearest dockyard and a report forwarded through the Administrative Authority to the Admiralty, embodying the following information:—

- (a) Yard from which lamps were received.
- (b) Date of receipt on board.
- (c) Pattern number of lamps and quantity found defective.
- (d) Maker's name.
- (e) Contract number and date on package.
- (f) Description of defect.
- (g) Yard to which samples of defective lamps have been returned and date of return.

2. Without this information, it is not possible to take action with the makers, with a view to the replacement, free of charge, of the defective lamps and the avoidance of subsequent similar faults in manufacture. The samples are necessary to enable a close examination and analysis of the defects to be made.

3. This procedure is to be strictly complied with, and, in future, *an explanation on Form S.1095a of an excess expenditure over allowance as being due to the inferior quality of the lamps supplied, will not be accepted unless it includes a reference to the report called for in paragraph 1 above.*

4. Prior to return to store, defective lamps should be carefully packed to prevent further damage, especially the breakage of the glass bulb, if the latter was intact at the time the lamps became defective. Special care should also be taken of these lamps on delivery at a dockyard, pending final instructions as to their disposal.

5. Damage to incandescent lamps which is due to mishandling, etc., and cannot reasonably be attributed to faulty workmanship, should be the subject of a separate report in any case where the damage is considerable.

## 2732.—“Aldis” Lanterns, Patterns 5110, 5110A and 7006— Issue.

(N.S. 9012/28.—19.10.1928.)

The issue of the various types of “Aldis” lanterns is to be governed by the following instructions:—

<i>Pattern.</i>	<i>Description.</i>	<i>Remarks.</i>
5110	Lantern, signalling, portable, “Aldis” type.	Not to be issued unmodified.
5110A	Ditto (modified) ... ..	Only to be issued to ships <i>not</i> fitted with remote controlled positions for “Aldis” type signalling lanterns. Where lanterns of this pattern have already been supplied to ships with remote controlled circuits, they are to be retained until defective, when replacement will then be of Pattern 7006.
7006	Lantern, signalling, portable, “Aldis” type, two-wire circuit, fitted with mirror coils.	Only to be issued to ships fitted with remote controlled positions for “Aldis” type signalling lanterns. All future supplies of “Aldis” lanterns to such ships are to be of this pattern, whether they are required for actual use in remote controlled positions or not.

## 2754.—Liquored Leather.

(N.S. 12877/28.—19.10.1928.)

In future, liquored leather required at home yards for yard purposes is to be liquored by the Professional Departments in the Conversion Shops concerned; the quantities of liquored leather required for issue to ships as sea stores will continue to be liquored as at present.

Cod oil should be used for liquoring purposes in preference to train oil, after any stocks of the latter which have been specially provided for liquoring leather have been used up.

The present practice of meeting the whole of the requirements at yards abroad by the supply from England of leather already liquored is to be continued.

## 2758.—Pilotage of Drifters Attached to H.M. Ships.

(M. 4261.—26.10.1928.)

In future, claims for pilotage are not to be forwarded by officers for piloting ships’ drifters.

2. The pilotage of drifters attached to ships is to be considered as part of the ordinary duties of officers serving in sea-going ships.

## 2766.—Wharton’s Torpedo Purchases—Ramshorn Hooks.

(G. 10944/28.—26.10.1928.)

A case has been reported where the ramshorn hook and mousing spring stop of above purchases are not satisfactory, due to:—

(a) Variations in the shape of the hooks.

(b) The limited travel of the mousing spring stop.



2. Where the bills of the hooks are insufficiently turned up, there is a tendency for the strop to slide off the bill of the hook, and bring a heavy strain on the mousing spring stop. This fault is more noticeable when hoisting a torpedo out of an upper rack, with the lead of the purchase at a considerable angle to the vertical.

3. These purchases are not designed to take their full working load when at a large angle to the vertical, and if used in this manner damage to the roller suspension plates may result.

4. When hoisting a torpedo out of an upper rack, in cases where the runway purchase does not plumb the rack, the weight of the torpedo should first be taken on the wire pendant from the overhead roller and eased on to the purchase.

5. Ships having these purchases are to make an examination of them, and, where necessary, the ramshorn hooks, mousing stops, and springs for, are to be modified as shown in E.F.O. 123/28. These modifications are to be carried out by ships' staff, purchases being subsequently tested by dockyard, *before use*.

6. In order to avoid any additional expense for testing, the modifications are to be carried out immediately before the purchases are due for their annual test by dockyard.

## 2767.—Evershed Control for Standard Temporary H.A. Control System, etc.

*Cruisers of "Caledon," "Ceres" and "Carlisle" Classes.*

(G. 11164/28.—26.10.1928.)

With reference to the diagrams and instructions issued in accordance with A.F.O. 1421/28, it has been found necessary to amend the Diagrams Nos. 7714G and 9793C for "Caledon" and "Ceres" classes, in order to provide for all round training control of the U.B. 4 rangefinder.

New Diagrams Nos. 7714H and 9793D have therefore been issued to all dockyards and ships concerned with the Admiralty letter, dated 15.8.28, No. G. 11164/28.

2. Certain small amendments in the symbol Nos. were also made in the Diagram No. 8830F for the ships of the "Carlisle" class, and new diagrams embodying the amendments were also issued with the above quoted Admiralty letter.

The schedule of apparatus issued with A.F.O. 1421/28 should be amended as indicated in the accompanying list, in order to agree with the subsequent amendments made in the diagrams.

3. With reference to the corrections—

Item 21A. The Z.52 open-faced indicators for the "Caledon" and "Ceres" classes are series indicators and are for fitting by the T.48 transmitters in the H.A. control position. These indicators are shown as Z.2 on the wiring diagram and therefore the symbol No. should be corrected to read Z.52.

Item 24. Receiver for U.B. 4 rangefinder, "Caledon" and "Ceres" classes. The existing receiver R.168 provided for these rangefinders are arranged with a single brush. These receivers are therefore to be returned to Messrs. Evershed & Vignoles, Ltd., Acton Lane Works, Chiswick, London, W.4, for modification to include the second brush arm.

4. The P.32 operating gear, at present fitted on the R.168 receiver, is to be retained in the ships for fitting to the same instrument when returned as R.225.

"CENTAUR," "CALEDON," "CERES," "CARLISLE" AND "CARLISLE" CLASSES.

(Correction to Schedule issued with A.F.O. 1421/28.)

Item No.	Description.	Sym- bol. No.	"Carlisle."		"Caledon."		"Ceres."		"Con- cord."	"Con- taur."	Total.	Remarks.
			Each ship.	Five ships.	Each ship.	Three ships.	Each ship.	Five ships.				
1 to 10 13 to 18 20 and 22	} Change-over switch ... " " " " ... " " " " ... " " " " ... Junction and fuze box ... Open-faced indicators (component). ditto. spare ... Open-faced indicator ...	—	—	—	—	—	—	—	—	—	No alteration.	
11		S.193	—	—	—	—	—	—	—	—	8	
11A		S.193A	1	5	1	3	1	5	—	—	5	
12		S.194	—	—	1	3	1	5	—	—	8	
12A		S.194A	1	5	—	—	—	—	—	—	5	
19		J.F.114	—	—	1	3	1	5	—	—	8	
21		Z.31	4	20	2	6	2	10	4	2	42	
21A		Z.52	—	—	—	—	—	—	—	—	—	No alteration.
23		Z.3	—	—	—	—	—	—	—	—	—	No alteration.
24		R.225	—	—	—	—	—	—	—	—	—	To be supplied by Portsmouth Yard. The R.168 for U.B.4 range- finder in each ship is to be returned to Messrs. Ever- shed and Vignoles' works for modification to fit the second brush arm.

ADDITIONAL ITEMS.

(A.F.O. 1421/28.)

**2768.—Counter Drum Instruments of Messrs. Barr & Stroud  
Manufacture—Action when Internal Mechanism is  
Defective.**

(G. 10731/28.—26.10.1928.)

In order to cope with the very high speed demanded of these instruments it has been necessary to adopt mechanisms in which mass and size of moving parts are reduced to a minimum by great accuracy of production and use of high grade materials, thus also ensuring long life without attention.

2. In view of the above, repairs to internal parts cannot, as a rule, be carried out economically or without danger of impairing the high speed of operation.

3. It has therefore been decided that whenever counter drum elements become defective, due to excessive wear, or damage to component parts not readily accessible, they should be defected as a whole and replaced by complete new elements. This general instruction is not to be regarded as precluding any minor repairs to components of the elements which are readily accessible.

**2771.—Bombs, H.E., Aircraft, 520 lb., Mark I—Modification.**

(G. 3684/28.—26.10.1928.)

Reports have been received that bombs, H.E., aircraft, 520 lb., Mark I, are, in some cases, unsuitable for loading into the carrier.

2. Stocks of bombs of this nature on board ships concerned should therefore be overhauled and arrangements made with the nearest Royal Naval Armament Depôt for any bombs not conforming to print E.F.O. 122/28 as regards the vane cylinder slots to be exchanged for modified bombs.

**2772.—Motor Driven Mincing Machines—Care in Handling.**

(N.L. 2172/28.—26.10.1928.)

Serious accidents have happened to men who have been careless in the handling of these machines.

2. Commanding Officers are to cause notices to be posted above the mincing machines, prohibiting ratings from attempting to clean or touch any of the moving parts of the machines or their attachments when in motion.

3. Hurt certificates will not be granted for such accidents.

4. The feed stick should be used whenever possible for feeding the mincer and the attachments.

5. Mincing machines made by Messrs. Hawkins with large diameter hoppers are each provided with a guard fitting the hopper to prevent insertion of the hand. This guard should always be in place when the machine is running.

**2782.—Discs for Cockburns' Safety Valves—Purchase.**

(C.P. 16860/28.—26.10.1928.)

When requirements arise in future for discs for control valves on Cockburns' full-bore safety valves or similar valves, the following firms are to be invited to tender in addition to the valve makers:—

The Metallic Valve Co.,  
Colonial House, Water Street,  
Liverpool.

The Metallic Manufacturing Co., Ltd.,  
Ardrossan.

**2792.—Gear Reported for Disposal.***Home Dockyards.*

(D. 13502/28.—26.10.1928.)

Before items of gear at a home dockyard are reported to the Admiralty for disposal, steps are to be taken to ascertain from the other home dockyards whether there is any known or probable use for such item.

2. Each dockyard, in addition to considering its own requirements for such gear, should ascertain whether any of the items can be utilised by the local Gunnery and Torpedo Schools.

Portsmouth Dockyard should also adopt a similar procedure with H.M. Signal School, Portsmouth, and the Anti-Submarine Establishment, Portland.

3. When reporting to the Admiralty that certain gear is for disposal, it should be stated that action has been taken as indicated above.

*(A.F.O. 1032/29.)***2794.—Sketch Plates for Boiler Tubes—Preparation—REPORT.**

(N.S. 8354/28.—26.10.1928.)

The reserves of prepared boiler tubes for small tube boilers have been abolished, and in order to enable requirements to be readily satisfied, sketch plates showing the curvature of lengths of bent tubes are to be prepared and kept by the engineering department at home yards, for the classes of vessels attached to each yard for refitting purposes.

2. In addition, sketch plates are to be prepared at foreign yards for each class of vessel attached to the various stations, and duplicate sketch plates for these vessels are to be prepared and maintained at the home manning port, to enable any retubing sets to be prepared prior to vessels returning to England for retubing purposes.

3. To enable the sketch plates to be prepared at foreign yards, the home manning port should send to that yard the necessary drawings.

4. It is important in all applicable cases, that particulars of any modifications of curvature, lengths, etc., of tubes fitted in vessels, consequent on retubings or partial retubings, should be communicated by the retubing yard, to any other yard to which the vessel is, or is about, to be attached normally, in order that the sketch plates may be corrected. In a case where a vessel is temporarily transferred from one foreign station to another, copies of the boiler tube drawings should be sent to her new base to provide against the possible necessity of partial retubing while ship is on her temporary service.

5. Any modifications made since April, 1926, and not already communicated to foreign yards, should be forwarded as soon as possible.

6. Yards abroad, except Malta, should furnish to Admiralty early reports stating for what vessels, if any, drawings are still required for preparation of sketch plates.

**2799.—Dart Aircraft—Carrying of 520 lb. Bombs.**

(M. 4216/28.—2.11.1928.)

520 lb. bombs are only to be carried on Dart aircraft during active operations, when care must be exercised whilst taking off on account of the very small clearance between the tail steadying fins of the bomb and the ground or deck, which is  $2\frac{3}{4}$  in. when the tail of a Dart aircraft is on the ground.

2. Should a tyre burst when taking off from an aerodrome, the tail steadying fins of the bomb will be damaged by impact with the ground. If flying speed has not been attained, and if sufficient space is available on the aerodrome, pilots should shut off their engines immediately.

3. If the aircraft becomes air-borne immediately after the tyre bursts, pilots should make certain that the fusing lever is still set to the "safe" position, and then land on the aerodrome as soon as possible.

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4. Should a tyre burst when taking off from an aircraft carrier, pilots should make certain that the fusing lever is still set to the "safe" position, and the bombs should be jettisoned into the sea, at a safe distance from any shipping.

### 2810.—Lantern Slides—Economy in Production.

(N. 3349/23.—2.11.1928.)

The following procedure is to be followed in forwarding requests for the manufacture of lantern slides, whether these are demanded from the Lantern Lecture Establishment, R.N. College, Greenwich, or from other Naval Establishments.

2. This procedure has been framed to curtail the indiscriminate manufacture of slides on request without either covering approval or regard being had to the large number of slides already in existence, and at the same time to ensure the inclusion of suitable lectures in the Greenwich Catalogue of Standard Lectures. Submission to the Admiralty on the question of inclusion in the Greenwich Catalogue need not necessarily be made before a lecture is first given. A fee of £2 is payable to the author of a lecture on a non-professional subject accepted as a Standard Lecture.

3. Demands for the manufacture of lantern slides to illustrate lectures on both professional and non-professional subjects, which should, in every case, be made on Form S.134D, are to receive the approval of the author's Commanding Officer, and also of the Commanding Officer of the Establishment making the slides, who will first satisfy himself that requirements cannot be met from existing slides.

4. The manuscript, or descriptive notes, of all lectures on non-professional subjects proposed to be illustrated by lantern slides, should accompany the request for the slides. When a lecture is not proposed by the author for inclusion in the Greenwich Lantern Lecture Catalogue, and does not cover ground already dealt with in a "standard" lecture, the Captain of the establishment making or issuing slides is to take the initiative in submitting the lecture, through the Captain of the R.N. College, Greenwich, who will transmit it to the Admiralty if he considers it desirable for inclusion as a Standard Lecture in the Lantern Lecture Catalogue.

5. Attention is drawn to the fact that *all* slides manufactured in H.M. ships and at naval establishments with service materials or facilities, remain the property of the Crown, whether the lecture for which they are prepared is adopted as a Standard Lecture or not.

6. Supply notes (triplicate copies of S.134D) are always to be furnished by the manufacturing establishment to the proper Accounting Officer of the ship or establishment to which the applicant belongs, and the original demands S.134D are to be forwarded with a covering letter to the Admiralty (Director of Stores) at the end of each quarter, by all ships or establishments preparing and issuing lantern slides, with the dates on which supplies were made, noted thereon.

7. All slides are to be taken on charge in the Store Accounts and accounted for in the usual manner.

### 2818.—Henderson Firing Gear—Replacement of Mark I Sets by Mark IV—Allocation of Modified Sets.

*All ships and establishments.*

(G. 16401/28.—2.11.1928.)

A further 20 sets of Mark I, Henderson Firing Gear, have been modified to Mark IV, 5 of which have been delivered as follows:—

1 each to "Constance," "Champion" and "Canterbury" and 2 to Malta Yard as spares for Mediterranean Fleet.

The remaining 15 sets are ready for delivery from contractor's works and distribution has been arranged as follows:—

5 in No. to M.E.D., Portsmouth Yard, for "Conquest," "Centaur," "Concord," "Curlew" and "Excellent" Gunnery School.

2 in No. to M.E.D., Devonport Yard, for "Comus" and Devonport Gunnery School.

3 in No. to M.E.D., Chatham Yard, for "Cleopatra" and "Birmingham" and Chatham Gunnery School.

5 in No. to S.N.S.O., West India Docks, for distribution to the following stations as spares, viz. :—

1 in No. to C.-in-C., East Indies Station.

1 in No. to C.-in-C., Africa Station.

1 in No. to C.-in-C., China Station.

1 in No. to C.-in-C., America and West Indies Station.

1 in No. to Commodore, New Zealand Station.

The set delivered to M.E.D., Chatham Yard, for "Birmingham" should not be fitted until the future service of this ship has been decided.

The remaining sets, for which definite allocation to certain ships is given in this Order, should be issued to these ships on demand.

In all cases where the Mark IV sets are fitted, the Mark I sets surrendered should be returned to M.E.D., Portsmouth Yard, as soon as possible. This also applies to spare sets, *i.e.*, all spare sets of Mark I gear should be returned as above on receipt of spare Mark IV sets.

Attention is drawn to the packing of these Henderson sets for shipment. Special cases have been designed for the carriage of these instruments, to prevent damage during transit, and great care is necessary in the handling of these cases when sets of gear are being transhipped from ship to shore, etc.

## 2828.—Fuzes, Time, and Time and Percussion—Safety Setting Indicators.

(G. 14651/28.—2.11.1928.)

The following markings on Fuzes, T, and T & P, other than time mechanical fuzes, are current. The fuzes are safe only when these indicator marks are in line and they must be accurately set.

2. *All Fuzes.*—The original safety setting mark on all fuzes was but this marking is being superseded by those shown below, and will gradually die out as these fuzes are expended.



SAFE



3. *No. 198 Fuzes.*—All future manufacture—

The following markings will be seen on a limited number of fuzes :—



SAFE



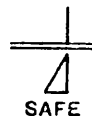
SAFE



4. *No. 124 Fuzes.*—All future manufacture—



5. *All other T, and T and P Fuzes (except time mechanical).*—All future manufacture—



**2831.—Chernikeef Logs.***Ships Concerned.*

(G. 12911/28.—2.11.1928.)

Arrangements have been made with the Electric Submerged Log Co. to supply two descriptive pamphlets on the Chernikeef log direct to each ship so fitted.

2. The pamphlets are to be regarded as ship's copies, and are to be accounted for by their entry in the ship's list of "as fitted" electrical diagrams.

**2841.—S.1246G—Officer's Attendant History Sheet.**

(N. 2946/28.—2.11.1928.)

Attention is drawn to the importance of reliable reports on Form S.1246G on the capabilities of Ward Room Attendants, especially those likely to prove suitable for employment as Acting Corporal in charge of Ward Room Attendants.

2. Many Forms S.1246G received at R.M. Divisions are of little or no assistance to R.M. Drafting Officers in the selection of men for duty as Ward Room Attendants.

3. Forms S.1246G are to be more fully completed and if Ward Room Attendants are recommended for employment as Acting Corporal in charge of Ward Room Attendants, Forms S.1246G are to be noted accordingly.

*(K.R. & A.I., Article 793.)***2880.—Torpedoes—Discs, I.R., for Hydro Valve, St. No. 1266A—Precautions.**

(G. 13367/28.—9.11.1928.)

The above discs are designed for use in torpedoes fitted with either Greenock or Service depth gear and therefore have one hole in the inner ring unoccupied in either case.

2. It has been found, in certain cases, that when carrying out the 10 lb. test on the balance chamber, distortion of the rubber disc causes the spare hole to distend towards the outer circumference of the inner ring and allow air to escape. When the torpedo is run subsequently there may therefore be a leak in the balance chamber at this point.

3. Investigation has shown that the trouble can usually be eliminated if the following precautions are taken:—

(i) Ensure that the inner ring of the hydrostatic valve is not distorted.

(ii) When applying the 10 lb. test, further tighten the nuts securing the joint ring to take up the elasticity of the rubber.

4. Attention is also drawn to the fact that there is only one position in four in which the H.V. disc can be fitted without straining the rubber. If fitted in any of the false positions a leak will almost certainly occur.

5. The question of reverting to the use of the original discs, St. Nos. 989 and 1266, is under consideration.

*(A.F.O. 3093/29.)*

### 2883.—Fire Control—Voicepipe Communications in 6 in. Gun Batteries—REPORTS.

*"Queen Elizabeth" and "Royal Sovereign" Classes and Portsmouth and Devonport Dockyards.*

(G. 15922/28.—9.11.1928.)

All ships of the above-named classes are to forward a rough drawing of one side of their 6 in. battery showing the voicepipes actually used for communication to and from the 6 in. guns in the battery.

2. Any voicepipes which are fitted but not used and are considered redundant are to be shown dotted.

3. Drawings are to indicate the following details:—

(a) The size of the voicepipes.

(b) Whether fixed or flexible.

(c) The type of mouthpiece or headpiece actually fitted and whether modified for use with a gas mask or not.

4. If any of the voicepipes are not satisfactory, either as regards the lay-out of the pipe or the type of mouthpiece or headpiece provided, ships are to report through the Administrative Authority to what extent the voicepipe is unsatisfactory and forward proposals to remedy the defect.

5. The drawings and reports for "Malaya" and "Revenge" are to be forwarded by Portsmouth and Devonport dockyards respectively.

(A.F.O. 1219/29.)

### 2888.—Gun Mountings, 7.5 in. C.P., Mark V—Modified Interceptor and Tray Safety Firing Gear.

*"Hawkins" Class, "Excellent," Devonport Gunnery School, and Chatham and Portsmouth Dockyards.*

(G. 01936/28.—9.11.1928.)

As a result of trials carried out in "Effingham" with a modified interceptor and tray safety gear, it has been approved to fit similar modified gear to the 7.5 in. C.P., Mark V, mountings in all ships of the "Hawkins" class, and in "Excellent" and Devonport Gunnery School.

2. In addition to the set required for each component mounting, one set will be supplied for each "C" set of spares.

3. The reserve mountings will not be modified until brought forward for service.

4. The necessary gear is being manufactured at and will be distributed from Portsmouth Yard, with instructions as to fitting. The work of fitting is to be carried out by ships' staffs, with the exception of "Hawkins," in which ship the work will be carried out during the period the ship is in hand for refit at Chatham.

### 2895.—Electric Cables—Running and Fixing.

(S. 01979/28, S. 8538/28.—9.11.1928.)

*Battleships, Cruisers, Aircraft Carriers, and large Fleet Auxiliaries building and under refit.*

With a view to increasing the life of electric cables fitted on board the above ships and thus reducing the cost of renewal, etc., special action is to be taken as regards future new construction to select satisfactory main routes for cables.



2. Subject to the condition that watertight bulkheads are not to be pierced below the water line, the main cable routes are to be chosen with a view to securing:—

- (a) Adequate protection from damage by shell fire and bombs.
- (b) Sufficient clearance from the ship's side and framing to avoid risk of damage when fendering or going alongside in vessels of light scantlings.
- (c) Straight and direct runs for the cables as far as is possible.
- (d) Avoidance of steam pipes and machinery, the proximity of which is detrimental to the cables.
- (e) Avoidance of congestion.
- (f) Easy renewal when necessary.

3. It is contemplated that more extensive use will be made in future of paper insulated cables and that these will be fitted wherever possible for both high and low power circuits.

4. At an early date during the construction of each vessel, the ship-builders or dockyard building the vessel are to prepare drawings indicating the arrangement of the more important runs of electric cables relative to steam and water pipes and any other obstructions occurring in their route. These drawings are to be prepared after close co-operation between all departments concerned. After approval of these drawings no major alterations in the cable runs will be permitted without special Admiralty sanction.

5. Similarly, no major alterations in the positions of the pipes and other fittings in the route of the cables will be permitted without special approval, and the co-operation between the various departments required in the early stages of construction must be continued throughout the building of the vessel. New positions selected for other than electrical gear must not be such as to interfere unduly with cables already run or to be run along any approved route.

6. The foregoing instructions are also to be considered applicable to vessels under refit in so far as the running of new circuits and the fitting of new apparatus are concerned.

*Leaders and Destroyers Building and under Large Refit.*

7. The following additional instructions are promulgated for special application in connection with wiring in leaders and destroyers in future new construction and large refits.

8. The route of all main electric cables, high and low power, in leaders and destroyers should be under the deck and at least two feet from the ship's side.

9. The runs of the cables should be as flexible as possible and in no circumstances should they be run in a straight line from bulkhead to bulkhead through the engine and boiler rooms, but a certain amount of "give" should be allowed to avoid straining of the cables due to working of the ship, etc.

10. The cables should be run in the coolest positions available, and positions over steam pipes and valves should be avoided when possible. Where cables pass near steam pipes or very hot positions, the runs are to be protected by asbestos linings or other means of avoiding excessive heat.

11. The cables should be fixed to perforated plating which should be so fixed to the beams as to damp out vibration as much as possible. The plating should not touch the beams, etc., and should not be fixed to the girders. A drawing showing the approved method of fixing this plating is shown in E.F.O 95/29.

12. All bulkhead glands for lead-cased cables should be packed with farotex compound. A new pattern gland for a single cable suitable for farotex compound is being introduced.

13. Cables as they emerge from the gland should allow of "give" between the gland and the first clip, but should be supported, if necessary, in a non-rigid manner.

14. Cables passing from a fore and aft bulkhead to an athwartship bulkhead should have long easy bends.

15. All clips should have upturned edges and should not distort the cable sheathing.

16. Fuse, etc., boxes should be fixed in the coolest positions available, generally away from ship's side and not at the upper part of the engine or boiler room. They should be readily accessible.

17. At an early date during the construction of each ship the shipbuilders are to prepare drawings indicating the arrangement of the more important runs of electric cables relative to steam and water pipes and any other obstructions occurring in their route. After approval of these drawings no major alterations in the cable runs will be permitted without special Admiralty sanction. Similarly, no major alterations in the positions of the pipes and other fittings in the route of the cables will be permitted without special approval.

18. When ships are in hand at dockyard for large refit, the dockyard departments are to co-operate as necessary to ensure the most satisfactory arrangement of all fittings being obtained. New electrical circuits and fittings are to be arranged in accordance with the above instructions. New positions selected for other than electrical gear must not be such as to interfere unduly with cables already run.

### 2896.—Electrical Equipment in H.M. Ships — Provision of Nameplates for Electrical Plant Adapted to Suit Service other than for which Originally Supplied.

(D. 16459/28.—9.11.1928.)

Where electrical plant has been modified electrically to suit conditions of service other than that for which the plant was originally supplied, an additional nameplate is to be fitted to the plant showing the revised electrical particulars, and stating in front of the maker's name:—MODIFIED.

2. This nameplate should be fitted close to the original nameplate fitted by the manufacturer, and in all correspondence relative to the provision of spare gear, the details of both plates should be forwarded in accordance with A.F.O. 2133/27.

3. A statement is always to be included stating what modifications to the spare gear are to be arranged for, which are necessitated by the altered conditions of service.

4. In connection with O.U. 6137—Electrical Equipment in H.M. Ships—the reports are to show both nameplate particulars.

(A.F.O. 2133/27.)

### 2899.—“Walgrif” and “Dockyard” Enamels for Torpedo Work.

(N.S. 8152/28.—9.11.1928.)

It has been approved to use a ready mixed dockyard enamel for all purposes for which “Walgrif” vermilion enamel has been previously used. No further purchases of “Walgrif” vermilion enamel will be made, but stocks should continue to be issued until exhausted.

2. Ready mixed dockyard enamel will be added to the Authorised List of Naval Stores, under Subhead E, Item 6, as “Paint, Bright Red, for torpedo heads, etc., Patt. 533A,” and requirements for all services should be mixed in the dockyards as necessary for issue, to the following formula, viz. :—

Pattern 2.	Red lead	...	...	...	20 lb.	} Per 1 cwt. of paint.
„ 70.	Red permanent	...	...	...	40 lb.	
„ 69.	Size, gold, japan	...	...	...	31 pints.	
	Oil, linseed, boiled	...	...	...	15½ pints.	

3. The ingredients should be mixed in the order as shown above, and as follows:—

- (i) The pigments to be thoroughly mixed together, dry.
- (ii) Then made into paste form with size, gold, japan.
- (iii) Oil, linseed, boiled, to be added gradually.

The mixture should be well stirred before using.

4. Quantities of  $\frac{1}{2}$  cwt. or more in bulk should not be made to be kept in store as the pigment tends to settle.

5. Tins, Patt. 71, one pint capacity, holding approximately 2 lb., are considered to be the most suitable package for issue of this paint.

6. Neither paint, bright red, Patt. 533A, nor "Walgrif" enamel should be used in any circumstances for armament stores containing H.E. Requirements of paint for this purpose are met from Armament Supply Depôts.

## 2900.—Optical Parts of Rangefinders and Inclinometers.

(N.S./C.P. 18076/28.—9.11.1928.)

With a view to establishing a definite nomenclature for the optical parts of rangefinders and inclinometers, and to facilitate the ordering of spare parts, sets of books showing the particulars of optical parts of these instruments are being prepared at Portsmouth for distribution as follows:—

Chatham ... ..	} 2 complete sets of books for each Yard, <i>i.e.</i> , 1 for Engineering Department and 1 for N.S.O.
Portsmouth ... ..	
Devonport ... ..	
Sheerness ... ..	
Gibraltar ... ..	
Malta ... ..	
Trincomali ... ..	
Hong Kong ... ..	
Cape ... ..	
Bermuda ... ..	

Gunnery Schools:—

Chatham ... ..	} 1 complete set of books for each Gunnery School.
Portsmouth ... ..	
Devonport ... ..	
Admiralty Gun Mounting Glasgow.	1 complete set.

Admiralty:—

D.N.O. ... ..	} 1 complete set for each.
D. of S. ... ..	
D. of C. ... ..	
Messrs. Barr & Stroud ... ..	1 complete set.

A symbol number has been assigned to each spare part, and this symbol number should be referred to in all demands and correspondence.

## 2903.—Signal Injectors for A/S Installation.

(N.S. 13039/28.—9.11.1928.)

In all cases where a signal injector is supplied to a ship for use with the A/S installation, this instrument is to be kept in the personal custody of the A/S officer. The instrument should, however, remain on charge in the relative Naval Store Account, being issued on "permanent loan" to the A/S officer in ships fitted for central storekeeping.

## 2907.—Money Chests and Chests for Confidential Documents— Loss of Keys.

(N.S. 11121/28.—9.11.1928.)

Attention is again called to the instructions in regard to the keys of money chests and chests for confidential documents contained in Article 1780, King's Regulations and Admiralty Instructions and paragraphs 92 to 97B of C.B. Form U2D. Many cases of the losses of keys are still being reported, and action is to be taken to ensure as far as possible that the instructions are strictly complied with in future.

2. Uniform charges as follows are to be made against officers held to be responsible for the loss of a key or keys:—

30s. 0d. in the case of chests for confidential documents.

45s. 0d. in the case of money chests, Pattern 1464A.

These amounts are based on the average cost of repair.

3. As regards money chests with combination locks, the cost of repairing, adjusting combination, etc., varies considerably and the practice of charging the actual cost of repair, etc., should be continued.

## 2908.—Admiralty Motor Transport—Employment for Service, Functions and Recreational Services.

(N.S.M.T. 406/28.—9.11.1928.)

The concessionary rates authorised for Admiralty motor transport when employed for the purpose of carrying stores or personnel in connection with recreational or Service functions may be extended to apply to organised service (but not private) concerts, theatrical shows, etc., subject to the conditions laid down in paragraph 2 of A.F.O. 405/28.

(A.F.O. 405/28.)

## \*2933.—Ratings Lent to Dominion Navies—Advancement.

(N. 2241/24.—16.11.1928.)

The conditions of advancement of ratings while on loan to Dominion Navies will be generally similar to those in the Royal Navy.

2. Ratings specified in Article 410 of the King's Regulations and Admiralty Instructions will be advanced as provided for in that Article, and no reversion will take place on return to the Royal Navy.

3. The name of every rating on loan to a Dominion Navy will remain on the roster at his R.N. Port Division, and if he reaches his turn for advancement on such roster during the period of loan, he will be advanced provided he is qualified and recommended, his advancement being duly notified to the Admiralty for communication to the Dominion authority concerned so that he may receive the higher pay, etc., of his new rating. (The higher pay is not, however, payable where promotion from Port Division roster involves immediate return to the Royal Navy.) No reversion will take place on return to the Royal Navy.

4. When a rating lent to a Dominion Navy, being fully qualified for advancement under the Regulations in force for the Royal Navy, is advanced to the rating of Chief Petty Officer, Petty Officer, or Leading rate in the Seaman, Signal, or Telegraphist branch, or to Chief Stoker, or Stoker Petty Officer, or Acting Leading Stoker, to fill a vacancy caused by the death, desertion, final discharge to the shore by invaliding or otherwise (except on expiration of Royal Navy engagement), disrating, or reduction in rating, of a Royal Navy rating on loan, no reversion is to take place on return to the Royal Navy.

5. Paragraph 4 is to apply also to advancements to Leading Stoker (confirmed) of ratings lent to the Royal Australian Navy only.

6. Any local rating conferred on a R.N. rating on loan to a Dominion Navy, otherwise than above, will be noted on the Certificate of Service in the column headed "Special Recommendations, etc.", at the bottom of page 2, but a man so advanced will revert to his former rating on return to the Royal Navy.

7. On every occasion of a R.N. rating being advanced while serving in a Dominion Navy, the Commanding Officer should forward to the man's home depôt a certificate, stating under which of the above paragraphs 2, 3, or 4, the advancement was made.

8. The ratings held by men on their return to the Royal Navy after service in a Dominion Navy should continue to be scrutinised in the ship or establishment they join on return. Where an advancement has taken place inquiry should be made of the depôt as to the retention of the higher rating. In doubtful cases the depôt will refer the question to the Admiralty for decision.

(*K.R. and A.I., Arts. 410 and 411.*)

### 2939.—"H" Type Torpedo Firing Pistol—Modification to remove the possibility of an Earth occurring.

*Ships and Dockyards.*

(G. 14100/28.—16.11.1928.)

It has been found that earths can occur in the "H" type torpedo firing pistol owing to the spring retaining washer making contact with the centre terminal blocks.

2. All pistols in service should be examined and if the clearance can be reduced to less than .15 in. minima, the pistol should be modified by filing a small amount off the centre terminal blocks to ensure this clearance under all conditions.

3. The work should be carried out by ships' staffs and in dockyards concerned for pistols in store.

2942. { 21 in. T.R. II, Torpedo Tubes—H.M. Ships "Amazon"  
and "Ambuscade"—  
21 in. Q.R. H, Torpedo Tubes—H.M. Ships "Kent" Class  
—Modified Hinge Brackets for Access Fittings.

(G. 8132/28.—16.11.1928.)

Modified hinge brackets to the details shown in E.F.O. 130/28 (1) and (2) are to be fitted to the access doors for depth, charging and stop valves, and sighting plug, to replace the existing hinge pieces.

2. The modified hinge brackets will be supplied by Devonport Dockyard, and are to be fitted by the ships' staffs. The holes in the brackets for the hinge pins are to be drilled after the brackets are bedded to the tubes in order to ensure that the holes are in the correct positions.

### 2944.—Naval Stores, Director Firing, and Fire Control Gear—Erection or Fitting on Board by Contractors.

(G. 17395/28.—16.11.1928.)

The question of the cost of erection on board and expenses arising from the supply of Naval stores, director firing, and fire control gear to H.M. ships has been under consideration in connection with the Votes from which such charges should be met.

2. The following procedure has been decided upon:—

When articles ordinarily bought under Vote 8, Section II, are erected or fitted on board H.M. ships by contractors, or when contractors are required to adjust, test, or modify such articles after delivery, the cost of the articles should still be charged to Vote 8, Section II; but the cost of erection, adjustment, etc., should be charged to Vote 8, Section III, wherever such costs can be separated.

The foregoing does not apply to the supply and erection of articles as part of a shipbuilding contract.

3. *Director Firing Gear* may generally be considered as material used in connection with aiming and firing the guns, such as:—

Director control towers,  
Director towers,  
Director sights,  
Director elevation receivers,  
Director training receivers,  
Director instrument operating gear,

and is purchased under Vote 8, III, G.

4. *Fire Control Gear* may generally be considered as material used in controlling the fire of the guns, such as:—

Fire control tables,  
Rangefinders,  
Range clocks,  
Deflection calculators,  
Electrical transmission gear,

and is mainly purchased under Vote 8, II.

5. The cost of erection and expenses arising from supply of director firing material should be charged to Vote 8, III, G.

6. Similar costs arising from the supply of fire control material should be charged to Vote 8, III, C, or E, as indicated below.

7. When fire control gear purchased for *new* ships is supplied to gun machinery contractors for erection in director control or director towers, on director sights or gun mountings, the cost of erection only should be charged to Vote 8, III, G. Other expenses arising from supply, such as adjustment, test, modifications, etc., should continue to be charged to Vote 8, III, C.

8. The cost of erection of gear purchased under Vote 8, II, for fitting in *existing* ships, and expenses arising from supply, should be met from Vote 8, III, E, although part of such erection may be carried out in director towers, etc., on gun mountings, or on other items of director firing material.

9. Should it not be practicable to separate the cost of erection, adjustment, etc., from the cost of supply, the whole cost should be charged to Vote 8, Section II.

2950. }  
2957. } *Issued Confidentially.*  
2958. }

**2963.—W/T—Marconi  $\frac{1}{2}$ -kw. Sets—Modification.**

*All Vessels Fitted.*

(N.S. 13720/28.—16.11.1928.)

Some modifications are required to the spark transmitter of the Marconi  $\frac{1}{2}$ -kw. set to enable transmissions to take place on 1364 kc/s. (220-metres), the new port spark wave. Instructions for carrying out the necessary alterations are given in paragraphs 2 and 3 of this Order.

2. The circuit alterations consist of moving the "short-wave condenser" from the aerial circuit, where it is not required, and wiring it in the primary circuit in series with the main condenser, between the main condenser and the jigger primary (*see* Figure 2, O.U. 5240, Handbook for Marconi  $\frac{1}{2}$ -kw. set). For transmissions on 1364 kc/s. the primary tuning plug should be put into the 1000 kc/s. (300-metres) socket, and maximum value of impedance coil used. For transmissions on 500 kc/s. (600-metres) the second condenser must be short-circuited.

3. To enable the primary circuit to be tuned up to 1364 kc/s., it is necessary to keep all leads as short as possible. The short-wave condenser is to be mounted on top of the "silence cabin" (containing rotary converter and spark gap, etc.), immediately over the main condenser. The lead from the short-wave condenser to the main condenser is to run as direct as possible through the roof of the silence cabin which will require to be drilled. To provide room for mounting the condenser and running this lead, it may be necessary to move the jigger frame two or three inches to one side of its present position. Pattern 2272 cable, electric, unarmoured, is to be used for running the lead between the two condensers. Other leads between components of the primary circuit should be shortened as much as possible. If found necessary, the fine tuning coil should be cut out of the circuit, the lead from the rotary spark gap, which comes up through the top of the silence cabin, being led direct to the jigger primary.

4. Vessels concerned are to demand two yards of Pattern 2272 cable from their storing yards, quoting this Order as authority. On receipt, the modifications detailed in the foregoing paragraphs are to be carried out by ship's staff or depôt ship's staff.

5. The necessary alteration to the establishment of W/T stores will be promulgated in due course. No fitting-out specifications are affected.

**2970.—R.N.M.T. Depôt, Albany Street—Reduction in Hours during which open.**

(N.S.M.T. 322/28.—16.11.1928.)

From 18th November, 1928, baggage will not be carried across London or motor transport work undertaken by the R.N.M.T. Depôt, Albany Street, on week-days between the hours of 11 p.m. and 6 a.m., or on Sundays.

In very exceptional circumstances special arrangements will be made, provided at least 48 hours' notice is given, but otherwise ratings, whom it is unavoidable to send by trains necessitating their crossing London at these times, are to be authorised to engage taxi-cabs when travelling on duty with bags and hammocks.

(A.F.O. 3158/26.)

**2971.—Mincing Machines—First Outfit of Spare Parts.**

(N.S. 13815/28.—16.11.1928.)

Any items of first outfit spare parts for mincing machines required by ships or shore establishments in accordance with paragraph 5 of A.F.O. 1509/28, should be included in defect lists and forwarded to Portsmouth Yard for supply under Vote 8/III B.

(A.F.O. 1509/28.)

**2973.—Coal and Oil Fuel—Expenditure.***Vessels fitted for Central Storekeeping.*

(N.S. 8202/28.—16.11.1928.)

A recent comparison of the entries in respect of oil fuel in the central store account and the engine room register of one of H.M. ships, revealed that the expenditure in the latter record, for a period of 12 months considerably exceeded that shown in the central store account for the same period, owing to incorrect figures having been reported on the weekly report of expenditure of coal, oil fuel, etc. (Form S.1102).

2. Attention is, therefore, drawn to the necessity of ensuring that the weekly reports are rendered correctly in accordance with the directions laid down in Article 24 (2) of the Central Storekeeping Instructions.

**2988.—Wireless Telegraph Stations—Expenditure.**

(D.A. 2139/28.—16.11.1928.)

Returns of the expenditure (new or additional work being distinguished from ordinary repairs and maintenance) incurred at Dockyards and Naval Store Depôts in connection with the following W/T Stations, viz. :—

Aden,  
Lizard (D.F.),  
Gibraltar (Rock),  
Bermuda Dockyard,

are to be rendered to the Director of Expense Accounts in the manner indicated in the subjoined Form as soon as possible after the close of each financial year. "Nil" returns should be rendered by yards etc., at which no such expenditure has been incurred.

2. This Order is to be regarded as effective from 1st April, 1928, and the instructions herein supersede those contained in Admiralty letter, 25th November, 1927, D.A. 2512/27, addressed to Devonport, Gibraltar and Bermuda.



.....W/I Station.

DETAILS OF EXPENDITURE INCURRED DURING.....

	Item 1. New or additional Work of a capital nature. £ s. d.	Item 2. Repairs, Replacements and Stores. £ s. d.	Item 3. Rents, Water, Fuel and Light. £ s. d.	Item 4. Sundries. £ s. d.	Total. £ s. d.
Expenditure borne by :—					
(1) Vote 8.—					
(a) Included in the Dockyard Expense Accounts :—					
Labour ... ..					
Materials ... ..					
Contract work ... ..					
Maintenance Stores ... ..					
Water ... ..					
Fuel ... ..					
Electric current ... ..					
Other stores ... ..					
(b) Not included in the Dock- yard Expense Accounts:—					
Rents ... ..					
Water ... ..					
Fuel ... ..					
Electric current ... ..					
Any other items not specially provided for (in detail) ... ..					
Total Vote 8 ... ..					
(2) Vote 10.					
(3) Navy Votes other than Votes 8 and 10 (details of Votes and particulars of expenditure to be given) ... ..					
Total ... ..					

2989.—*Issued Confidentially.***2991.—Arms Export Prohibition Order, 1921—Procedure for Government Export.**

(N.L. 1392/28.—23.11.1928.)

The export of arms or ammunition is prohibited by the Arms Export (Prohibition) Order, 1921, save under Board of Trade licence; but it has hitherto been the practice of the Customs authorities not to insist upon a licence in case of export by a Service department.

2. In order to safeguard the Customs authorities it has been agreed that the department responsible for the export of Government arms or ammunition should send to the Collector of Customs at the port of shipment either before or at the time of the shipment, a certificate that the goods (properly described so as to be identifiable) are being shipped by that authority.

3. The following Admiralty Officers (or officers deputed to sign on their behalf) are authorised to sign such certificates :—

Chief Superintendent of Armament Supply.  
 Naval Armament Supply Officer, Woolwich.  
 Senior Armament Supply Officer, Upnor.  
 " " " " Priddy's Hard.  
 Armament Supply Officer, Bull Point.  
 Deputy Armament Supply Officer, Plymouth.  
 " " " " Chatham.  
 Superintendent, R.N. Torpedo Factory, Greenock.  
 Torpedo Engineer Officer, Portsmouth.  
 " " " Chatham.  
 " " " Devonport.  
 " " " Weymouth.  
 Engineer Managers or Chief Engineers, H.M. Dockyards at home.  
 All Engineer Overseers and  
 Gun Mounting Overseers.

4. Where it is the practice for freight to be arranged by the Naval Store Department, the signed certificate should be forwarded, with the requisition for freight, to the Officer of that Department who is arranging shipment.

5. The above procedure is now in force. It applies only to exports of Government stores.

6. The articles to which the prohibition of Export Order and this arrangement apply are the following :—

- (i) Cannon and component parts thereof.
- (ii) Carriages and mountings for cannon and other ordnance and component parts thereof.
- (iii) Cartridges, charges of all kinds, and component parts thereof.
- (iv) Explosives, except the following :—
 

Amorces.	Monobel.
Blasting gelatine.	Rex powder.
Bonbons.	Rockite.
Detonators.	Safety fuzes.
Dynamite.	Super Cliffite, No. 1.
Electric detonators.	Super Cliffite, No. 2.
Fireworks.	Super Rippite.
Fog signals.	Tonite or cotton powder, No. 1.
Gelatine dynamite.	Viking powder.
Gelignite.	
- (v) Firearms of every description and component parts thereof.
- (vi) Grenades and component parts thereof.
- (vii) Machine guns, interrupter gears, mounting for machine guns and component parts thereof.
- (viii) Projectiles of all kinds (except air-gun pellets) and component parts thereof.
- (ix) Mines, land or sea, and component parts thereof.

- (x) Depth charges and component parts thereof.
- (xi) Bombs, bombing apparatus, and component parts thereof.
- (xii) Flame throwers and component parts thereof.
- (xiii) Fuzes (other than safety fuzes) and component parts thereof.
- (xiv) Torpedoes and component parts thereof.
- (xv) Torpedo tubes or other apparatus for discharging torpedoes.

**3005.—Cartridges, Q.F. 4 in., Marks V and V\*, H.A. Guns, 5lb. 14 oz. M.D. or M.C., H.E. Shell and Target Smoke Shell.**

(G. 13618/28.—23.11.1928.)

In H.M. Ships fitted with 4 in., Mark V and V\* H.A. guns, future practice firings should, as far as possible, be carried out with ammunition of the above-mentioned description, *filled prior to June, 1928*, in preference to ammunition filled at later dates.

**3008.—Masts and Yards for Flagstuffs and Signal Masts at Naval Shore Establishments—Survey, etc.**

(D. 14827/28.—23.11.1928.)

A fatal accident having occurred as the result of the breaking of a wood topmast of one of the signal masts at a R.N. Barracks, attention is called to the following instructions in connection with the survey of masts and yards at Naval shore establishments :—

The supervision and maintenance of masts, etc., and rigging in Naval shore establishments is at all times the responsibility of the establishment concerned, in the same sense that the Commanding Officer of a ship is responsible for the efficient maintenance of the fittings in the ship.

A survey is to be made biennially, and defects made good to ensure the masts and yards being kept in an efficient condition.

The inspection should be accompanied by scraping and examination by careful pricking in way of mast funnels. Where there is any doubt as to condition, the topmast should be struck and funnels lifted ; the intervals for striking are not to exceed two years.

In cases where slight decay has been observed, or after repairs have been carried out to masts and yards, the intervals between surveys should not exceed twelve months.

The interval between each examination and blacking down of rigging should also not exceed twelve months.

Where no ratings are borne capable of carrying out periodic survey and painting of masts and yards, a requisition is to be forwarded for the survey and requisite repairs to be carried out by the dockyard concerned.

Any painting of masts and yards in shore establishments which has to be done by dockyard labour is to be undertaken by the department responsible for the repairs. The cost of such painting is to be borne by the Vote to which the cost of repairs is chargeable.

**3009.—W/T, Pattern 7302 Coil, Coupling, for Pattern 6373C Heterodyne Unit K.5—Modification.**

*All Services.*

(N.S. 14278/28.—23.11.1928.)

It has been found that when Pattern 6373C heterodyne units K.5 are used with Pattern 7302 coils, coupling, the instruments, though sufficiently accurate for use as a separate heterodyne, are not accurate as a wavemeter. Heterodyne units K.5 are calibrated with the fixed coupling coil which is supplied with each instrument, and errors are introduced when using the present Pattern 7302 coils. Future supplies of these Pattern 7302 coils, however, will be modified so that the heterodyne units K.5 will give practically the same readings as when used with the fixed coupling coil.

2. Experiments with heterodyne unit K.5 and a modified Pattern 7302 coil, coupling, have been carried out, and it was found that the readings obtained were uniformly consistent so long as the angle between the two component coils of Pattern 7302 coil, coupling, was 25 degrees or greater. Under these conditions the errors introduced by using Pattern 7302 coil in lieu of the fixed coupling coil were approximately 0.2 per cent. of the wavelength. This accuracy is sufficient for all normal uses, but should limiting accuracies be required, the fixed coupling coil must be employed.

3. Pattern 7302 coil, coupling, is supplied with a special length of twin flexible wire already attached. It is essential that this lead should be taken to the heterodyne unit K.5 and that the length of this lead should not be altered. The length of lead from the coupling coil to the amplifier is immaterial as it is found not to affect the calibration results.

4. When the modified Pattern 7302 coils, now on order, are available, one each will be sent to dockyards at Portsmouth, Devonport, Chatham, Malta, Hong Kong, Bermuda, Simonstown, and Trincomali, together with instructions for modifying the existing coils. Local arrangements are to be made for yards to modify the Pattern 7302 coils in stock, the coils fitted in ships being returned for modification to their local yards as convenient.

5. The Pattern 7302 coils which require modification can be identified by their serial numbers which are as follows:—Serial Nos. 1-85 and P.1 to P.134. The modified coils now on order will be marked Serial No. S.T.1 to S.T.150.

### 3018.—English Hymnal—Issued to the Fleet, etc., in lieu of Hymns, A. and M.

(N.S. 3338/28.—23.11.1928.)

It has been approved for the English Hymnal to be substituted for Hymns, Ancient and Modern, in the list of Books of Devotion allowed to H.M. ships and Naval establishments. The following publications will be affected:—

- (a) Prayer book with hymns—establishment, one for every two men of the complement (except submarines who borrow copies from depôt ship).
- (b) Prayer and hymn book, Pattern No. 200, as presented to each boy other than R.C., Presbyterian or Wesleyan on entry into the Training Service, etc.
- (c) Hymns, A. and M., large transposed edition with tunes, as supplied for use of organist.
- (d) Hymns, A. and M., small edition with tunes (No. 31), as supplied for use of choir.
- (e) Hymns, A. and M., edition No. 44, as supplied to Training Service.

2. Substitution of (a), (c) and (d) will be effected gradually, but a first distribution of the prayer book with English Hymnal, together with the English Hymnal with tunes, will be made, when copies become available in about 4 to 6 months' time, to the Atlantic and Mediterranean fleets in substitution of the copies of (a), (c) and (d) at present in use. Ships, etc., of these fleets should forward demands to West India Docks for the copies of the new books required, demands being limited to actual requirements on the basis of the established allowances, and on receipt of the new books, the copies replaced are to be returned to the R.N. Store Depôt, Deptford, by whom they will be re-issued, as necessary, to the remaining fleets and establishments.

3. It is notified, as regards (c), that there is no organists' edition of the English Hymnal, and organists will therefore be required to use the same edition as for choirs, *i.e.*, the English Hymnal, with tunes.

4. The order of priority in which the remaining fleets and establishments will be supplied with the English Hymnal, after the Atlantic and Mediterranean fleets, will be the America, China, East Indies and Africa Stations, with Home Establishments last, but until a further notification appears in Admiralty Fleet Orders, demands should not be forwarded from services other than the Atlantic and Mediterranean fleets.

5. With regard to (b), copies at present in stock at the Training Establishments should continue to be issued until supplies are exhausted, and future demands for replenishment of stocks of the presentation book (which should be addressed to the Keeper of Stationery and Printing) should be for the prayer book with the English Hymnal.

6. Training Establishments should continue to demand on West India Docks for copies of (e), until stocks are exhausted.

### **3028.—Catapult Trials Afloat—Allocation of Responsibilities.**

(M. 02804/28.—30.11.1928.)

The following departmental responsibilities during catapult trials afloat have been allocated, with the concurrence of the Air Council:—

- (a) Fitness of aircraft for catapulting—Air Ministry.
- (b) Examination of aircraft and dummies after catapulting—Air Ministry.
- (c) Readiness and state of catapult—Admiralty (Engineer-in-Chief).
- (d) Relative wind speed—Captain of ship.
- (e) Effect on structure of ship—Admiralty (Director of Naval Construction).
- (f) Provision of suitable cordite charge to meet weight and wind-speed conditions. State and readiness of cordite impulse component and firing gear—Admiralty (Director of Naval Ordnance).
- (g) General responsibility for the trials—Admiralty (Head of Naval Air Section).

2. Preliminary programmes for these trials will be decided by the Joint Technical Committee on aviation arrangements in H.M. ships.

### **\*3030.—Honorary Physicians and Honorary Surgeons to the King—Regulations Governing Appointment.**

(C.W. 10617/28.—30.11.1928.)

The following revised regulations governing the appointment of Honorary Physicians and Honorary Surgeons to the King have been approved by His Majesty:—

- (i) Medical Officers appointed as such, in future, to relinquish their honorary appointments on retirement from the Service. Officers on the retired list at present holding the appointments to continue to hold them.
- (ii) The officer holding the position of Medical Director-General of the Navy to receive, *ex officio*, an appointment as Honorary Physician or Honorary Surgeon to the King.
- (iii) The total number of Honorary Physicians or Honorary Surgeons to the King to remain at 8, excluding extra or supernumerary appointments, but the number of appointments as Honorary Physician or Honorary Surgeon to be varied at discretion within the total, instead of 4 of each being allowed as hitherto.
- (iv) Officers, in order to be eligible for appointment, to be of the rank of Surgeon-Captain or above.

### **3035.—Officers, Royal Marines, Serving Afloat—Examination for Promotion.**

(C.W. 11040/28.—30.11.1928.)

Officers of the Royal Marines will be required to undergo the same examinations for promotion as Army Officers, except that the examination in subjects (b) (i), Part I, and (d) (i), Part I, will comprise a paper on Royal Marine Subjects, as laid down in Instructions for Royal Marine Divisions, Article 9. This subject will be designated "Organisation, administration, equipment and regimental duties of the Royal Marines."

In addition to the above, before promotion to Captain, Officers, R.M., will be required to have undergone a course and obtained a satisfactory qualification at the R.M. Small Arms School, Browdown.

Officers who undergo a course and obtain a satisfactory certificate from the Rifle and Light Gun Wings of the Army and Small Arms School, and

those who qualify for notation (a) or (a\*) in Land Service Artillery will be exempt from obtaining the certificate referred to in preceding paragraph.

*Note.*—An Officer below the rank of substantive Lieutenant-Colonel will be required, before promotion to higher substantive rank (Lieutenant-Colonel or Colonel), to undergo a course at the Army Senior Officers' School. (King's Regulations for the Army and the Army Reserve, paragraph 834.)

2. The examinations are to be conducted as laid down in the King's Regulations for the Army and the Army Reserve, so far as applicable, and, in order that they may be complied with, extracts from these regulations are given in the Schedule.

3. Royal Marine Officers embarked should, in all cases, when practicable, attend the Army Board assembled at the Port or Station where their ship may be at the time. In this case the names of Officers should also be sent to the Adjutant-General, Royal Marines, in addition to the District Military Authorities. (*See* paragraph 4.)

4. *Should it not be practicable for Officers serving in H.M. Ships to appear before an Army Board* in the usual way, arrangements will be made for their examination in subjects (b) and (d) on board. The names of candidates in these cases are to be forwarded to the Adjutant-General, Royal Marines, in sufficient time to arrive at the Royal Marine Office, Admiralty, before 1st January for the March examination, and 1st August for the October examination.

5. In forwarding the names it should be stated in what subjects each Officer is desirous of being examined. In the case of Officers desirous of being examined in sub-heads (b) (iii) and (d) (iii), the selected campaign should also be stated.

6. The necessary examination papers, index numbers, etc., will be dispatched to the Commander-in-Chief concerned in sufficient time for the examinations to be held on the same dates as those conducted by the Army Boards.

7. A supply of the following forms will, in each case, be forwarded by the Adjutant-General, Royal Marines:—

Army Form A.2.—(Proceedings of Board).

Army Book 4.—(Answer Book for examinations).

Printed Envelopes.—(For return of worked papers (Army Subjects) to Director of Staff Duties, War Office, together with the certificates mentioned in Appendix X, King's Regulations for the Army and the Army Reserve).

8. The Commanders-in-Chief concerned will arrange as far as possible for the conduct of the examination on the lines indicated in Appendix X, King's Regulations for the Army and the Army Reserve.

(*Note.*—Where the number of candidates to be examined in any ship is under six it will be sufficient if two Officers, senior to the candidates, form the supervising board.)

9. In the case of Officers examined afloat in sub-heads (b) (i) Part I or (d) (i) Part I only, the proceedings of the Board, Candidates' papers, Index numbers, etc., are to be forwarded to the Adjutant-General, Royal Marines, Admiralty.

10. The results of the examination will be notified to Commanding Officers concerned, by the Adjutant-General, Royal Marines, as soon as the information is received from the War Office, and, as far as the Officers who qualify are concerned, will also be published in General Orders, Royal Marines, for general information.

11. The examination in sub-head (b) (i) and (d) (i) consists of one paper in two parts, and consequently it is not possible for Officers to be examined in Organisation, etc., of Royal Marines separately unless they have previously failed in Part I of those sub-heads.

12. Amendments to the King's Regulations for the Army and the Army Reserve quoted herein will be published in Admiralty Fleet Orders from time to time as they are promulgated by the War Office.

## SCHEDULE.

## EXTRACTS FROM THE KING'S REGULATIONS FOR THE ARMY AND THE ARMY RESERVE, RELATING TO THE EXAMINATION OF ROYAL MARINE OFFICERS IN SUBJECTS (A) TO (D), FOR PROMOTION UP TO THE RANK OF MAJOR.

" 856. To be eligible to attend any examination for promotion to Captain or Major an Officer must have held the rank of Lieutenant for at least a year, or have attained the rank of Captain, respectively. A candidate will apply for examination to his Commanding Officer, who will forward the application to the General Officer Commanding through the usual channels. No candidate may attend a written examination in subject (b) or (d) until he has passed in subject (a) or (c) as the case may be.

" 859 (a). A G.O.C. will forward, so as to reach the War Office not later than 1st February and 1st September in each year, a return, in duplicate, on A.F. B.2053, of all Officers in his command who wish to be examined in subjects (b) and (d). Should the date fixed for the March examination be altered on account of the Easter season, the return should reach the War Office 14 days earlier.

" (b). An Officer will not, as a rule, be examined in a command other than the one in which he is quartered.

" 863. Examination in subjects (b) and (d) will be held at such centres as G.Os.C. may determine, commencing on the last Monday in March and the third Monday in October in each year. Should Easter Monday fall in the week in which the March examination would normally be held, the examination will commence on the second Monday in that month."

## APPENDIX X.

*(Referred to in paragraphs 850-868.)*

## PROMOTION OF OFFICERS AND INSTRUCTIONS FOR THE CONDUCT OF EXAMINATIONS.

## I.—TESTS FOR PROMOTION.

The subjects of examination, detailed from (a) to (d) in II below, in which Lieutenants and Captains are required to qualify before being considered for promotion to higher rank are:—

## LIEUTENANT FOR PROMOTION TO THE RANK OF CAPTAIN.

SUBJECTS—(a) PRACTICAL.  
(b) WRITTEN.

## CAPTAIN FOR PROMOTION TO THE RANK OF MAJOR.

SUBJECTS—(c) PRACTICAL.  
(d) WRITTEN.

## II.—SYLLABUS OF EXAMINATION SUBJECTS.

In the written examinations, the marks gained by a candidate in any paper are liable to a deduction not exceeding 10 per cent. for bad spelling, illegible handwriting, marked irrelevancy or lack of clear and concise expression.

\*The Field Service Pocket Book may be used at all examinations, written and practical, but not for answering oral questions.

## SUBJECTS (a) TO (d).

SUBJECT—(a) DUTIES IN THE FIELD (PRACTICAL AND ORAL).

## LIEUTENANTS FOR PROMOTION.

Consisting of a tactical exercise in the field without troops, embracing a knowledge of Cavalry, Artillery, Infantry and Tank Training, Field Service Regulations, Map Reading, Field Works and Military Hygiene, and based upon the command of a company or equivalent unit.

\* *Note.*—Not applicable to Papers (b) (i) Part I, or (d) (i) Part I.

**SUBJECT—(b) WRITTEN EXAMINATION.****LIEUTENANTS FOR PROMOTION TO CAPTAIN.**

**SUB-HEAD (b) (i) ONE PAPER IN TWO PARTS.** (Candidates will be required to qualify in Part I and Part II.)

**Part I.—Organisation, administration, equipment and regimental duties of the Royal Marines.**

Time allowed—2 hours.

Marks allotted—200.

*Note.*—No reference books will be allowed for answering Part I.

A detailed knowledge will be required of the duties of a Company Commander in the Royal Marines.

A general knowledge will be required of the title and scope of the Official publications which concern the administration of the Royal Marines.

Organisation of training and education of Royal Marines.

Re-engagements, transfers and extensions of service.

Pay and messing.

Clothing and equipment.

Drafting arrangements.

A detailed knowledge of the organisation of a detachment, Royal Marines, on board H.M. Ships.

**Part II.—Military Law.**

Time allowed—1 hour.

Marks allotted—100.

The Manual of Military Law, King's Regulations for the Army and the Army Reserve and Pay Warrant will be allowed for answering Part II of this paper. These books may not contain any additions whatever other than amendments made by Army Orders and amendments to the Army Act notified from time to time in Army Council Instructions.

Candidates should have sufficient knowledge of the arrangement of the Manual of Military Law (including the Army Act and Rules of Procedure), King's Regulations and the Pay Warrant to solve the problems likely to arise in the course of their duties.

Questions may be asked on the following subjects:—

enlistment;

offences and punishments, arrest, investigation of charges, power of C.O.;

courts martial—preparation of case, evidence, convening of court, procedure at trial, confirmation;

penal deductions from pay, redress of wrongs, courts of inquiry;

billeting;

duties in aid of the civil power.

**SUB-HEAD (b) (ii) IMPERIAL MILITARY GEOGRAPHY.**

One paper.

Time allowed—3 hours.

Marks allotted—300.

The geography of the Empire, including the military importance of its climates, natural resources, physical features, communications and frontiers, and the general influence of foreign States on British strategy.



**SUB-HEAD (b) (iii) MILITARY HISTORY.**

One paper.

Time allowed—3 hours.

Marks allotted—300.

A general knowledge of the outline of the selected campaign and a study of the strategy and tactics employed during the period will be required in order to answer this paper.

The object is to illustrate the principles laid down in official manuals by actual events that have taken place in war, and to test the candidate's knowledge of these principles, and power of applying them, while discriminating between the methods by which they are applied during the campaign in question, and the methods by which they would be applied at the present time.

It is not necessary that candidates should commit to memory a number of dates and the exact strength and composition of the forces engaged.

Where the campaign to be studied consists of general and special periods, candidates will be required to have a knowledge of the tactics employed in the special period, while questions on the general period will be mainly of a strategical nature. Normally 75 per cent. of the questions for Captains will be taken from the general period, and 75 per cent. of the questions for Lieutenants from the special period. Both periods will be included in a single 3-hour paper.

The campaigns selected and the books recommended for study will be notified periodically in Army Orders.

**SUB-HEAD (b) (iv) TACTICS, ADMINISTRATION OF TROOPS IN THE FIELD, MAP READING AND FIELD WORKS.**

One paper.

Time allowed—3 hours.

Marks allotted—300.

Candidates examined at home and abroad, except India and Burma, will work on British War Establishments (Small War). Candidates in India and Burma will work on Indian War Establishments.

The paper will be based upon the command of a company, or equivalent unit, in the field, and may include questions on:—

the tactical handling of the unit, including map reading and field works;

the administration of the unit, including the supply of food, ammunition, clothing and equipment, the evacuation of casualties, pay and requisitions;

hygiene and sanitation;

billets, camps and bivouacs.

The paper (including combined problems and questions) will be designed to test the candidate's ability to apply his knowledge of the subject matter contained in:—

Field Service Regulations, Vols. I and II.

Manual of Field Works.

Manual of Map Reading and Field Sketching.

Training manuals of the various arms.

Army Manual of Sanitation.

**SUBJECT (c) DUTIES IN THE FIELD (PRACTICAL AND ORAL).**

CAPTAINS FOR PROMOTION TO MAJOR.

Consisting of a tactical exercise in the field without troops, embodying the employment of a mixed force of all arms, for example, some or all of the following:—a troop of cavalry, a battery of artillery, a section of engineers, an infantry battalion and a section of armoured cars. The exercise will be of such a nature as to test the candidate's capabilities of appreciating a situation, making a definite decision, and issuing his orders briefly, clearly and quickly. The exercise will also deal with the administration and supply of the force and the methods of preserving the health and maintaining the morale of the troops.

**SUBJECT (d) WRITTEN EXAMINATION.****CAPTAINS FOR PROMOTION TO MAJOR.**

**SUB-HEAD (d) (i) ONE PAPER IN TWO PARTS.** (Candidates will be required to qualify in Part I and Part II of this Paper taken separately.)

*Part I.—Organisation, administration, equipment and regimental duties in peace of the Royal Marines.*

Time allowed—2 hours.

Marks allotted—200.

*Note.*—No reference books will be allowed for answering Part I.

The same syllabus as (b) (i) Part I, except that in addition candidates will be expected to show a general knowledge of Mobilisation and Reserve regulations; official correspondence; canteens, regimental funds and institutions; pay ledgers, registers of service and returns affecting personnel.

*Part II.—Military Law.*

Time allowed—1 hour.

Marks allotted—100.

(*Note.*—The Manual of Military Law, King's Regulations for the Army and the Army Reserve and Pay Warrant will be allowed for answering Part II of this paper. These books may not contain any additions whatever other than amendments made by Army Orders and amendments to the Army Act notified from time to time in Army Council Instructions.)

In addition to the syllabus laid down for (b) (i) Part II, candidates should have a general knowledge of:—

History of military law; relation of officers and soldiers to civil life; employment of troops in aid of civil power; law and usages of war (Chaps. II, XII, XIII, and XIV, Manual of Military Law).

**SUB-HEAD (d) (ii) DEVELOPMENT AND CONSTITUTION OF THE BRITISH EMPIRE IMPERIAL MILITARY GEOGRAPHY.**

One paper.

Time allowed—3 hours.

Marks allotted—300.

A general outline of the development and constitution of the various parts of the Empire.

The geography of the Empire; including the military importance of its climates, natural resources, physical features, communications and frontiers, and the general influence of foreign States on British strategy.

**SUB-HEAD (d) (iii) MILITARY HISTORY.**

One paper.

Time allowed—3 hours.

Marks allotted—300.

The syllabus for this paper will be the same as for Sub-head (b) (iii).

**SUB-HEAD (d) (iv) TACTICS, ADMINISTRATION OF TROOPS IN THE FIELD, MAP READING AND FIELD WORKS.**

Time allowed—3 hours.

Marks allotted—300.

Candidates examined at home and abroad, except India and Burma, will work on British War Establishments (Small War). Candidates in India and Burma will work on Indian War Establishments.

The paper will be based upon the command of a battalion, or equivalent unit, in the field, and may include questions on:—

- the tactical handling of the unit, including map reading and field works;
- the administration of the unit, including the supply of personnel, horses, food, ammunition, clothing and equipment, the evacuation of casualties, pay and requisitions;
- morale—games, competitions, baths, canteens, etc.;
- hygiene and sanitation.

The paper will be designed to test the candidate's knowledge of his duties as a leader in the field in accordance with:—

- Field Service Regulations, Vols. I and II.
- Manual of Field Works.
- Manual of Map Reading and Field Sketching.
- Training manuals of the various arms.
- Army Manual of Sanitation.

**SUB-HEAD (d) (v) ESSAY.**

One paper.

Time allowed—2 hours.

Marks allotted—300.

A short essay on a military subject. A choice of three subjects will be given.

The object of this examination is to test the ability of a candidate in writing a military paper, and in expressing his conclusions with conciseness and brevity in a soldier-like style.

**III.—GENERAL INSTRUCTIONS FOR THE CONDUCT OF EXAMINATIONS.**

**1. EXAMINATION IN SUBJECTS (a) AND (c) PRACTICAL.**

*(i) Composition of Examining Boards.*

For an examination in subject (a) or (c), the board will consist of a president, not below the rank of Colonel for subject (c), and not below the rank of Lieutenant-Colonel for subject (a), and members not below the rank of Major. When an Officer not below the rank of Colonel is not available for subject (c), a substantive Lieutenant-Colonel may be appointed president. In addition to the president the board will consist of one member for every three candidates.

The proceedings of the boards will be dealt with as follows:—

- (i) In the case of an examination in subject (a) or (c), the president of the board will forward the proceedings and results (on A.F. B.109) to the G.O.C., who, if satisfied that the examination has been conducted in accordance with the regulations, will sign the certificate on A.F. B.109. If any irregularity has occurred, the G.O.C. will decide whether the examination is to be annulled.
- (ii) The G.O.C. will report the results of examinations in subjects (a) and (c) to the War Office, without delay, on A.F. B.109, together with a copy of the scheme and, in the case of examinations abroad, a map.

The names of Officers who have qualified will be notified in command orders, and such notification will be the authority for recording an Officer as qualified in subject (a) or (c). Each Officer will be furnished by his C.O. with a certified copy of the notification.

The proceedings of the boards will be retained at the Command Headquarters.

The board will not award 8 or more marks in subjects (a) or (c) unless they consider that the result should count towards a "Special Certificate."

## 2. EXAMINATION IN THE WRITTEN SUBJECTS (b) LIEUTENANTS AND (d) CAPTAINS.

### (i) *Composition of Supervising Boards.*

Boards to supervise the examinations will consist of a Lieutenant-Colonel as president and two Field Officers as members. When there are less than six candidates at any sitting the board may consist of a president and one member only. If no Officer of the rank of Lieutenant-Colonel is available, a Field Officer of lower rank may be appointed as president, and the command order convening the board should state "No Officer of the rank of Lieutenant-Colonel available."

### (ii) *Instructions for the guidance of Supervising Boards.*

Officers supervising an examination are required not only to adhere strictly to every detail of the instructions given below, but also to give their undivided attention to the exercise of supervision throughout the examination.

The examinations will commence on the last Monday in March and the third Monday in October. Should Easter Monday fall in the week in which the March examination would normally be held, the examination will commence on the second Monday in that month. Candidates, on the first day on which they attend for examination, will report themselves half an hour before the time fixed for its commencement, to receive and sign for their Index Numbers, and also to have their seats allotted them by the board.

2. The order of examination will be as follows:—

<i>Day.</i>	<i>Hours.</i>	<i>Subject.</i>
Monday	1430 to 1630	Sub-heads (b) (i) Part I and (d) (i) Part I.
	1645 to 1745	Sub-heads (b) (i) Part II and (d) (i) Part II.
Tuesday	1000 to 1300	Sub-heads (b) (iv) and (d) (iv).
	1430 to 1730	Sub-heads (b) (iii) and (d) (iii).
Wednesday	1000 to 1300	Sub-heads (b) (ii) and (d) (ii).
	1430 to 1630	Sub-heads (d) (v).

3. Whilst under examination candidates are to be placed at least six feet apart, and no Officer is to be examined in any subject or sub-head except at the time specified above, except in the case of centres abroad, when, owing to climatic conditions, alterations may be necessary, but each sitting should be of the duration laid down for the paper, and the papers should be taken in the order shown. Any alteration of hours or days should be noted in the proceedings of the board.

4. The board will, as indicated above, assign seats to candidates in order of Index Numbers. Each candidate will occupy the same seat throughout the examination, unless otherwise ordered by the board, who may make any necessary change.

5. The sealed packets containing the examination papers are not to be opened by the president of the board until the time fixed for the examination in the subject concerned, and then only in the presence of the candidates.

6. All the Officers constituting the board are to be present during the entire examination. Should the number of candidates at any sitting fall below six, the president may dispense with the services of one member. They must on no account give any opinion to the candidates as to the meaning or correctness of any word or sentence contained in the examination papers.

7. At the commencement of each attendance at which any candidates are taking their first paper, the president of the board will read out the certificate mentioned in paragraph 15 (ii) to the candidates, and will inform them

that they will be required to furnish the certificate at the close of their examination.

8. The Index Number assigned to each candidate (paragraph 1) must be recorded plainly upon each A.B. 4,\* map or sketch. The instruction on the cover of A.B. 4 must be strictly adhered to.

\* The president of the board will ascertain, before the commencement of the examination, that a sufficient supply of A.B. 4 has been sent to the examination room.

The name of a candidate under examination must on no account appear on any A.B. 4 paper, map or sketch handed in by him.

The answers to Parts I and II of sub-heads (b) (i) and (d) (i) will be written in separate Army Books 4, and marked accordingly.

9. Candidates should not be permitted to speak to each other or to communicate with any person in the room, except with a member of the board, and, with that exception, strict silence is to be observed in the examination room.

10. Any candidate detected in the examination room in the possession of a book or MS. brought with him for his assistance (except the Field Service Pocket Book and the books allowed for the military law examination (b) (i) and (d) (i) Part II), or in copying from the papers of another candidate, or in permitting his own papers to be copied, or in attempting to give or receive assistance of any description, will be disqualified. His examination will be discontinued, and the circumstances reported.

11. For examination in sub-heads (b) (ii) and (iv), and (d) (ii) and (iv), besides drawing materials and instruments, candidates will bring coloured pencils with them.

12. Candidates may not leave the room during the hours of examination without finally giving up their papers. No candidate will be allowed to leave within the first half-hour, nor will a candidate who arrives after another has left be admitted.

13. The examination papers will be distributed and the replies collected by a member of the board at the appointed hours. Any candidate, however, who may have finished his replies on any subject before the hour named may deliver them to a member of the board.

14. At the close of the examination in each subject, the board will see that all papers are marked with the correct Index Numbers, and, after having marked on the attendance list the number of books, maps, etc., handed in by each candidate, will at once place them, unfolded, in the large envelopes supplied for the purpose by the Director of Staff Duties. These envelopes will then be secured, sealed, and marked as follows:—

*Rank.* (Captain, Lieutenant.)

*Subject* .....

*Station* .....

*Signature of President of Board*.....

Each envelope should contain a list of the Index Numbers (without names) of the candidates whose papers are in it. This list should be signed by a member of the board. The Captains' papers must not be put in the same envelope as that containing Lieutenants' papers, and the papers for each subhead must be placed in a separate envelope.

The president will not allow the envelopes out of his own possession, but he will, after ascertaining that they are securely fastened and sealed, post them himself to the War Office.

15. The proceedings of the board will be recorded on A.F. A.2, and forwarded to the Director of Staff Duties, War Office, accompanied by the following certificates and documents:—

- (i) A certificate that the prescribed order of examination has been strictly observed, that each member of the board has been present during the entire examination, and that no candidate received any assistance during the examination from books or other sources beyond those sanctioned in paragraph 10.
- (ii) A certificate written and signed by each candidate that he has neither received nor given any assistance during the examination beyond that sanctioned in paragraph 10.
- (iii) Lists of candidates examined (on A.F. B.2053), with their signatures and addresses.
- (iv) The attendance lists.

16. The G.O.C.† will add a list of Officers who have been permitted to withdraw or who have absented themselves from the examination, together with the reason in each case.

† *Note.*—To be done by the president of the board, in the case of examinations afloat.

17. The proceedings of the boards will be dealt with as follows:—

In the case of subjects (b) and (d) the G.O.C. will transmit the proceedings to the War Office. The G.O.C. will be furnished with lists of successful and unsuccessful candidates from the War Office. The names of those Officers who have passed or gained a special certificate will be notified in command Orders, and such notification will be the authority for recording an Officer as qualified in those subjects. Each Officer will, in addition, be furnished by the War Office with a list of the marks he has obtained, and such communication may, if necessary, be produced as an authority.

#### IV.—STANDARD OF QUALIFICATIONS.

The proportion of marks required for a “pass” and for obtaining a “special certificate” will be as follows:—

##### PASS.

Subject (a) ... ..	·6 in the aggregate.
Subject (b) ... ..	·5 in (b) (i) Part I, (b) (i) Part II and in each other sub-head.
Subject (c) ... ..	·6 in the aggregate.
Subject (d) ... ..	·5 in (d) (i) Part I, (d) (i) Part II and in each other sub-head.

##### SPECIAL CERTIFICATE.

Subjects (a) and (b) ... ..	·8 in the aggregate of each subject.
Subjects (c) and (d) ... ..	·8 in the aggregate of each subject.

To obtain a special certificate, the candidate must:—

- (i) have been recommended by the board at the practical examination.
- (ii) take the whole of subject (b) or (d) at the same examination and pass in each sub-head at the first attempt.

**3037.—Issued Confidentially.****3039.—R.F.A. Personnel Discharged for Injuries or Sickness at Home Ports.**

(C. (I) 1527/28.—30.11.1928.)

Attention is drawn to the fact that, except as expressly provided in Articles 94 and 95, R.F.A. Regulations, R.F.A. personnel discharged at home ports on account of medical unfitness, whether as a result of an accident or injury arising out of and in the course of their employment or otherwise, are not entitled to medical or hospital treatment at the expense of Navy Votes.

2. Medical Officers and Masters are therefore to ensure that such persons are not ordered to a Service or a Civil hospital except in cases of urgency, when hospital treatment is a vital necessity; when there is no such urgency, it should be left to the patient to make his own arrangements for any treatment necessary.

3. It should be noted that if, in the special circumstances referred to in the preceding paragraph, the patient is sent to a Service or to a Civil hospital, he will be liable to pay the full authorised charge for non-entitled patients in Service hospitals, or the Civil hospital's charges, as the case may be, except where the admission is on account of an injury arising out of and in the course of his employment, when his liability will be limited to 2s. a day, the cost of his maintenance and treatment over and above this amount being borne by Naval funds.

(A.F.O. 68/23.)

(R.F.A. Regulations, Arts. 94-95.)

**3041.—Victualling Store Allowance.***Destroyers and Flotilla Leaders.*

(N.P. (II) 2306/28.—30.11.1928.)

Victualling store allowance, at the rates laid down in Appendix XVII, Part 3, No. 94, King's Regulations and Admiralty Instructions, is payable under the conditions prescribed in Article 1609 to Torpedo Coxswains, who perform the victualling duties and are in charge of the victualling stores in destroyers and flotilla leaders, notwithstanding that a supply rating is borne for central storekeeping duties.

**3046.—Issued Confidentially.****3047.—Torpedo Igniters—Firing in a Vice.**

(G. 8320/28.—30.11.1928.)

Attention is called to the fact that, when torpedo igniters are fired in a vice, they will not burn correctly under certain conditions.

2. It has been found that, if the igniters are gripped on the hollow part of the tube towards the mouth, when fired, the priming composition will be blown out and the remainder of the filling will fail to ignite.

3. The igniter should be gripped so that the jaws of the vice take only on the solid portion of the tube which extends for .53 in. from the base.

4. Attention is also called to the fact that torpedo igniters are primarily designed to burn under a high pressure, and consequently, igniters which fail to burn when fired at atmospheric pressure should not necessarily be regarded as defective.

### 3049.—Transport of Heavy Machinery—Packing and Slings of Gear Wheels for Main Turbines, etc.

(D./S. 06175/28.—30.11.1928.)

A case has recently occurred of damage to a spare gear wheel for the main turbines of one of H.M. ships during transport to a dockyard abroad.

2. The greatest care is to be exercised when packing and slinging such pieces of machinery and particular attention is drawn to the fact that the use of short slings round the journals may lead to damage to the wood covering of the gear wheel teeth.

### 3055.—Binoculars for Gunnery Purposes and Searchlight Control—Allowances.

(N.S. 7912/28.—30.11.1928.)

The following allowances of binoculars for gunnery purposes and searchlight control will appear in the revised establishments :—

I. *For Gunnery Purposes* (Revised Establishment of Naval Stores for Gunnery Purposes—shortly to be issued).

<i>Patt.</i>	<i>Description.</i>	<i>Allowance.</i>
343	Binoculars, 6 power, for night spotting.	16 to each battleship and battle cruiser.  12 to "Adventure" and to each cruiser and aircraft carrier.
343A	Binoculars, 6 power, fitted with graticules.	1 for each ship carrying a sub-section of machine guns for use of Royal Marines. 1 for each Evershed transmitter in gun control systems for main and secondary armament, except where telescopes are provided, or where transmitters are operated by other instruments, such as aid-to-spotter, etc., also for main H.A. control as follows :— Ships fitted with H.A.C.S., Mark I, 3 per ship. Ships fitted with S.T.S., 1 for each control position and 1 for each H.A. gun group. Ships fitted with single gun unit, 1 for each H.A. gun group.

In regard to "Nelson" and "Rodney," the following additional allowances will apply. These additional allowances do not appear in the new establishment, but will be added by Errata 1 :—

<i>Patt.</i>	<i>Description.</i>	<i>Allowance.</i>
343A	Binoculars, 6 power, fitted with graticules.	1 for each 4.7 in. gun and pom-pom, instead of 1 for each H.A. gun group as above, and 2 to each ship as spare.

II. *For Searchlight Control* (Revised Establishment of Naval Stores for Electrical and Torpedo Purposes—to be issued in due course.)

<i>Patt.</i>	<i>Description.</i>	<i>Allowance.</i>
343c	Binoculars fitted with cross wires and radium spot.	1 for each Evershed transmitter and 2 for each manipulating position. In addition, to each battleship, battle cruiser and cruiser :— 2 for torpedo sights "B," where so fitted. 1 as spare.

2. Where binoculars held on board are in excess of these allowances, the surplus pairs are to be returned to Storing Yard at the earliest opportunity. In ships where sufficient binoculars to complete to the revised allowances are not at present held, demands for the additional pairs required should be forwarded to Storing Yard.

(A.F.O. 3013/29.)



### 3057.—Gardening Tools, etc., not to be Purchased from Upkeep Allowances—REPORT.

(N.S. 12093/28.—30.11.1928.)

The cost of gardening implements and tools, etc., and their repair is not a proper charge against the upkeep allowances made for the purpose of maintaining the recreation grounds of shore establishments, and any implements required *in lieu* of others worn out should be demanded on the local Superintending Naval Store Officer in the usual manner and not purchased locally. Any requirements for additional gardening tools should be communicated to the Admiralty, through the Administrative Authority, accompanied by a detailed report as to the necessity for the additional supply.

2. Any gardening tools which may have been purchased in the past as a charge to upkeep allowances, or other funds, should be taken on charge in the central store accounts, and details reported to Admiralty.

3. The cost of sports requisites, including such articles as tennis and cricket pitch markers, is not admissible as a charge to public funds, except in the case of gear for boys' use in Boys' Training Establishments, which is chargeable to the Boys' Fund. Such articles may be purchased locally.

### 3067.—Typewriters.

*Surveying Vessels (Home Waters).*

(Sta. 7644/28.—30.11.1928.)

The typewriter in surveying vessels in home waters, employed on ship's correspondence, is to be returned to the R.N. Store Dépôt, Royal Victoria Yard, Deptford, London, S.E.8, on ship reducing to winter complement.

2. The re-issue of the machine should be demanded from the R.N. Store Office, West India Docks, E.14, upon resumption of survey service.

(A.F.O. 589/27.)

### 3072.—Issued Confidentially.

### 3087.—Projectiles with Reduced Clearances and Gauges—Supply.

(G. 19985/24.—7.12.1928.)

Designs for projectiles of a new type giving reduced clearances in the gun are under consideration for calibres B.L. 7.5 in., and B.L. or Q.F. guns 4.7 in. and 4 in. Projectiles of this nature for Q.F. 4.7 in. are already in supply, and the other natures will probably follow later as supply arrangements permit.

2. The present types of shell body gauges are unsuitable for these new type projectiles, owing to the increased diameter, and new gauges are therefore being provided for issue as necessary.

3. For B.L. or Q.F. 4.7 in. guns the shell body gauge of 4.709 in. diameter has been superseded by a new gauge of 4.719 in. diameter which gauges the projectile "over paint" and which is suitable for and will in future be issued for use with all 4.7 in. projectiles, including the new type of S.A.P. shell. Issue of these new gauges has now commenced and will be completed as soon as the conversion of existing stocks can be arranged.

4. The dimensions of new shell gauges are as follows :—

Type of Shell.	Gauge.	Mark of Gauge.	Int. Dia.
Shell, B.L., 7.5 in. ...	(Body over paint)	I (N)	7.495 in.
Shell, B.L., or Q.F. 4.7 in.	(Body over paint)	I (N)	4.719 in.
Shell, B.L. or Q.F., 4 in.	(Body over paint)	II (N)	3.995 in.

5. Gauges, plug bore, low limit for P.C. on board H.M. ships will be replaced by a Mark III pattern (*i.e.*, of increased diameter) for B.L. 7.5 in., B.L. or Q.F. 4.7 in. and 4 in. guns when available from manufacture.

**3090.—Daylight Signalling Projectors—Loan to Merchant Ships.**

(S. 5401/27.—7.12.1928.)

Approval has been given for the loan of one 10-in. signalling projector to certain vessels of the Mercantile Marine.

2. The ships which have been fitted with this apparatus up to the present time are :—

<i>Name of Firm.</i>	<i>Ship.</i>
Lampport and Holt ... ..	"Voltaire."
Anchor Line ... ..	"California," "Transylvania," "Caledonia."
Atlantic Transport Co. ... ..	"Minnewaska," "Minnetonka."
Union Castle Co. ... ..	"Carnarvon Castle."
White Star Line ... ..	"Doric," "Laurentic."
Royal Mail Co. ... ..	"Asturias," "Alcantara."
Houlder Bros. ... ..	"Hardwicke Grange," "Upwey Grange."
Commonwealth and Dominion Line ... ..	"Port Wellington," "Port Brisbane."
Canadian Pacific Co. ... ..	"Montclare."
A. Holt and Co. ... ..	"Antenor," "Hector."
Aberdeen and Commonwealth Line ... ..	"Esperance Bay," "Hobsons Bay," "Jervis Bay," "Largs Bay," "Moreton Bay," "Ferndale," "Fordsdale."

3. In view of the importance of increasing the efficiency of daylight visual signalling in the Merchant Service, H.M. ships should take every opportunity of carrying out signalling exercises with these vessels.

**3092.—50 Tons Bilge Pumps and 100 Tons Submersible Pumps  
—REPORTS.***"Kent" Class Cruisers.*

(S. 07472/28.—7.12.1928.)

Reports are to be forwarded through the usual channels, as to the condition in regard to "pitting" of the stainless steel pump spindles of the 50 tons bilge pumps fitted in H.M. Ships "Kent," "Suffolk," "Cornwall" and "Berwick" or other deterioration of the spindles due to the action of sea water, and also as to the wear in the stuffing box and bearings.

2. The length of time each spindle has been in service and also the approximate number of "running" hours are to be reported.

3. Similar reports are to be forwarded in regard to the 100 tons submersible pumps in H.M. Ships "Cornwall," "Berwick" and "Cumberland."

**3093.—Star Shell Deflection Gear Box and Gyro Compass  
Control Element—Method of Fitting to Evershed  
Transmitter and Connecting to Star Shell Deflection  
Calculator.***"Queen Elizabeth," "Royal Sovereign" and "Repulse" Classes, "Hood" and  
"Tiger."*

(N.S. 6277/28.—7.12.1928.)

Arrangements have been made for the purchase and delivery at Portsmouth of the following apparatus for connecting the star shell deflection calculators to

(C18807)

BB2

the Evershed transmitters on each side of the bridge in the above-mentioned classes of battleships and battle cruisers.

Contract, etc.	Description.	Per Ship.	14 Ships.	Remarks.
C.P.16274. 27.7.28. Evershed & Vignoles. Ditto.	Star shell deflection gear boxes.	2	28	To be obtained from Portsmouth when re- quired for fitting. Lengths of shafting as necessary to suit the position of the trans- mitter and calculator in the respective ships.
	Control elements.	2	28	
C.P.16274. 27.7.28. H. Terry & Sons.	Flexible shafting and copper tubing.	6 lengths.	520 ft.	

2. The drawing (E.F.O. 137/28) shows the disposition of the apparatus and the wiring, etc., required for the control elements.

The arrangements shown represent one side except as regards the low power supply which shows the requirements for both sides.

3. The work of fitting the gear is to be carried out by the dockyards to which the ships are attached, and an item for this work should be included in the next list of alterations and additions submitted by the ships concerned.

(A.F.Os. 1781/29, 2202/29 and 2454/29.)

### 3094.—W/T—Pattern 8403 Tuner Amplifier B8, Slow Motion Condenser Dials—Adjustment.

(N.S. 15118/28.—7.12.1928.)

Reports have been received from ships fitted with Pattern 8403 tuner amplifiers B.8 that trouble has been experienced due to slip developing in the mechanism of the slow motion condenser dials.

2. The cause of the slipping is generally due to one of the following reasons:—

- (a) Insufficient pressure between the three brass fingers and the inside rim of the dial.
- (b) One or both of the grub screws attaching the dial mechanism to the condenser spindle working loose.
- (c) Wear or oil on the friction discs.

3. To examine the dial, remove the large milled knob actuating the slow motion device and the thin moulded flange. To remove the mechanism, slack back the two grub screws which bear on the central hub and slip the mechanism off the condenser spindle. The three brass fingers which press against the inside rim of the dial can then be opened up a little with a screw-driver. Before removing the mechanism, turn the condenser until the pointer reads exactly 100°, care being taken that the condenser is not moved during the time it is disconnected.

4. When replacing the mechanism, see that the pointer reads exactly 100° and carefully tighten up the grub screws, taking care not to exert any pressure on the friction discs. Replace the thin moulded flange, the engraved arrow on which must be set to coincide with the condenser pointer.

5. If it is found that slipping occurs in the friction discs, they should be cleaned with paraffin oil and dried off with methylated spirits. If, however, the slip in these discs is due to wear, a new dial should be demarded through the Superintending Naval Store Officer, Portsmouth, who should

obtain any dials, which may be required as a result of this Order, by local purchase.

6. If back-lash is experienced on the direct drive of the condenser, remove the milled knob and with small pliers open out the brass projections which engage with the driving slots in the moulded flange.

**3134.**—*Issued Confidentially.*

**3135.**—**Royal Marines—Allowance of .303 in. Ammunition for Annual Range Courses.**

(G. 16683/28.—14.12.1928.)

The annual allowance of .303 in. ammunition authorised for Royal Marines serving afloat has been under consideration owing to the revised range courses now carried out and the following scale has been approved:—

	<i>Per man.</i>
(a) Annual range course ... ..	130 rds.
(b) (i) Additional for each man qualifying as a Lewis gunner ... ..	390 rds.
(b) (ii) For each trained Lewis gunner (to include the annual range course) ... ..	325 rds.
(c) Vickers guns allotted to Royal Marines ...	5,500 rds. per gun

**3139.**—**Naval Observers Employed with Fleet Air Arm Units—Appointments and Movements.**

(C.W. 9924/28.—14.12.1928.)

The following instructions embody a revised procedure for reporting the movements of Naval Observers which should be introduced forthwith:—

2. All observation duties in units of the Fleet Air Arm are now carried out by Naval officer observers, but posts for observers continue to be shown in the establishments of those units so that all officers employed with the units may appear in the establishments.

3. In order that Air Officers Commanding may know the number of observers available for operational purposes when Fleet Air Arm flights are landed, Naval Observers should be included in the monthly return of officers in accordance with establishment (R.A.F. Form 449) rendered by headquarter units in aircraft carriers, the officers being shown separately as supernumerary to the establishment of headquarters. Naval Observers will be appointed by the Admiralty to the appropriate ship, either as part of the complement or as additional for disposal at the discretion of the Naval Commander-in-Chief. When landed for duty at a R.A.F. station ashore they will be regarded as supernumerary to the establishment of the headquarter unit of the station and will be dealt with under the provisions of Air Ministry Weekly Order 744/25 (as amended by Air Ministry Weekly Orders 791/25 and 317/26).

4. The appointment of Naval Observers to ships will be notified by the Admiralty in the daily list of appointments, and will be communicated to the officers concerned through Naval channels. As regards subsequent

changes in the disposition of these officers the Air Force and Naval Authorities will keep one another informed as follows:—

- (a) Movements between ships will not be notified to R.A.F. authorities.
- (b) Movements between R.A.F. stations ashore will be notified by the Commanding Officer of the station to the Commanding Officer of the ship on whose books the officer is borne.
- (c) Movements between ships and R.A.F. stations ashore will be arranged between Commanding Officers of ships and stations. The appropriate Commander-in-Chief or Air Officer Commanding need not be notified unless a particular notification has been requested specially. Where necessary a formal order as to loan will be made.

*(Air Ministry W.Os. 2/26 and 214/27 are cancelled.)*

### **3148.—Angle of Sight or Range Dials, U.B.3 and U.B.4 Rangefinder Mountings—Illumination.**

*H.M. Ships of "Carlisle," "Ceres," "Caledon," "Centaur," "Diomedé,"  
"Danae" and "Delhi" Classes and "Champion."*

(D. 9355/28.—14.12.1928.)

The drawings (E.F.O. 141/28 (1-2)) show the method of illuminating the dials of the angle of sight or range instruments on the U.B.3 and U.B.4 rangefinder mountings.

2. Arrangements have been made with Portsmouth Yard for the manufacture of the necessary parts as detailed on the drawings for illuminating the instruments in the above-mentioned ships. The work of adapting the fittings to the instruments is to be carried out by the ships artificers in the respective ships.

3. Portsmouth Yard is to arrange for the issue of the sets of fittings to the ships of the above-mentioned classes except in the case of the ships of the "Danae" and "Delhi" classes. The sets for these ships are to be retained at the yard until it is definitely known what exchanges are to be made in the U.B. rangefinders in these ships to provide 12 ft. U.B. rangefinders for ships approved to be fitted with the H.A.C.S.I. system.

4. It has been decided not to provide the illuminating fittings for ships which are approved to be fitted with the H.A. control system, Mark I.

### **3154.—Exercises with Explosives—Rendering of REPORTS.**

(G. 15863/28.—14.12.1928.)

Remarks on demolition practices are to be omitted from the revised Form S.316 half-yearly electrical report.

2. Ordinary demolition practices carried out for instruction should therefore only be recorded in the Torpedo Log and Progress Book; practices of special interest should, however, be reported separately.

### 3155.—W/T Model-Outfit SA and Hydrophones—Interference— REPORTS.

(S.D./G. 15845/28.—14.12.1928.)

Reports have been received and indicate that where interference has been experienced in model-outfit SA, it has generally been found to be due to an earth developing on the hydrophone circuit.

2. If further difficulty is experienced, the hydrophone circuit should be disconnected from the W/T central battery until the earth has been removed.

3. Immediate steps are to be taken to remedy the defects in the hydrophone circuit and a statement as to the nature of the defect and the action taken is to be included in the next half-yearly Hydrophone Report.

### 3156.—Forward Hydroplane Pedestal—Assembly of Gear.

*Submarines "L." and "L.50" Classes.*

(D. 14653/28.—14.12.1928.)

The sketch E.F.O. 140/28 shows the arrangement of operating gear in the forward hydroplane pedestal.

2. A report has been received from an "L." class submarine that the taper pin securing the wheel A sheared, and the hydroplanes were put out of action.

3. This defect was remedied by fitting a thrust collar behind the wheel A as shown in the sketch.

4. This modification should be carried out in all submarines of the "L" and "L.50" classes by the ships' staffs as opportunity offers.

### 3160.—Supply Breakers, Branch Breakers and Contactors, etc., of Messrs. Whipp and Bourne's Design.

*Battleships, Battle Cruisers, Cruisers and Aircraft Carriers.*

(N.S. 15739/28.—14.12.1928.)

The supply breakers, branch breakers and contactors of Messrs. Whipp and Bourne's design may be classified under three general types, and are to be referred to by this description :—

- (i) Watertight type.
- (ii) Looping-in type.
- (iii) Divided economy resistance type.

2. The subdivision of these types and the ships in which they are fitted are as follows :—

(i) *Watertight Type* :—

- (a) *Supply Breakers, Supply Contactors.*—Fitted in all battleships, battle cruisers and aircraft carriers, up to and including "Royal Sovereign" class, "Hood" and "E" class cruisers.

(b) *Branch Breakers, Branch Contactors (Air Break).*—Fitted in all battle-ships and battle cruisers, up to and including “Royal Sovereign” class and “Hood”; “Furious” class, “Argus,” “Hermes,” “Hawkins” class, and the following “C” and “D” class cruisers: “Cambrian,” “Constance,” “Castor,” “Champion,” “Centaur,” “Concord,” “Comus,” “Carlisle,” “Delhi” and “Dunedin.”

(c) *Branch Breakers (Oil Break).*—Fitted in all other “C” and “D” class cruisers not mentioned in (b) above or (ii) below.

(ii) *Looping-in Type* :—

(a) *Branch Breakers, Splashproof (Air Break).*—Fitted in ships with mainguards: “Durban” only.

(b) *Branch Breakers, Splashproof (Oil Break).*—Fitted in ships with mainguards: “Despatch,” “Diomedes,” “Capetown,” “Colombo,” “Cairo,” “Calcutta,” “Emerald” and “Enterprise.”

(iii) *Divided Economy Resistance Type.*—Fitted in “Nelson” class, “Kent” class, “Adventure” and later vessels.

3. It has been decided that, in modern ships, the spare breakers and the spare parts carried are to be treated as “sea stores” instead of as “fixtures.”

4. Since certain spare parts are interchangeable between various types and sizes of breakers, a complete list of the pattern numbers of spare parts available for maintenance of each description of breaker, and the number of such items employed in each breaker has been compiled, and is published for information in Tables IA to IIIB below.

5. On revision of the establishment of sea stores for torpedo and electrical purposes, the allowances of articles will be shown, as far as possible, on a class basis instead of on a scale basis.

The new establishment of spares to be carried on board is shown in paragraphs 9 and 10.

It will be noted that the majority of items are to be treated as “consumable.” In the case of these items the numbers given represent a “first supply” or “minimum stock,” below which the quantities carried should not be allowed to fall.

6. The allowances shown are general to the classes indicated. It will be necessary, in the case of a particular ship having one or two breakers of a different type to the majority of her installation, for the spares applicable to that type to be drawn irrespective of the established allowances.

7. The spare parts now on charge in the fixture list are to be transferred to the Central Store Account. They may be expended as required for maintenance, but replacements are not to be made to complete the boxes.

In the event of new articles being required, they should be demanded by the accountant officer in accordance with the new establishment.

8. This Order applies to the more modern ships only, *i.e.*, those fitted with “Green’s” or later systems of wiring throughout for breaker control.

Older ships (“Iron Duke” class, “Tiger” and “Birmingham” class) and ships fitted with breakers of other than Messrs. Whipp and Bourne’s design, should continue to treat the breakers and spare parts as “fixtures.”

It should not be necessary, however, to maintain such a large stock of spare parts as were originally provided, and the contents of the spare part boxes should be reduced gradually at the discretion of ship’s officers.

Should any replacements be necessary in breakers of Messrs. Whipp and Bourne’s design, rate book articles which are suitable may be demanded as “sea stores.” Such items as operating coils, main brushes, sparking contacts, etc., are interchangeable with the later types of breakers.

9. *Establishment of Spare Breakers (complete).*—Ships are to carry as spare: One complete breaker of each size fitted, up to and including 250 amp.

Any breakers on board in excess of this number are to be returned to store, with the exception that spare breakers suitable, may be retained on board if they will be required in connection with approved alterations and additions involving additional breakers.

## ESTABLISHED ALLOWANCES OF SPARE PARTS.

10. *Establishment of Spare Parts.*—The allowances are shown under the following classes:—

- Class A.—“Nelson” class “Kent” class and later cruisers.  
 B.—“Adventure.”  
 C.—“E” class cruisers, and “C” and “D” class cruisers, except “Durban,” fitted with mainguards.  
 D.—“Hood,” “Renown,” “Repulse,” “Queen Elizabeth” class, “Royal Sovereign” class, “Hawkins” class, “Furious,” “Glorious,” “Courageous,” “Argus” and “Hermes.”  
 E.—“C” and “D” class cruisers (not fitted with mainguards) with air break branch breakers, also “Durban.”  
 F.—“C” and “D” class cruisers (not fitted with mainguards) with oil break branch breakers.

Patt. No.	Description.	Denom.	Class Allowance.						
			A.	B.	C.	D.	E.	F.	
	<i>F.I.</i>								
2900	(P) Coils, operating, 35 ohms 220 volts ...	No.	2	—	—	2	—	—	
2901	(P) „ „ 50 „ 220 „ ...	„	—	—	—	6	—	—	
2902	(P) „ „ 73 „ 220 „ ...	„	—	—	—	2	—	—	
2903	(P) „ „ 10 „ 100 „ ...	„	—	2	2	—	2	2	
2904	(P) „ „ 20 „ 100 „ ...	„	—	2	—	—	4	4	
2905	(P) „ „ 25 „ 100 „ ...	„	—	—	—	—	—	—	
2906	(P) Coils reverse shunt, 762 ohms ...	„	—	—	1	1	1	1	
2907	(C) Contacts, sparking, moving ...	„	6	6	6	6	6	6	
2908	(C) „ „ fixed ...	„	2	2	2	2	2	2	
2909	(C) „ „ moving ...	„	12	12	12	12	12	12	
2910	(C) „ „ fixed ...	„	2	2	2	2	2	2	
2911	(C) „ „ moving ...	„	—	—	—	2	—	—	
2912	(C) „ „ fixed ...	„	—	—	—	1	—	—	
2913	(C) „ „ fixed ...	„	—	—	—	1	—	—	
2914	(C) Brushes, main ...	Prs.	2	2	2	2	2	2	
2915	(C) „ „ ...	No.	—	4	—	4	2	2	
2916	(C) „ „ ...	„	—	4	—	8	8	—	
2917	(C) „ „ ...	„	—	—	—	2	2*	—	
2918	(C) Springs (set of 9) ...	Sets	1	1	1	1	1	1	
2919	(C) „ (set of 7) ...	„	—	1	—	3	2	2	
2920	(C) „ (set of 2) ...	„	—	—	—	1	—	—	
2921	(C) „ (set of 3) ...	„	—	—	—	1	—	—	
2923	(C) Switches, auxiliary ...	No.	—	—	—	6	4	4	
2924	(C) „ „ ...	„	—	1	1	1	1	1	
2925	(C) „ „ ...	„	—	—	—	1	—	—	
3367	(C) Resistances, maintaining, 360 ohms 220 volts ...	„	—	—	—	2	—	—	
3368	(C) Resistances, maintaining, 550 ohms 220 volts ...	„	—	—	—	4	—	—	
3369	(C) Resistances, maintaining, 800 ohms 220 volts ...	„	—	—	—	1	—	—	
3370	(C) Resistances, maintaining, 105 ohms 100 volts ...	„	—	—	—	—	2	2	
3371	(C) Resistances, maintaining, 140 ohms 100 volts ...	„	—	—	—	—	3	—	
3372	(C) Resistances, maintaining, 140 ohms 100 volts ...	„	—	—	—	—	—	—	
3373	(C) Resistances, maintaining, 80 ohms 100 volts ...	„	—	—	—	—	—	1†	
3374	(C) Resistances, maintaining, 105 ohms 100 volts ...	„	—	—	—	—	—	3	
3375	(C) Brushes, main ...	„	8	6	8	—	—	8	
3376	(C) „ „ ...	„	10	6	2	—	—	2	



ESTABLISHED ALLOWANCES OF SPARE PARTS—*continued.*

Part. No.	Description.	Denom.	Class Allowance.					
			A.	B.	C.	D.	E.	F.
<i>F.1—continued.</i>								
3377	(C) Springs (set of 5) ... ..	Sets	-	-	-	-	-	3
3380	(C) Contacts, overload switch, moving ...	No.	-	-	-	-	-	3
3381	(C) " " " fixed ... ..	"	-	-	-	-	-	3
3382	(C) " auxiliary switch, moving ...	"	-	-	3	-	-	3
3383	(C) " " " fixed ... ..	"	-	-	-	-	-	3
3384	(C) " sparking, moving ... ..	"	-	-	-	-	-	4†
3385	(C) " " fixed ... ..	"	-	-	-	-	-	1†
3386	(C) Brushes, main ... ..	"	-	-	-	-	-	1†
3387	(C) Contacts, auxiliary switch, moving ...	"	-	-	-	-	-	1†
3388	(C) " " " fixed ... ..	"	-	-	-	-	-	1†
6623	(P) Coils, operating, 50 ohms 220 volts ...	"	10	-	-	-	-	-
6624	(P) " " 20 " 100 " ...	"	-	5	4	-	-	-
6625	(C) Resistances, maintaining, 490 ohms 220 volts ... ..	"	-	-	-	-	-	-
6626	(C) Resistances, maintaining, 105 ohms 100 volts ... ..	"	-	-	4	-	-	-
6627	(C) Springs (set of 3) ... ..	Sets	-	-	2	-	-	-
6628	(C) Switch blades (local control with contact studs, backing pieces and spring), set of 7 ... ..	"	2	2	2	-	-	-
6629	(C) Contacts, auxiliary switch, fixed ...	No.	-	-	3	-	-	-
6632	(C) Switch, overload and clips (set of 6) ...	Sets	-	-	2	-	-	-
6634	(C) Switch, negative feed break and clips (set of 3) ... ..	"	-	-	2	-	-	-
6637	(C) Resistance units, reverse current, 2,000 ohms 220 volts ... ..	No.	-	-	-	1	-	-
6638	(C) Resistance units, reverse current, 403 ohms 100 volts ... ..	"	-	-	1	-	1	1
9400	(C) Contacts, sparking, moving ... ..	"	6	6	-	-	-	-
9401	(C) " " fixed ... ..	"	2	2	-	-	-	-
9402	(C) Brushes, main ... ..	Prs.	4	2	-	-	-	-
9403	(P) Coils, operating, 29 ohms 220 volts	No.	2	-	-	-	-	-
9404	(C) Springs (set of 11) ... ..	Sets	2	2	-	-	-	-
9405	(C) Resistance units, economy (2 sections), 180 ohms 220 volts ... ..	No.	2	-	-	-	-	-
9406	(C) Contacts, C.O. switch, economy resistance ... ..	Sets	2	2	-	-	-	-
9407	(C) Contacts, carbon, overload and reverse trip ... ..	"	6	6	-	-	-	-
9408	(C) Contacts for local control switch ...	"	2	2	-	-	-	-
9410	(C) Contacts for local control switch ...	"	4	4	-	-	-	-
9411	(P) Coils, reverse shunt, 760 ohms ...	No.	2	2	-	-	-	-
9412	(C) Resistance units, reverse current, 2,650 ohms 220 volts ... ..	"	2	-	-	-	-	-
9470	(C) Contacts, sparking, fixed ... ..	"	2	2	-	-	-	-
9471	(P) Coils, operating, 10 ohms 100 volts	"	-	2	-	-	-	-
9472	(C) Resistance units, economy (2 sections), 52½ ohms 100 volts ... ..	"	-	2	-	-	-	-
9477	(C) Resistance units, reverse current, 530 ohms 100 volts ... ..	"	-	2	-	-	-	-
9415	(C) Contacts, sparking, moving ... ..	"	3	3	-	-	-	-
9416	(C) " " fixed ... ..	"	1	1	-	-	-	-
9417	(C) Brushes, main ... ..	Prs.	2	1	-	-	-	-
9418	(C) Springs (set of 4) ... ..	Sets	1	1	-	-	-	-
9419	(C) Resistance units, economy (2 sections), 180 ohms 220 volts ... ..	No.	1	-	-	-	-	-

ESTABLISHED ALLOWANCES OF SPARE PARTS—*continued.*

Patt. No.	Description.	Denom.	Class Allowance.					
			A.	B.	C.	D.	E.	F.
<i>F.1—continued.</i>								
9420	(C) Contacts, C.O. switch, economy resistance ... ..	Sets	6	6	-	-	-	-
9423	(C) Springs (set of 4) ... ..	"	6	6	-	-	-	-
9424	(C) Resistance units, economy (2 sections), 245 ohms 220 volts ... ..	No.	6	-	-	-	-	-
9426	(C) Contacts, overload, trip ... ..	Sets	6	6	-	-	-	-
9478	(C) Resistance units, economy (2 sections), 275 ohms 220 volts ... ..	No.	1	-	-	-	-	-
9479	(C) Resistance units, economy (2 sections) 70 ohms 100 volts ... ..	"	-	1	-	-	-	-
9481	(C) Contacts, overload, trip ... ..	Sets	1	1	-	-	-	-
9482	(C) Resistance units, economy (2 sections), 52½ ohms 100 volts ... ..	No.	-	1	-	-	-	-
9483	(C) Resistance units, economy (2 sections), 52½ ohms 100 volts ... ..	"	-	3	-	-	-	-
9474	(C) Spring operating, economy resistance, C.O. switch ... ..	"	1	-	-	-	-	-
9475	(C) Spring operating, economy resistance, C.O. switch ... ..	"	-	2	-	-	-	-
<i>F.2.</i>								
4905	(C) Fuze links, 110 amp. ... ..	No.	-	-	12	-	-	-
4906	(C) " " 220 " ... ..	"	-	-	2	-	-	-

Notes.—(P) Permanent.

(C)—Consumable.

\* If required.

† Only to ships fitted with oil supply contactors.



TABLE IB.

SPARE PARTS FOR MAINTENANCE AND REPAIR OF BREAKERS, AND NUMBERS EMPLOYED IN EACH TYPE.

*Watertight Type.*—Branch Breakers, 50/110/250 amps. Branch Contactors, 110/250 amps. (*Air Break*).

*Splashproof Type.*—Looping-in Branch Breakers, 50/110/250 amps. (*Air Break*).

Patt. No.	Description.	Denom.	Branch Breakers.		Branch Contactors.	
			250 amps.	50/110 amps.	250 amps.	110 amps.
2901	Coils, operating, 50 ohms, 220 volts	No.	1A	1A	1A	-
2904	" " 20 " 100 "		-	-	-	1A
2902	" " 73 " 220 "		-	-	-	1A
2905	" " 25 " 100 "	"	-	-	-	1A
3368	Resistances, maintaining, 550 ohms	"	1A	1A	1A	-
3371	220 volts ... ..		1A	1A	1A	-
3369	Resistances, maintaining, 800 ohms		-	-	-	1A
3372	220 volts ... ..	"	-	-	-	1A
3372	Resistances, maintaining, 140 ohms	"	-	-	-	1A
2915	100 volts ... ..		2	-	2	-
2916	Brushes, main ... ..		-	2	-	-
2917	" " ... ..	"	-	-	-	2
2909	Contacts, sparking, moving ... ..	"	4	4	-	-
2910	" " fixed ... ..	"	2	2	-	-
2911	" " moving ... ..	"	-	-	2	2
2912	" " fixed ... ..	"	-	-	2	-
2913	" " " ... ..	"	-	-	-	2
2923	Switch, auxiliary ... ..	"	1	1	-	-
2925	" " ... ..	"	-	-	-	1
2919	Springs, set of 7 :—	Sets	1	1	-	-
	2919 A. Brush pull off ... 1					
	" B. Auxiliary switch ... 1					
	" C. Dead short release 2					
	" D. Overload switch release 1					
	" E. " calibration 2					
2920	Springs, set of 2 :—	Sets	-	-	1	-
	2920 A. Auxiliary switch ... 1					
	" B. Brush pull off ... 1					
2921	Springs, set of 3 :—	Sets	-	-	-	1
	2921 A. Auxiliary switch ... 1					
	" B. Brush pull off ... 2					

Note A—of voltage required.

TABLE Ic.

SPARE PARTS FOR MAINTENANCE AND REPAIR OF BREAKERS, AND NUMBERS EMPLOYED IN EACH TYPE.

*Watertight Type.—Branch Breakers (Oil Break).*

Patt. No.	Description.	Denom.	Branch Breakers.	
			250 amps.	50/110 amps.
2904	Coils, operating, 20 ohms, 100 volts ... ..	No.	1	1
3374	Resistances, maintaining, 105 ohms, 100 volts ...	"	1	1
3375	Brushes, main ... ..	"	-	2
3376	" " ... ..	"	2	-
2909	Contacts, sparking, moving ... ..	"	4	4
2910	" " fixed ... ..	"	2	2
3382	" auxiliary, switch, moving ... ..	"	1	1
3383	" " fixed ... ..	"	1	1
3380	" overload, switch, moving ... ..	"	2	2
3381	" " fixed ... ..	"	4	4
3377	Springs, set of 5 :— ... ..	Sets	1	1
	3377A. Dead short ... ..	2		
	3377B. Negative feed break switch ... ..	1		
	3377C. Calibration ... ..	2		

TABLE II.

*Looping-in Type.—Branch Breakers (Oil Break).*

6623	Coils, operating, 50 ohms, 220 volts ... ..	No.	1A	1A	
6624	" " 20 " 100 " ... ..				
6625	Resistances, maintaining, 490 ohms, 220 volts ...	"	1A	1A	
6626	" " 105 " 100 " ... ..				
3375	Brushes, main ... ..	"	-	2	
3376	" " ... ..	"	2	-	
2909	Contacts, sparking, moving ... ..	"	4	4	
2910	" " fixed ... ..	"	2	2	
6634	Switch, negative feed break and clips, set of 3 ...	Sets	1	1	
	6634A. Contact clip, short ... ..	1			
	6634B. " " long ... ..	1			
	6634C. Switch, arm, complete ... ..	1			
6632	Switch, overload and clips, set of 6 ... ..	Sets	2	2	
	6632A. Contact clip, small ... ..	2			
	6632B. " " large ... ..	2			
	6632C. " overload, switch, moving ... ..	2			
3382	Contacts, switch, auxiliary, moving ... ..	No.	1	1	
6629	" " " fixed ... ..	"	1	1	
6628	Switch blades, local control with roller, contact studs, backing pieces and spring, set of 7 ...	Sets	1	1	
	6628A. Backing piece ... ..				1
	6628B. Contact studs ... ..				3
	6628C. Spring for switch ... ..				1
	6628D. " " backing piece ... ..				1
	6628E. Switch blade, local operating, with roller ... ..				1
6627	Springs, set of 3 ... ..	Sets	1	1	
	6627A. Negative feed break switch ... ..	1			
	6627B. Calibration ... ..	2			
4905	Fuse link ... ..	No.	-	2	
4906	" " ... ..	"	2	-	

Note A—of voltage required.

TABLE IIIA.

SPARE PARTS FOR MAINTENANCE AND REPAIR OF BREAKERS, AND NUMBERS EMPLOYED IN EACH TYPE.

*Divided Economy Resistance Type.—Ring Main Breakers, Supply Breakers, Reverse Breakers and 750 amp. Branch Breakers (Air Break).*

Patt. No.	Description.	Denom.	1,500 amp. Supply, Reverse, Ring Main.	750/1,000 amp. Supply, Reverse, Ring Main.	750/1,000 amp. Supply, Reverse (Vertical Type) and 750 amp. Branch Breakers.
9403	Coils, operating, 29 ohms, 220 volts	No.	1A	1A	-
9471	" " 10 " 100 "				
2900	" " 35 " 220 "				
2903	" " 10 " 100 "				
9405	Resistance unit, economy (2 sections), 180 ohms, 220 volts ...				
9472	Resistance unit, economy (2 sections), 52½ ohms, 100 volts ...	"	1A	1A	1A
9411	Coils, reverse, shunt, 760 ohms ...	"	1SR	1SR	-
2906	" " " 762 " ...	"	-	-	1
9412	Resistance unit, reverse current, 2,650 ohms, 220 volts ...	"	1A SR	1A SR	-
9477	Resistance unit, reverse current, 530 ohms, 100 volts ...				
6637	Resistance unit, reverse current, 2,000 ohms, 220 volts ...				
6638	Resistance unit, reverse current, 403 ohms, 100 volts ...	"	-	-	1A
9402	Brushes, main ...	"	2	-	-
2914	" " ...	Prs.	-	2	2
9400	Contact, sparking, moving ...	No.	6	4	-
9401	" " fixed ...	"	2	-	-
9470	" " fixed ...	"	-	2	-
2907	" " moving ...	"	-	-	6
2908	" " fixed ...	"	-	-	2
9406	Contacts, C.O. switch, economy resistance, set of 4 contacts and one roller	Sets	1	1	-
9420	Contacts, C.O. switch, economy resistance, set of 4 contacts and one roller	"	-	-	1
9407	Contacts, carbon overload, set of 5 ...	"	1	1	1
9408	Contacts for local control switch, set of 4 ...	"	1M	1M	-
	Off push, moving ...				1
	" " fixed ...				1
	Top, rotating ...				1
	Bottom, rotating ...				1
9410	Contacts for local control switch, set of 4 contacts and 2 rollers...	Sets	1s	1s	1s
9410	Contacts for local control switch, set of 4 contacts and 2 rollers...	"	2R	2R	2R

SPARE PARTS FOR MAINTENANCE AND REPAIR OF BREAKERS, ETC.—*continued.*

Patt. No.	Description.	Denom.	Type of Breaker.		
			1,500 amp. Supply, Reverse, Ring Main.	750/1,000 amp. Supply, Reverse, Ring Main.	750/1,000 amp. Supply, Reverse (Vertical Type) and 750 amp. Branch Breakers.
9404	Springs, set of 11* ... ..	Sets	1	1	-
	9404A. Brush pull off ... ..				
	9404B. Auxiliary switch ... ..				
	9404C. Overload ... ..				
	9404D. „ and reverse ... ..				
	9404E. Dead short ... ..				
	9404F. Ring main push box ... ..				
	9404G. Supply and reverse push box ... ..				
	9404H. Supply and reverse push box backing ... ..				
2918	Springs, set of 9 ... ..	Sets	-	-	1
9474	Spring, operating, economy resistance C.O. switch ... ..	No.	-	-	1

\* No. off per breaker.

	Type of Breaker.		
	Ring Main.	Supply.	Reverse.
Pattern 9404A ... ..	1	1	1
„ 9404B ... ..	1	1	1
„ 9404C ... ..	2	1	-
„ 9404D ... ..	-	1	-
„ 9404E ... ..	-	1	-
„ 9404F ... ..	1	-	-
„ 9404G ... ..	-	1	2
„ 9404H ... ..	-	1	2

Notes.

- A.—Of voltage required.
- S.—For supply breakers only.
- M.—For ring main breakers only.
- R.—For reverse breakers only.





### 3162.—Smoke Helmet, Pattern 200—Discontinuance of use as Shallow Water Diving Dress.

(N.S./G. 13166/28.—14.12.1928.)

It has been decided that the use of the Service pattern smoke helmet, Pattern 200, as a shallow water diving dress in H.M. ships is to be discontinued and no further instructions in the use of this apparatus as a diving dress will be given. The allowance of helmets, waterproof suits, etc., to submarine depôt ships for attached submarines will, however, continue to apply for the present.

2. Ships may, if desired, retain any waterproof suits, Pattern 205, and belts, Pattern 204, which may be on board, but no more will be supplied.

3. The smoke helmet, Pattern 200, and accessories will still be supplied for use as such.

4. *Yards only.*—Existing stocks of waterproof suits, Pattern 205, and belts, Pattern 204, are to be retained for the present. Returns of these articles in a serviceable condition, or capable of repair are to be taken on charge at sale value but are not to be disposed of pending further instructions.

### 3165.—Special Mineral Lubricating Oil in Vessels fitted with Forced Lubrication—Accounting.

(N.S. 7807/28.—14.12.1928.)

The question of accounting for special mineral lubricating oil in vessels fitted with forced lubrication has been under consideration, and it has been decided that the quantities to be shown on charge in the Naval Store Accounts of Vessels are to be those contained in the storage tanks (after providing that the oil in the forced lubrication system and the drainage or settling tanks is at the normal working level of serviceable oil), plus any special mineral lubricating oil in drums that may be in the ship for replenishing the stock in the storage tanks or for other purposes. Any recovered oil obtained from separators or renovating tanks is again to be taken on charge in the ship's central store accounts.

2. The necessary adjustments in the accounts are to be made accordingly.

3. The quantities to be written off charge subsequent to this adjustment will be those required from time to time to replace the oil used from the storage tanks, together with any actually consumed for other purposes, and particulars of these for ships in which the central storekeeping system is operative will be furnished to the Accountant Officer by the Engineer Officer weekly in accordance with Article 24 (2) of the Central Storekeeping Instructions.

### 3177.—Ships, etc., Demand Vouchers for Naval Stores—Provision of "Advance Note."

(N.S. 13734/28.—14.12.1928.)

In order that store accounting officers may be promptly acquainted with the detailed items of Naval stores supplied to H.M. ships and Fleet establishments, and thus avoid delay in verification and stowage of the articles after receipt from dockyards, arrangements are being made as demand forms become due for revision for an additional copy, viz. :—a "quadruplicate" or "advance note," to be provided.

2. Demands for stores should be created in quintuplicate, the "original," "duplicate," "triplicate," and "quadruplicate" copies being rendered to the supplying establishment. When the stores are issued, the "quadruplicate" or "advance note," after amendment by the yard storehouseman as may be necessary, is to be (a) handed to ship's representative with the stores when removal or delivery is direct to ship or (b) posted to ships on the same day the stores are despatched when the supplies are dealt with as "for shipment," the package number or numbers being shown.

3. Ships should place the "advance note" with the relevant "supply note" when the latter is received on board, any differences between the quantities or descriptions recorded being reported immediately to the Naval Store Officer of the yard concerned.

4. Forms S.1094, S.1094A, S.465, and S.134D are now being revised, and the revision will provide for these forms to be printed in quintuplicate. The "advance note" procedure is to be followed by ships and yards only as each revised form becomes available for supply.

### **3188.—Walker Log Gear—Governors, Pattern 317—REPORTS.**

*Home Yards, Malta and Gibraltar.*

(N.S. 15537/28.—14.12.1928.)

Complaint having been received in regard to the parting of the short length of rope attached to the governors of Walker logs, apparently due to corrosion set up by iron hooks, early reports should be forwarded by Home Yards, Malta and Gibraltar, showing stocks (serviceable and repairable) of governors, Pattern 317, and indicating whether the hooks attached are manufactured of brass, or iron. The reports should include particulars of the governors forming part of the complete logs in stock.

(A.F.O. 1164/29.)

### **3200.—Telephones Rented from G.P.O.—Period of Notice required on Surrender.**

(C. (II) 4999.—21.12.1928.)

The Post Office Regulations require that a clear quarter's notice, ending on 31st March, 30th June, 30th September, and 31st December, shall be given of the intention to surrender telephone facilities provided on a rental basis. Arrangements are accordingly to be made by all establishments to ensure that this period of notice is given whenever possible.

2. When unforeseen changes of staff or accommodation occur which render it necessary to surrender telephones at shorter notice than that indicated above, the G.P.O. have agreed, as a concession, to accept short notice up to the middle of the quarter *provided that a definite statement that longer notice could not be given is incorporated in the request for withdrawal of the facilities.*

3. These arrangements are to be strictly adhered to, as failure to observe the requirements of the G.P.O. leads to demands for payment of rental over long periods during which no service is rendered.

### **3202.—Regulations for the Government of H.M. Dockyards at Home.**

(P.L. 1680/27.—21.12.1928.)

The Regulations for the government of H.M. dockyards at home in so far as they deal with matters affecting civilian employees are generally applicable also to civilians employed in Fleet establishments at home, provided they are not in conflict with otherwise approved arrangements or special instructions relating to civilians employed in those establishments.

2. No change is to be made in the conditions of service of any employee in consequence of this instruction, without specific Admiralty approval.

### 3205.—21 in., Q.R. II, Torpedo Tubes—Modification to Training Gear.

*Dockyards and Vessels concerned.*

(G. 14205/28.—21.12.1928.)

In order to facilitate the training of the 21 in., Q.R. II, torpedo tubes of "Kent" Class, the worms for the training gear are to be modified, as shown in E.F.O. 146/28, on the next occasion on which the mountings are lifted.

### 3208.—Issued Confidentially.

### 3209.—Director Firing Gear—Director Elevation Receivers, P. XIII Type—Defects.

*All Ships concerned.*

(G. 16936/28.—21.12.1928.)

A report has been received from one of H.M. ships fitted with P.XIII type director elevation receivers, stating that where this type of receiver is fitted in exposed positions it has been found that water has entered the receiver causing extensive corrosion in the internal gear.

2. The particular receiver reported on has been examined, and it was found that the presence of water in the instrument was due mainly to defective lubricators.

3. Where this type of receiver is fitted to mountings in exposed positions, care should be taken to ensure that all cover joints are in good condition. All lubricators should be examined for watertightness.

4. Defective lubricators should be replaced by Admiralty Pattern 131, fitted with spring-loaded ball, the necessary supplies being demanded from the Dockyard and fitted by ships' staffs.

### 3216.—Branch Breakers for Action Services.

*"Dorsetshire" Class and Later New Construction.*

(G. 16590/28.—21.12.1928.)

It has been decided that all branch breakers required in "action" on H.M. Ships "Norfolk" and "Dorsetshire," and vessels of later new construction which do not feed lighting fittings and motors in the same compartment shall be fitted with an indicating lamp arranged to shine through a plain bull's eye in the cover, to enable electrical repair parties readily to ascertain when any of these breakers "opens" on account of damage or shock, etc.

### 3217.—Pilot Lamp Box for Navigation Lamps in H.M. Ships —REPORTS.

*Battleships, Battle Cruisers, Cruisers, and Aircraft Carriers.*

(S. 05540/28.—21.12.1928.)

General instructions were issued to H.M. ships to use 100 watt, metal filament lamps for bow and steaming lights, and to change these lamps for 16 c.p. carbon lamps when carrying out "war exercises," and dimming of the lamps is required.

Certain ships have reported a difficulty in finding a satisfactory pilot lamp to indicate whether the bow and steaming lights are alight or not, and the pilot indicating lamp box, shown on drawing E.F.O. 142/28 (D.E.E. 4451  $\frac{R}{2}$ ), has been introduced with a view to meeting this difficulty.

2. The pilot lamps, which are shunted by a resistance, are connected in series with either the 100 watt, metal filament lamps used under normal conditions, or the 16 c.p. carbon lamps when "war exercises" are being carried out, it being necessary only to change the position of the bridging contacts provided in the box according to which of the types of main lamps are being used.

3. The pattern numbers of the indicating boxes and the various components thereof are shown on the drawing.

4. Where existing arrangements are not satisfactory, the Commanding Officer is to furnish a report through the usual channels as to the difficulties or shortcomings at present experienced with gear already fitted, and, if necessary, he should submit a request to be provided with an indicating box of the type illustrated.

5. The fitting of these boxes, if approved, is to be carried out by the ships' staffs.

### 3219.—Oil Fuel Suctions.

*"Aphis" Class, China River Gunboats.*

(D. 18392/28.—21.12.1928.)

Arising from the investigation of the overflow of an O.F. tank in one of these vessels during fuelling operations, attention is called to the fact that the usual S.D.N.R. lift valves, arranged to be locked in the N.R. position, are not fitted on the oil fuel suction pipes at the tanks in these vessels, and to the necessity for special attention to prevent oil flowing from one tank to another, except when required to correct the heel or trim of the vessel.

### 3224.—Shade Attachment for Binoculars, Pattern 343—Trial—REPORT.

(N.S. 13557/28.—21.12.1928.)

Arrangements have been made for the purchase and delivery to Portsmouth of 200 pairs of shade attachments for binoculars, Pattern 343, from Messrs. W. Ottway, Ltd., under C.P. 10695/28 of 21.8.28, for issue to the undermentioned ships for trial:—

*Four pairs to each ship.*—"Nelson," "Rodney," "Benbow," "Marlborough," "Emperor of India," "Hood," "Repulse," "Renown," "Queen Elizabeth," "Warspite," "Valiant," "Barham," "Royal Oak," "Royal Sovereign," "Ramillies," "Resolution," "Furious," "Argus," "Eagle," "Courageous" and "Hermes."—*Total, 84 pairs.*

*Two pairs to each ship.*—"Vindictive," "Cambrian," "Canterbury," "Comus," "Frobisher," "Danae," "Dragon," "Delhi," "Cardiff," "Ceres," "Caledon," "Castor," "Effingham," "Emerald," "Enterprise," "Hawkins," "Berwick," "Cumberland," "Cornwall," "Kent," "Suffolk," "Despatch," "Capetown," "Colombo" and "Durban."—*Total, 50 pairs.*

*One pair to each ship.*—"Cairo," "Centaur," and all destroyers and leaders of the 1st, 2nd, 3rd, 4th, 5th, 6th and 8th flotillas.—*Total, 65 pairs.*

2. When a vessel leaves a squadron or flotilla, the attachments should be turned over to her relief, in order that the trial may continue.

3. The shades are primarily intended for the use of anti-aircraft look-outs, but they should also be experimented with for general use with binoculars. The necessity of having two colours should receive special attention.

4. It should be noted that the attachments have been manufactured to fit binoculars of Messrs. Ross' make, and it is possible therefore that they will not fit binoculars manufactured by other firms. In the event of a ship having no binoculars on board which will fit the attachment, binoculars of Messrs. Ross' manufacture should be demanded for use with each pair of attachments supplied, and a similar number of binoculars of other makes returned to store in lieu.

5. Reports are to be rendered by all squadrons and flotillas, to reach the Admiralty not later than 1st October, 1929.

**3242.—Workmen from Depressed Areas—Employment.***H.M. Dockyards, etc.*

(P.L. 3241/28.—21.12.1928.)

It is Their Lordships' wish that, as far as may be practicable, opportunities shall be given for employing men from the depressed areas in the event of any entries of workmen taking place in H.M. Dockyards and other Admiralty establishments. Where it is not necessary for the officers of the Dockyards, etc., to make nominations, men from the depressed areas, who may be proposed for entry by the officers of the Employment Exchanges in vacancies reported to them, should be accepted subject to the usual considerations of efficiency, and to compliance with the instructions already in force as regards the giving of preference to ex-Service men and ex-Dockyard employees who have previously rendered satisfactory service.

**3259.—Director Installation—Rigols round Sighting Ports of Director Towers.***"Kent," "London" and "Nelson" Classes and Dockyards.*

(G. 17242/28.—28.12.1928.)

The following report has been received from a ship of the "Kent" class, viz. :—

"During heavy or continuous rain, water running off the towers leaks through the sighting ports to the detriment of the instruments and gear inside.

It is proposed that rigols be fitted around the sighting ports of both 8 in. director towers".

2. The proposal is approved, and rigols are to be fitted round the sighting ports of the director towers in ships of the "Kent," "London" and "Nelson" classes.

**3260.—Cartridges—Failure to Ignite B.L. Charges.**

(G. 18539/28.—28.12.1928.)

On several occasions recently tubes in B.L. guns have fired but failed to ignite the charges. A careful review of all the available evidence leads to the conclusion that the most probable cause is the presence of water in the vent, which is known to result in such occurrences.

2. Trials have shown that vents are fully dried by the use of the air blast vent clearer, where fitted, provided that the air is drawn from properly drained air bottles.

3. Where air blast vent clearers are not fitted, trials have shown that the implement vent clearer is a satisfactory substitute.

4. It is therefore most important where air blast vent clearers are fitted that the bottles should be carefully drained before firing commences.

5. With heavy guns of 13.5 in. calibre and above, the air blast vent clearer should be kept on the whole time the wash-out squirts are in use. When air blast vent clearers are not fitted, the vent clearing implement should be inserted as soon as the breech is open and not withdrawn till the wash-out squirts have been finally shut off.

6. With lighter guns it will not usually be possible to use a vent clearer every round without seriously reducing the rate of fire. The risk of a missfire due to water in the vent must therefore be accepted. Every opportunity of a delay or lull must, however, be taken to use the vent clearer supplied.

7. Nothing in this Order is to be taken as affecting the full use of water for washing out the chamber or sponging over the mushroom head as laid down in the drill books.

## 3265.—Admiralty Electric Cables—Revision of Standard Specification for Rubber Insulated Cables—REPORT.

(D.E.E./N.S. 16409/28.—28.12.1928.)

The Admiralty Standard Specification (Schedule 720, Sections I, II and III) for rubber insulated cables has recently been revised.

2. The principal points in which the revised specification differs from the old standard specification are as follows:—

- (a) A layer of tin foil will be applied over all stranded conductors of 7/20 S.W.G. and above, except on flexibles, where the tin foil will be applied on conductors of 0·2 square in. and above.
- (b) The pure rubber layer next to the conductor will be omitted except on certain special cables. A homogeneous dielectric of improved composition will be used in place of the three-layer dielectric hitherto used.
- (c) An alloy sheathing containing 0·15 per cent. cadmium, 0·4 per cent. tin and the remainder pure lead will be used in place of pure lead.
- (d) In multicore cables the interstices between the cores will be "filled" with rubber in order to make a "solid filled" cable.
- (e) An improved quality of tough rubber will be used for tough rubber sheathed cables, and where practicable, the sheathing will be reinforced with canvas.
- (f) A narrow tape will be laid up in all cables and flexible cords with few exceptions indicating the maker's name and the year of manufacture. Flexible cords which cannot be so treated will still be identified by the coloured cotton yarn hitherto used for all cables and the year of manufacture will not be shown.

3. With the revision of the specification opportunity has been taken to revise the dimensions of cables to bring them into line with certain standards, and slight modifications such as an increase in the thickness of dielectric or of the protective sheathing have been made in certain instances. The sizes of some patterns are unaltered; the sizes of others are increased slightly, multicore cables being those chiefly affected, due to the solid filling of this type of cable as mentioned in 2 (d).

4. All cables manufactured to the new specification will be identified by the same pattern numbers as corresponding cables made to the old specification, but a suffix "A" or in special instances "N" as described below will be used to indicate conformity to the revised specification.

All cables to the revised specification with the exception of those mentioned in paragraph 6, can, by drilling out adaptor and gland nuts where necessary, be accommodated in glands or fittings hitherto used to accommodate corresponding cables to the old specification. An additional series of cables of the patterns mentioned in paragraph 6, but having reduced diameters will therefore be introduced for use only in existing ships and new construction now in hand (not including ships of the 1928 programme). These cables will be of such size that they can be accommodated in glands hitherto used to accommodate corresponding cables to the old specification, and will be distinguished by the suffix "N" after the pattern number.

Until stocks of cable made to the old specification are exhausted there will thus be three distinct types of cable, viz.:—

- (a) Cables to the old specification, which are indicated by the plain pattern number without suffix.
- (b) Cables to the new specification having the suffix "A." This group includes a complete range of cables of all pattern numbers made entirely to the new specification.
- (c) Cables to the new specification having the suffix "N." This group includes only cables of pattern numbers referred to in paragraph 6. The cables conform to the requirements of the new specification as far as possible, but have smaller diameters than the corresponding "A" cables so that they can be accommodated in glands and fittings hitherto used to accommodate corresponding cables to the old specification.

5. The conditions under which the various types are to be used are as follows:—

- (a) The complete "A" series will be used for new construction of the 1928 programme, and later, and the ship specifications will be framed accordingly.
- (b) For contract built ships now in hand for which cables to the old specification were specified, cables of the "A" and "N" series to the new specification are to be fitted where this can be arranged without delay or extra cost.  
For destroyers of the 1927 programme cables of the "A" and "N" series to the new specification are to be used.
- (c) For all other ships, the cables of the "A" series should be used, after exhaustion of stocks of cable to the old specification except that cables of the "N" series may be used where corresponding cables of the "A" series cannot be accommodated. The use of the "N" series should be restricted as much as possible.
- (d) Existing stocks of cables to the old specification must be used up except for destroyers of the 1927 programme and new construction of the 1928 programme and later, before similar patterns to the new specification are issued. Similarly cables of the 4910-4925 series and of the 6121-6128 series should also be utilised before cables of the 9830A-9847A series and 9741N-9748N series respectively.

6. The cables to the revised specification which cannot be accommodated in glands used to accommodate corresponding patterns to the old specification, or in the cable cleats of the leading-in cables system of the 16 in. turrets of "Nelson" and "Rodney" and the 8 in. turrets of the "London" class "York," "Norfolk," "Dorsetshire" and "Exeter" are as follows:—

2524A.  
6109A.  
7015A.  
9624A.  
9627A.  
9628A.  
9629A.  
9630A.  
9633A.  
9641A.  
9646A.  
9741A-9748A. (For particulars of these cables *see* paragraph 12.)

An "N" series will therefore be introduced for these cables only, the purpose of which is stated in paragraphs 4 and 5.

The following cables of the "N" series are to be used only in the leading-in cables system of the 16 in. turrets of "Nelson" and "Rodney," and the 8 in. turrets of the "London" class, "York," "Norfolk," "Dorsetshire" and "Exeter," viz., 9627N, 9630N, 9633N, 9641N, as the corresponding "A" cables can be accommodated in all other positions.

7. The schedule drawings for clips will be revised in order to provide clips capable of accommodating the new cables.

8. In revising the specification the design of some cables has been modified. Details of these are shown below. The old pattern numbers have been retained subject to the addition of the suffix "A" since the cables will be used for similar services as hitherto.

<i>Pattern No.</i>	<i>Remarks.</i>
2823A	} Hard cord braid finish replaced by reinforced tough rubber sheath finish.
2824A	
2825A	
2826A	
2828A	
3366A	

9. The following patterns have been deleted as being surplus to requirements and will no longer be available.

<i>Pattern No.</i>	<i>Pattern No.</i>
550	7033
551	7034
7024	9640
7026	9642
7029	9644
7031	9645*

10. The following patterns have been deleted since other patterns are sufficiently similar to be used in lieu:—

<i>Pattern No.</i>	<i>Remarks.</i>
799	Pattern 611A to be used in lieu.
736	„ 9843A „ „ „
1680 } 2546A }	„ 7988A „ „ „
2827	„ 2826A „ „ „
7043	„ 9750A „ „ „ (see para. 13).

11. In order to bring the conductors of the single-core tough rubber sheathed series into line with the conductors of the single-core lead sheathed series, a new series of cables, the details of which are given below, is being introduced, the old series Patterns 4910-4925 becoming obsolete.

*Reinforced Tough Rubber Sheathed Single-Core Cables.*

<i>Pattern No.</i>	<i>No. and Diameter of Wires in Conductor.</i>	<i>Nominal Sectional Area of Conductor.</i>
9830A	127/·112	1·25
9831A	127/·103	1·00
9832A	91/·103	0·75
9833A	61/·103	0·50
9834A	61/·093	0·40
9835A	37/·103	0·30
9836A	37/·093	0·25
9837A	37/·083	0·20
9838A	37/·072	0·15
9839A	19/·083	0·10
9840A	19/·064	0·06
9841A	19/·052	0·04
9842A	7/·064	0·0225
9843A	7/·044	0·01
9844A	7/·036	0·007
9845A	7/·029	0·0045
9846A	3/·036	0·003
9847A	1/·044	0·0015

12. The series of concentric multicore cables for telephone purposes, Patterns 6121-6128, is being deleted and a series of twisted pair multicores will be introduced in their place. Details of these are as follows:—

<i>Pattern No.</i>	<i>No. of Pairs.</i>
9741A	1
9742A	2
9743A	3
9744A	4
9745A	7
9746A	11
9747A	15
9748A	19

Since these cables cannot be accommodated in glands previously used to accommodate corresponding concentric pair cables, an additional "N" series is being introduced to be used only in substitution of concentric pair



cables already fitted, or in places where the larger series cannot be accommodated. Details of these are as follows:—

<i>Pattern No.</i>						<i>No. of Pairs.</i>
9741N	...	...	...	...	...	1
9742N	...	...	...	...	...	2
9743N	...	...	...	...	...	3
9744N	...	...	...	...	...	4
9745N	...	...	...	...	...	7
9746N	...	...	...	...	...	11
9747N	...	...	...	...	...	15
9748N	...	...	...	...	...	19

13. The following new cables have been introduced:—

<i>Pattern No.</i>	<i>Description.</i>	<i>Service.</i>
9750A—17 core	Tough rubber sheathed braided	Special gyro compass circuits.
9751A—12 core	flexible cables of similar construction to Patts. 7044A & 7045A.	
9752A—2 core	125 ampere canvas reinforced tough rubber sheathed flexible cable.	Seaplane crane circuits.
9753A—2 core	175 ampere ditto ... ..	Ditto.
9754A—2 core	31 ampere special solid filled tough rubber sheathed flexible cable.	10 in. signalling projector circuits passing through pressure hull of submarines.
9817A—2 core concentric.	31 ampere canvas reinforced tough rubber sheathed flexible cable.	Circuits for S/T 105 sets passing through pressure hulls of submarines.

14. Pattern 1389A has previously been used for a cable to the old specification. It is now obsolete and no stocks exist. It should be noted that in future Pattern 1389A will indicate a cable corresponding to the present 1389B, but made to the revised specification.

15. Electric cable, Patterns 21, 22, 9635, 9637, and 2829, are now obsolete and no more purchases will be made, but existing stocks should be utilised until exhausted.

16. Pattern 2824A is suitable for services for which Pattern 2829 has hitherto been supplied.

17. The revised specification, together with schedules giving details of all cables, is being prepared in book form and will be issued shortly. A copy of this Order will be incorporated therein.

18. The cables being purchased in satisfaction of the last quarterly demand and referred to in Admiralty Letter, N.S. 67/28/22158, dated 12th November, 1928, will be manufactured to the revised specification. Similarly, cables purchased in satisfaction of all future demands will be manufactured to the revised specification unless instructions are issued to the contrary. Demands should indicate whether the cables required are of the "A" or "N" series. As already stated, the "N" series will be confined to those cables mentioned in paragraph 6.

19. With a view to accumulating experience of the behaviour of cable made to the new specification, yards should report periodically details of any defects which may be experienced with it, and any interesting information which it is considered may be of value.

## 1929.

**2.—British Oversea Ports—Regulations for Visits of Foreign War Vessels and Service Aircraft accompanying them.**

(M. 960/27.—4.1.1929.)

The procedure regarding the visits of foreign war vessels and service aircraft accompanying them to British oversea ports is detailed in the following memorandum.

Copies of this Memorandum have been supplied to foreign governments. Use of wireless telegraphy and telephony by foreign warships and service aircraft in British waters is dealt with in A.F.O. 3/29.

*Memorandum as to the Procedure regarding the Visits of Foreign War Vessels and Service Aircraft accompanying them to British Oversea Ports.*

Special permission is not necessary to enable foreign war vessels (including auxiliary vessels and transports) to visit British oversea ports, but previous notice of such visits should be forwarded through the usual diplomatic channels. Unless there are special circumstances rendering it impracticable, such notice should arrive at least seven days prior to the commencement of the proposed visit. In cases of visits to small outlying possessions, considerably longer notice than seven days is desirable. The notice should give the number of vessels paying the visit and the name and class of each. If any of the vessels referred to above carry aircraft, a statement to this effect should be included in the notification of the visit.

2. The above rules do not apply to—

- (a) Ships of war and auxiliary vessels on board of which are embarked Sovereigns, Members of a Sovereign's family, Presidents of Republics or their suites, or Ambassadors or Envoys to the Court of His Majesty the King.
- (b) Ships of war and auxiliary vessels which are obliged by reason of damage sustained, perils of the sea or other unforeseen causes to enter a British port.
- (c) Ships of war and auxiliary vessels entitled to enter a British port under the terms of an international agreement which they are engaged in carrying out.

3. Foreign submarines should in no case attempt to submerge in territorial waters or to enter territorial waters in the submerged condition.

4. Shore leave may be given to *unarmed* sailors or soldiers subject to the concurrence of the Governor General or Governor or other prescribed authority. If it is desired to land large numbers of men or bodies of men in military formation, adequate notice should always be given to the Governor General or Governor or corresponding local authority in case special arrangements render it necessary to make any restrictions.

5. Officers landing are permitted to wear their swords.

6. Applications for permission to land *armed* parties should be addressed to the Governor General or Governor or other prescribed authority.

7. Torpedo and gunnery practices, mining and searchlight exercises, and exercises with armed boats are prohibited in British territory and territorial waters unless special permission has previously been obtained from the Governor General or Governor or other prescribed authority.

8. If the vessels paying the visit are to be accompanied by service aircraft not carried on board the vessels, this fact, together with the number and type of the aircraft, should be stated in the notice of the proposed visit. Steps can then be taken by the local authorities to carry out any requisite legal formalities. Except however, as may be necessary on their arrival or departure with war vessels which they accompany, no flights by foreign service aircraft over British territory or territorial waters may be made without special permission, any application for which should be made through the usual diplomatic channels or to the Governor General or Governor or other prescribed authority. The carriage of ammunition, bombs or photographic films or plates over British territory or territorial waters is in no case permitted.

9. Any special local regulations must be complied with.

ADMIRALTY,

October, 1923.

(A.F.O. 3/29.)

### 3.—British Ports—Regulations for the use of Wireless Telegraphy or Telephony by Foreign Men-of-War and Service Aircraft.

(M. 521/25.—4.1.1929.)

The following regulations for the use of wireless telegraphy or telephony by Foreign Men-of-War and Service Aircraft accompanying them in harbours in Great Britain and Northern Ireland and British Oversea Ports, have been made in accordance with Section 4, Clause (2) of the Wireless Telegraphy (Foreign Ships) Regulations, 1908:—

- (a) Foreign Men-of-War and Service Aircraft accompanying them lying in a Naval Port, or in any harbour which is close to a Naval Port, shall obtain permission from the Senior Naval Officer at the Naval Port to use their wireless telegraphy or telephony apparatus, stating system, wavelengths and times of transmission proposed.
- (b) Foreign Men-of-War and Service Aircraft accompanying them lying in any harbour which is not close to a Naval Port shall conform to the following regulations:—
  - (i) Transmission on 600 metres is forbidden, except for the purpose of making or answering signals of distress.
  - (ii) Interference with Naval, Army or Air Force signalling, or with any fixed shore station, must be avoided.
  - (iii) Transmission must be discontinued on request from (1) any Naval Authority, (2) the port authorities, (3) any fixed shore station.
  - (iv) Protracted signalling, using apparatus transmitting other than pure continuous waves, must be avoided.
  - (v) If there is a British or Dominion Fleet or Warship lying in the harbour, the Senior Naval Officer should be consulted.

(A.F.O. 2/29.)

#### 4.—Visits of H.M. Ships to Colonial Ports—Notification to Colonial Governments.

(M. 3261/25.—4.1.1929.)

The following procedure should be adopted in future as regards the notification to Colonial Authorities of visits of H.M. Ships to Ports:—

- (a) The Commander-in-Chief of the Station is to notify the Colonial Government concerned of any intending visits, giving as long notice as is practicable.
- (b) In cases where, owing to alteration of programme or other reasons, the Commander-in-Chief has not informed the Colonial Government of impending visits or the cancellation of previously notified visits, the Commanding Officer of the ship concerned is himself to take the necessary steps to notify local authorities.
- (c) In cases where programmes are arranged by the Admiralty, i.e., when ships leave England for foreign stations, the Admiralty will take necessary steps to notify Colonial Office or Dominions Office of any intended visits to Colonial ports.

This procedure does not apply to Malta, Gibraltar, Colombo, Trincomali, Singapore, Hong Kong, Simonstown or Bermuda, at which recognised naval bases exist.

#### 5.—British Consular Officers—Precedence, Salutes.

(M. 3629/26.—4.1.1929.)

The precedence to be granted to British Consuls General is that shown in Article 98 of King's Regulations and Admiralty Instructions.

2. As notified, the salute to British Consuls General has been raised to 13 guns, and this number of guns is to be fired on customary occasions in honour of British Consuls General, notwithstanding that the Table attached to Article 66 of King's Regulations and Admiralty Instructions shows these officers are entitled to 11 guns only.

3. No alteration of the Table will be made until general international agreement to the increased number of guns has been notified.

(*K.R. and A.I., Articles 66 and 98.*)

#### 6.—Ceremonial for the Observance of Armistice Day.

(M. 1520/28.—4.1.1929.)

A period of two minutes' silence commencing at 1100 is to be observed in H.M. Ships and Establishments on 11th November. As far as practicable, all work and noise in H.M. Ships, which can be stopped, is to cease; and all machinery and work in H.M. Establishments is to be stopped. Rail and water transport need not, however, be stopped. Steamboats of H.M. Ships and Establishments are to stop, if possible, and pulling boats are to lay on their oars.

2. W/T watch must continue.

3. In order to standardise procedure in H.M. Ships, the following routine is to be adopted so far as is practicable, viz. :—

- 1045. Lower deck to be cleared and guards paraded.  
Short service to be held, which should be completed by 1058.
- 1059. Guard slope arms.  
Petty officers and men to be called to attention and "off caps."
- 1100. "Still" to be sounded, and complete silence observed for two minutes.
- 1102. Petty officers and men "on caps." Guards present arms.  
"Last Post" to be sounded, officers saluting, followed by the "Reveille."
- 1105. Ships' companies disperse.

When several ships are in company, the Senior officer is to arrange for a gun to be fired by one of them to mark the beginning and end of the two minutes' silence. Ships are not to half-mast colours.

4. The hands will not "make and mend" on the afternoon of Armistice day, unless it falls on a normal "make and mend" afternoon.

5. When in company with ships of any nation other than France or Italy, the normal procedure as above is to be carried out.

6. When in company with French or Italian ships, the normal procedure is complicated, owing to the fact that while Great Britain celebrates Armistice day not as a day of national grief, but rather as a commemoration of a great occasion in the national history, France on the other hand emphasises the achievement of victory, and celebrates the occasion as a festival of national rejoicing. In the case of Italy the date coincides with that of the observance of the birthday of the King of Italy.

7. The following procedure is therefore to be observed by H.M. Ships in the circumstances indicated, viz. :—

- (a) When in company with a French ship in a Foreign Port other than a French port :—

The French flag will be flown at the mast-head from 0800 till sunset, but H.M. Ships will not dress, illuminate or fire salutes.

- (b) When in a French port, whether French warship is present or not :—

The ceremony observed by the French is to be carried out, *i.e.*, H.M. Ship will dress overall and fire national salutes at noon.

- (c) When in an Italian port or in company with an Italian ship in any port :—

H.M. Ship(s) are to be dressed overall from 0800 till sunset, and a Royal Salute is to be fired at noon.

- (d) When in company with both French and Italian ships :—

H.M. Ship(s) are to be dressed overall from 0800 till sunset with both French and Italian flags flying, and a Royal Salute is to be fired at noon.

- (e) In the circumstances detailed under (b), (c) and (d) the British ceremony is to be carried out while H.M. Ship is fully dressed.

8. The full details of the ceremonial observed by French war vessels on the anniversary of the Armistice, and also general rules followed by French war vessels when in company with foreign warships on occasions of festivals and solemn observances are given in A.F.O. 7/29.

9. The Italian Armistice day is commemorated on November 4th, *irrespective of the day of the week on which this date falls.*

The procedure carried out by Italian ships on this occasion is as follows :—

0800. Ships dress overall, Italian flag at the mast-head.

1100. Undress ship and half-mast colours. Salute of 21 guns at intervals of one minute.

12 noon. Re-hoist colours and redress ship. Salute of 21 guns at normal intervals.

Sunset. Undress ship.

When in company with an Italian ship or in an Italian port, H.M. Ships are to conform to the above procedure.

10. With a view to avoiding any misunderstanding, the British Senior Naval Officer is always to inform the Senior officers of any foreign ships in company in good time of the procedure which will be carried out by H.M. Ships, and in the case of 11th November, when French and/or Italian ships are present, explaining the reasons for so doing, as given in paragraph 6.

(A.F.O. 7/29.)

## 7.—French Regulations for the Ceremonial Observance of Armistice Day and National Festivals.

(M. 1520/28.—4.1.1929.)

The following regulations regarding the ceremonial to be observed by French war vessels on the anniversary of the Armistice, 11th November, and also general rules followed by French war vessels when in company with foreign warships on the occasion of festivals and solemn observances are promulgated for information and guidance.

2. By the Law of 24th November, 1922, the Commemoration of Victory and Peace is celebrated on 11th November, the anniversary of the Armistice; further, the Law of 22nd October, 1922, fixed 11th November as a national festival. It follows that French warships must celebrate this festival in the same way as that of 14th July, with this difference, however, that the procedure laid down for the national festival is slightly modified in order to introduce the homage due to those who fell in the Great War.

3. The ceremonial adopted by ships of the French Navy for the celebration of the anniversary of the Armistice is as follows:—

0800. "Dress ship" at the same time as colours are hoisted. Salute of 21 guns.

1045. The guard will be drawn up aft facing the flag; the crew will be mustered in companies and drawn up on the quarter-deck. The officers who are not actually on duty will be drawn up near the guard.

1100. "Attention" will be sounded. The watch will present arms.

Those on deck will take off their caps and observe a minute's silence. (The ship will not be undressed during the ceremony.)

1101. "La Berloque" will be sounded.

1200. Salute of 21 guns.

A salute of 21 guns will be fired when colours are lowered and the ship is undressed.

4. Moreover an old nautical practice forms the subject of the following general rules of our decree regarding procedure on board French war vessels or in the French naval forces.

(i) On the occasion of national festivals and solemn observances of friendly powers or allies of France, and when official notice has previously been given them French ships take part in these celebrations by salutes and dressing ship.

(ii) In every case the senior commanding officer will conform, as far as possible, in connection with these ceremonies, to the accepted custom of the country where he is and where the celebration is being observed.

(iii) In accordance with this rule and for the special occasion of 11th November, when French warships are anchored in a harbour or a foreign roadstead of a power allied during the Great War, and if in this roadstead there is at least one war vessel of the Power to whom the roadstead belongs, the French warships will conform to the ceremonial observed by the Power, subject to the following reservations:—

(a) In the event of there being in the harbour or roadstead no war vessel of the country to which the roadstead or port belongs, the French warships will adopt the ceremonial laid down for the French Navy for the 11th November.

(b) If it is not the custom of the aforesaid Power to celebrate the anniversary of 11th November, the French warships will observe the ceremonial laid down for the French Navy for 11th November, observing also the following rules which appear in our orders :—

Whenever it is necessary abroad to celebrate national festivals and solemn occasions, the Senior French Commanding Officer will arrange with the French diplomatic or consular officer to acquaint the local authority of his intention to celebrate these festivals or solemn occasions. On the previous day he will notify directly the responsible authority of the roadstead where he is, and, if he considers it advisable, the senior commanding officers of the foreign naval forces which are in the same anchorage.

(A.F.O. 6/29.)

## 8.—Belgium—Regulations for Visits by Foreign War Vessels.

(M. 285/24.—4.1.1929.)

The following decree was issued on 30th December, 1923, with regard to the admission of foreign war vessels into Belgian waters:—

### ARTICLE 1.

The term "war vessel" is to be considered to apply not only to all war vessels designated as such within the usual meaning of the term, but also to auxiliary vessels of all sorts.

### ARTICLE 2.

In time of peace war vessels belonging to foreign powers recognised by Belgium may enter the Belgian ports on the North Sea and may anchor in territorial waters within the three-mile limit, provided that the number of warships flying the same flag does not exceed three, including those war vessels which may happen to be already in that zone or in a Belgian harbour.

Except in the cases mentioned in Article 5, visits must always be preceded by a notification. This notification must be transmitted through the usual diplomatic channels so as to arrive, if circumstances permit, at least seven days before the visit is to take place.

### ARTICLE 3.

Foreign war vessels may not enter the Belgian waters of the Scheldt, or anchor in Antwerp Roads, or penetrate into the interior waterways of the Kingdom without having first obtained the authorisation of the Foreign Office.

If this authorisation has not been obtained beforehand through diplomatic channels, it must be applied for through the Belgian Pilot Service for the Scheldt Estuary, by whom the decision will be transmitted to the Commanding Officer.

### ARTICLE 4.

Foreign war vessels may not remain for more than fifteen days in Belgian ports or territorial waters without special authorisation from the Government.

They must be prepared to leave within six hours if required to do so by the Administration of the Navy (Administration de la Marine) on the instructions of the military authorities, even if the term fixed for their visit has not expired.

The right to assign anchorages for war vessels, or to make them change their anchorages, devolves until further orders upon:—

The authority delegated by the Administration of the Navy for naval waters;

The representative of the Administration of Bridges and Roads (Administration des Ponts et Chaussées) for interior waterways;

The harbour captain for harbours.

## ARTICLE 5.

The prohibition against the entry or anchoring of more than three war vessels flying the same flag in the zone designated in Article 2, and the regulations contained in Article 3 and the first paragraph of Article 4 do not apply:—

- (a) To war vessels, the entry of which has been authorised through diplomatic channels.
- (b) To war vessels having on board a head of a Government, a prince of a reigning house, or a diplomatic agent accredited to the King or the Government.
- (c) To war vessels which are obliged to enter because of damage, bad weather, or other causes over which they have no control.
- (d) To war vessels charged with the superintendence of fisheries in the North Sea, in accordance with the North Sea Fisheries Convention. These fishery-protection vessels must show the distinctive mark agreed on by international convention when approaching territorial waters.

## ARTICLE 6.

Foreign war vessels are not obliged to embark a pilot to navigate in Belgian waters, but they must conform to all other regulations regarding anchorages and the navigation of Belgian waters.

Foreign war vessels in Belgian waters are forbidden to carry out ordnance or hydrographical surveys, landing practices or gunnery practices; neither may they undertake any work below the surface, with or without divers, unless they have obtained the necessary authorisation.

Foreign submarines may not under any circumstances submerge in Belgian territorial waters or enter those waters submerged.

Ratings of war vessels must not carry arms when going ashore. Officers and non-commissioned officers may carry those arms which form part of their uniform.

Ship's boats moving about in Belgian harbours and territorial waters may not carry arms.

If a burial service has to be conducted on shore an exception to paragraph 4 of this Article may be made by the Minister of National Defence at the request of the Belgian military authorities.

No foreign war vessels may carry out death sentences in Belgian waters.

## ARTICLE 7.

Commanding Officers of foreign war vessels must conform to the laws and regulations with respect to police, public health, duties and taxation, unless special conventions or international usages provide for exceptions being made.

## ARTICLE 8.

On entering a Port, foreign war vessels will be met by a functionary sent by the Administration of the Navy, who will inform the Commanding Officer of the berth allocated to his vessel and who will request information regarding the purpose and probable length of the visit, the name of the Commanding Officer and other matters which it is customary to enquire about on these occasions.

In the event of the functionary charged to welcome the war vessel not arriving on board until after she has anchored or secured, he will nevertheless make the prescribed communications and enquiries. He will confirm the site of the anchorage already taken up, or will assign another anchorage.

## ARTICLE 9.

Should the war vessel fail to conform to the regulations of this decree, the Administration of the Navy or the local military authority will first draw the attention of the Commanding Officer to the contravention in question, and will then make a formal request to him to observe the regulations.

If this request is not complied with, the military authorities may demand the instant departure of the war vessel from the port or territorial waters.



## ARTICLE 10.

This decree supersedes former regulations.

## ARTICLE 11.

The above regulations do not apply in time of war or of mobilisation, or when the fear of war, the respecting of neutrality, or other considerations, which can only be judged by the Belgian Government, oblige it to suspend the regulations.

## ARTICLE 12.

Our Foreign Office, Railway Department, Navy Department, Post and Telegraph Department and Ministry of National Defence, each as far as they are concerned, are charged with the execution of this decree.

BRUSSELS.

*30th December, 1928.*

## 10.—Denmark—Regulations for Admission of Foreign Warships to Danish Waters.

(M. 5572/24.—4.1.1929.)

The following regulations for the admission of Foreign Warships to Danish Territorial Waters and Harbours under Peace conditions have been issued by the Danish Government under date 11th May, 1921.

## SECTION I.

Warships belonging to Foreign Powers are allowed without previous notice to enter or navigate Danish waters, which are not classed as inner waters, Copenhagen Roads or closed waters. (*See Sections III, IV, V.*)

## SECTION II.

Foreign war vessels, with the undermentioned exceptions, are allowed without previous notice to make a short call at Danish ports lying in the direct route of the natural line of traffic through the Kattegat, The Sound, Great Belt, and Little Belt and also Bornholm ports.

Should a stay of more than two days be desired, or should there, without reference to the length of the stay, be question of the visit of a squadron or visits to Fredericia, Nyborg, Korsør or Helsingør, previous notice through diplomatic channels is necessary. (*See Section VI.*)

## SECTION III.

War vessels belonging to Foreign Powers are allowed to visit or navigate inner Danish waters or call at Danish ports other than those mentioned in the first paragraph of Section II, when notice thereof is previously given through diplomatic channels. (*See Sections IV, V, VI.*)

By inner Danish waters are understood as well as harbours, harbour entrances, roads and bays, Danish territorial waters between and within islands, islets and reefs (heaps of stones) which are not permanently flooded by the sea.

The following can be specially mentioned as inner Danish waters:—

The East Jutland Fjords.

Waters south of Fyen with the following entrances:—

Waters between	Langeland and Fyen.
„	„ Langeland and Aerø Island.
„	„ Aerø and Lyø Islands.
„	„ Lyø Island and Fyen.
„	„ the South Jutland mainland and the Islands of Brandsø, Baagø and Aarø.
„	„ the South Jutland mainland and a line Halk Hoved—(Eastern point of Borsø)—Tantoft Nakke.

That part of Sønderborg Bay which is bounded towards the South by a line from Lille Borreshøved Point to the position of the Beacon “Helts Banke,” and from thence to the position of Beacon “Middelgrund S” and thence to the point at Sønderby on Kegenæs.

That part of the fairway south of Egersund which is bounded to the south by a line from Rinkenaes Lighthouse to the “Egersund Anduvnings buoy,” and thence to Skodsbøl Lighthouse.

The West Jutland Fjords.

Odense Fjord.

The fairway west and north of the line: Hasenøre—Samsø—Endelave—Bjørnsknude.

The fairway east of Sejro Island.

That part of Danish territorial waters in the Kattegat, the Sound, Great and Little Belts, which falls under the natural traffic-way between the North Sea and Baltic is not considered as inner Danish waters. (See Section II.)

#### SECTION IV.

Foreign war vessels may call at or navigate Copenhagen Harbour and roads when permission has previously been obtained, or, when only passage through Hollaenderdybet and Drogden is desired, when notice has been given through diplomatic channels. (See Section VI.)

Copenhagen Roads are bounded on the North by a line from Taarbaek boat harbour to the Light and Bell buoys on Taarbaek Reef and from there to the Light-buoy Saltholm N.E. To the East by a line from the last named Light-buoy to the most northerly point of Saltholm Island and from there by the west coast of Saltholm to the most southerly point of Saltholm. To the South by a line from the last named point to the Drogden Lightship, from there to the Beacon Aflandshage (2 red brooms) and from there by a line to the coast of Zealand in the direction of Vallensbaek church on Zealand.

#### SECTION V.

The following Danish waters are closed to Foreign warships and permission to visit or navigate them will only be given to the vessels mentioned in Section VI:—

Isefjord and the entrance thereto.

Limfjord and the entrances thereto.

The waters of Smaalund, with the following approaches:—

Agersøund.

Omøund.

The waters between Omø and Lolland.

Guldborgsund.

Grønsund.

Bøgestrømmen.

Als Sund.

Als Fjord.

## SECTION VI.

The notice referred to in Section II, para. 2, and Sections III and IV does not apply to:—

- (a) Vessels on board of which are the heads of States or their official representatives or members of reigning Royal houses, or for the escort of such vessels.
- (b) Vessels in distress.
- (c) Vessels carrying on fishery inspection—in accordance with the Convention of 6th May, 1882, regarding regulations for fishery police in the North Sea—in as far as harbour and anchoring places on the west coast of Jutland are concerned.

### 11.—Denmark—Royal Salutes.

(M. 3727/26.—4.1.1929.)

The Danish salute for the Danish Sovereign is 27 guns. This is, however, to be regarded as an internal arrangement resembling the salute of 101 guns in India, which other nations are not expected to observe. H.M. Ships are therefore to be guided only by the King's Regulations and Admiralty Instructions in the matter of Royal Salutes, and no salute of more than 21 guns is to be fired.

### 12.—Esthonia—Regulations regarding entry of Foreign Warships.

(M. 5567/24.—4.1.1929.)

(A)

The entry of foreign warships into Esthonian ports is governed by the following Decree, dated 13th October, 1922:—

[*Translation.*]

**DECREE.—RELATIVE TO THE ENTRY OF FOREIGN SHIPS OF WAR INTO THE PORTS OF THE ESTHONIAN REPUBLIC; PROMULGATED BY THE GOVERNMENT OF THE REPUBLIC ON 13TH OCTOBER, 1922.**

The term "Ship of War" includes all armed vessels of a military character, and auxiliary ships of war of all types.

2. Foreign Ships of War desiring to enter the fortified or non-fortified zone in the various roads, ports or rivers of the Esthonian Republic must make their request through the usual diplomatic channels. No foreign warship unprovided with this authority can enter or call at the fortified or non-fortified zone in the various roads, ports or rivers of the Republic.

3. Ships compelled to put in at the ports or the territorial waters of the Republic on account of damages or perils of the sea (*force majeure*) are not expected to conform with the provisions of the preceding paragraph.

4. The Admiralty assigns anchorage for Foreign Ships in the port, or in the roads of Tallinn (Reval), or makes them change their position, if considered necessary. As regards other ports or roads where there are Navy Officers, the Captain of the Port refers to the C.-in-C. of the Esthonian Warship, if there happens to be such a ship in the roads, and arranges with him.

5. Foreign Ships of War are not obliged to take on a pilot when approaching ports and roads of the Republic; Foreign Ships of War must conform to the special regulations in force in the fortified zones, ports and roads.

6. If the Foreign Ship of War does not conform to the port regulations, the Captain of the Port or some other Government representative of the Republic draws the attention of the Commander of the Warship to the fact and requests him to conform strictly to the regulations in force. In case of repetition of the offence, the Foreign Warship is requested to leave the port at once.

7. As soon as a Foreign Ship of War enters the port of Tallinn, the Admiralty or the C-in-C. of the Estonian Warships which may be in the roads, sends an Officer to meet her, and to offer the Commander of the Ship the assistance of the port authorities. The Officer shows the Commander of the Foreign Ship the anchorage assigned to him, at the same time obtaining from him full information regarding the arrival of the ship and the approximate duration of the visit, name of the Commander and of the ship, and the other information required in such cases.

8. If the Officer sent to meet the Foreign Warship arrives on board when the ship has already cast anchor or come alongside, the ship will remain where it has moored, or another post will be appointed for it.

9. In the other ports and roads of the Republic the Captain of the Port or his representative carries out the duties mentioned in paragraphs 7 and 8. In ports where there is no Captain of the Port, these duties devolve on the Chief of the Coastguard Service.

(B)

USE OF W/T BY FOREIGN VESSELS IN ESTONIAN WATERS.

*Note.—As H.M. Government do not recognise the right of any country to legislate for waters outside the three-mile limit, these regulations are not to be regarded as applicable to ships more than three miles from the Estonian coast.*

The following regulations have been issued by the Estonian Government regarding the use of W/T by vessels in Estonian waters.

1. Installations of radio telegraph or telephone transmitters on Estonian as well as on foreign ships cannot be used in Estonian harbours.

When the ships are nearer than 10 sea miles from an Estonian radio station the use of radio telegraph or telephone may be made only with the nearest Estonian coast station, except in cases of accidents, when the ships are permitted to apply also elsewhere.

2. If concerning the use of radio installations on foreign ships, in Estonian territorial waters no other arrangements are made besides the regulations mentioned in paragraph 1, those ships may use their own radio installations on the condition that they observe the regulations of the International Radio Telegraph Convention.

3. The radio service on Estonian as well as on foreign ships must be executed by radio telegraphists, who by their experience correspond to the demands of the service stipulations of the International telegraph convention and who are furnished with respective certificates. The Head Post Administration gives the radio telegraphists on Estonian boats the required certificates in correspondence with the respective regulations of the Government of the Republic and furnishes in case of need provisional certificates for one journey to the radio telegraphists of foreign ships.

4. The Head Post Administration supervises the execution of the present regulations, and is entitled to make agreements in this matter with other offices.

5. Transgressors against non-fulfilment of the demands of paragraphs 1-3 of the present regulations are dealt with by the Court of Justice.

6. Estonian warships are not subject to the present regulations, whilst as concerns foreign warships only the paragraphs 7 and 8 of the present regulations are in force.

7. Foreign warships and other accompanying military aeroplanes, staying in the Estonian war fleet basin, in the harbour or territorial waters, at a distance of up to 5 sea miles from the Estonian war fleet basin, must obtain for the use of their radio telegraph or telephone sets a permission from the Senior Naval Officer of the basin, informing him of the system of their sets, length of wave and the proposed time of using the transmitting set.

8. Foreign warships and their accompanying military aeroplanes, staying in Estonian territorial waters farther than 5 sea miles from the basin of the Estonian war fleet, are to act in accordance with the following instructions :—

- (a) Transmission with 350, 600 and 1,200 metre wavelengths is prohibited, except for transmitting signals of distress and answering them, or working with the Estonian coast stations.
- (b) Disturbing the work of the military—War Fleet, Air-Force and Coast Stations—is prohibited.
- (c) Transmitting must cease at the demand of every Naval Officer or responsible employee of the harbour or coast station.
- (d) Long-lasting signalling with not completely pure unextinguished wave lengths and working with extinguishable wavelengths is prohibited.
- (e) If the Estonian Fleet is staying in the harbour, or some other warship, then an agreement regarding the above-mentioned paragraph 7 must be obtained from the Senior Naval Officer.

Reval,

May 10th, 1926.

#### 14.—Germany—Regulations regarding Visits of Foreign War Vessels.

(M. 4030/25.—4.1.1929.)

The following regulations, dated 1st August, 1925, regarding the admission to and treatment in the ports and waters of the German coast of foreign vessels of war have been promulgated by the German Government.

##### SECTION 1.

Vessels of war\* of foreign powers do not require special permission in order to call at fortified and unfortified German ports and estuaries. Notice to be communicated in good time through the diplomatic channel is, however, required regarding an impending visit.†

Failing such notice no foreign warships with the exception of the cases stated in Section 2, may either go beyond the outermost line of fortifications or remain in roadsteads or in ports or estuaries.

Regarding the use of the Kaiser Wilhelm Canal *see* Section 3.

The number of warships belonging to the same country which are permitted to remain at the same time in a fortified or unfortified port, etc., is as a rule limited to three. The visit may not exceed 14 days. Exceptions require permission, to be obtained through the diplomatic channel.

Submarines are prohibited from navigating in German territorial waters in a submerged condition.

##### SECTION 2.

The foregoing provisions do not apply :—

- (a) To ships in which are embarked heads of states, members of ruling families, or diplomatic representatives accredited to the German Republic.
- (b) To ships which, in consequence of pressing nautical emergency, are obliged to put in at a German port, etc.
- (c) To vessels engaged in fishery protection duties under the North Sea Fishery Agreement, and whose names are notified to the German Government through the diplomatic channel.

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\* The expression " vessel of war " in the following regulations comprises all foreign ships, auxiliary vessels and transports which are entitled to fly the naval flag.

† If aircraft are on board foreign warships, particulars of them are to be given in this notification.

## SECTION 3.

Foreign vessels of war are at liberty to pass through the Kaiser Wilhelm without special permission. Timely notice beforehand through the diplomatic channel is expected as an act of international courtesy.

## SECTION 4.

In harbours which are fortified, or at which defensive forces are stationed, the pilotage authorities and, in places without state pilotage authorities, the pilots' associations must immediately inform the senior naval officer commanding on the spot (chief naval station, fortress commandant, garrison senior officer) of the approach or arrival of a foreign warship. The port captain or harbour master must similarly report the arrival in harbour.

Naval officers commanding have to report the arrival of foreign warships by telegraph to the Chief of the Admiralty, and also to the competent naval station command and district defence command.

At ports where a department of the Admiralty is situated the reports of the pilotage authority and port captains or harbour masters go to the head of that department who is responsible, for his part, for the immediate notification of the senior Naval commanding officer of the place, and also undertakes the forwarding of the report prescribed in paragraph 2.

The following are held to be ports which are fortified or garrisons of the defensive forces, or at which is situated a department of the Admiralty:—

Pillau, Königsberg, Kolberg, Swinemünde, Stettin, Greifswald, Stralsund, Rostock, Lübeck, Kiel, Flensburg, Mürwik, Hamburg, Cuxhaven, Bremen (including lower Weser ports), Wilhelmshaven (including Schillig), Emden and Borkum.

In other ports the police have to inform the authorities specified in paragraph 2 by telegraph of the arrival of foreign vessels of war.

The pilotage authorities and, in places having no state pilotage authorities, the pilots' associations have also to give immediate information to the port and police authorities of the approach or arrival of a foreign warship.

## SECTION 5.

In the federal naval harbour zones of Kiel and Wilhelmshaven, and in the roadsteads and ports of the fortified places of Borkum, Cuxhaven, Swinemünde and Pillau, only the chief of the naval station or the fortress commandant has the right to assign an anchorage or berth to foreign warships and, if an alteration thereof is necessary, to require that the latter be made. He must consult with the port, customs and pilotage authorities in order to be able to take into consideration the interests of the latter authorities in the arrival, and in determining the place where the warship is to lie.

The pilots at the ports enumerated are to be notified in good time regarding entrance permits granted and berths assigned.

## SECTION 6.

Foreign warships are not obliged on making for roadsteads or anchorages to take a pilot. Within the line of fortifications or the boundary of a German harbour, however, they are subject to the police regulations of the same.

## SECTION 7.

If the rules of the port police are infringed by a foreign warship the attention of the commander of the ship, in the first instance, is to be directed thereto, and he is to be urged to the scrupulous observance of these provisions. Should these steps fail, the foreign warship may be required to quit the port forthwith. If the matter is not remedied by this means the competent officials (harbour police authorities) have to obtain instructions from their superior authority, and *in the case of danger arising from delay* to proceed at their own discretion. At ports, however, which are fortified

or are garrison towns of the defensive forces, or at which a department of the Admiralty is situated, the Naval authorities are to be kept informed of any steps taken. A summons to leave the port will only be made after consultation with these Naval authorities. In the other ports the departments mentioned in Section 4, paragraph 2, are to be acquainted.

A demand to depart immediately from the harbour will, moreover, be made if, after having been informed by an officer under the instructions of the German Officer Commanding on land that passage beyond the limits of the fortifications and the port, or a further stay in port cannot be allowed, a foreign warship or squadron nevertheless continues its course or its stay without being compelled to do so by urgent nautical emergency.

#### SECTION 8.

In harbours which are the stations of a naval unit or at which a department of the Admiralty is situated an officer will be dispatched by the senior naval commander to foreign warships entering to greet them. In unfortified harbours the port captain or harbour master has the right to accompany the officer charged with this complimentary duty.

#### SECTION 9.

The officer has to inform the commander of the foreign warship officially whether the latter may enter, and how long it may remain in the roadstead or harbour. He or the port captain or harbour master accompanying him will assign to the commander of the arriving vessel or group of vessels an anchorage or berth, and inform him of the relevant provisions of the harbour police regulations. The officer has, moreover, to obtain information as to the name and rank of the commander of the ship or squadron, the name of the vessel, its port of departure, the reason for its presence in the harbour, the proposed duration of the stay, and the state of the crew's health. If the foreign commander informs the officer sent to greet him of his intention to stay in the roadstead or to enter the port the German officer will offer to accompany an officer to be sent to the naval officer commanding the port to make the notification.

#### SECTION 10.

If, by way of exception, a foreign warship arrives in a harbour by night, the officer will not be sent to greet it until the following morning, but as soon after the flag parade as possible. In such a case the vessel may anchor where it pleases or, if a pilot has been taken on board, in accordance with the latter's instructions, but it must change the anchorage as soon as it is requested to do so.

#### SECTION 11.

If the officer who is sent to pay compliments only arrives on board a foreign warship entering by day after the latter has already anchored or made fast, the prescribed greetings, information and enquiries, as also the subsequent confirmation of the anchorage selected or the assignment of another anchorage, will take place just the same.

#### SECTION 12.

If the commander exhibits to the officer sent to greet him no inclination to despatch an officer to notify the German commander on land of the arrival of the ship or squadron, the greeting officer will return without further formality, and report to the commanding officer who sent him.

#### SECTION 13.

In ports having a saluting battery, the battery will hoist the war flag. The flag will be shown as soon as a warship approaches. The salute fired by foreign warships before anchoring, or afterwards in exceptional cases, will be replied to immediately after the last gun by the battery with the same number of guns.

## SECTION 14.

On the arrival of a foreign warship or squadron in a port which is not the station of a naval unit, or at which there is situated no department of the Admiralty, the information prescribed in Section 9 will be collected by the harbour police and reported, if the harbour is the garrison town of a body of troops, to the senior military officer on the spot, but otherwise to the state police authorities.

The report is to be forwarded immediately to the departments specified in Section 4, paragraph 2.

**\*16.—Greece—Visits of Foreign War Vessels and Aircraft.**

(M. 4723/28.—4.1.1929.)

The following Regulations, dated September, 1928, regarding visits of foreign war vessels and service aircraft accompanying them to Greece, have been issued by the Greek General Staff.

*Regulations concerning the Visits of Foreign Warships and accompanying Aircraft to Greece.*

1. Special permission is not necessary to enable foreign war vessels and auxiliary vessels to visit fortified or unfortified harbours and roadsteads in Greece, but previous notice to the Hellenic Government is required through the usual diplomatic channels. Unless special circumstances render it impossible, such notice should be sent at least seven days before the commencement of such visits.

The notice should give the number of vessels, the name and class of each, and the dates of arrival and departure. If any of the vessels carry aircraft, the fact should be stated in the notification of the visit.

2. The above regulations do not apply to:—

- (a) Vessels carrying Foreign Sovereigns, members of their families, Presidents of Republics, Ambassadors or special Envoys to the President of the Hellenic Republic.
- (b) Ships obliged to take refuge in a Greek port by reason of damage, storms or any other unforeseen cause.
- (c) Vessels arriving in consequence of an international agreement, the terms of which they are engaged in carrying out.

3. Foreign submarines should in no case enter Greek territorial waters in a submerged condition, or submerge while in these waters.

4. Firing of torpedoes or mines, gunnery practice (save for the purpose of saluting), searchlight exercises, embarkation or landing of armed troops, excavations of the soil, and soundings are forbidden in Greek territorial waters without special authorisation, to be obtained through the usual diplomatic channels. No exercise below water level, whether with or without divers, is to be carried out without notifying in advance the local marine authority.

5. If the war vessels or auxiliary vessels are accompanied by Service aircraft in flight, this fact must be mentioned in the notification required by paragraph 1. In such case it is not necessary to procure a special authorisation for these aircraft to leave the land when accompanying the vessels on their departure. But for any other contemplated flight a special authorisa-



tion is required from the nearest naval or military authority. Application for permission should state:—

- (i) The purpose of the flight, the place of departure, the final destination and route of the aeroplane.
- (ii) The number and type of the aircraft. External signs for purposes of identification.
- (iii) The wireless call signs of the aircraft. System and wave length in use. Range of the apparatus.
- (iv) The aerodromes or ports where it is proposed to land.
- (v) Date of the flight.
- (vi) The number and particulars of men to be carried.
- (vii) If for any reason, save external necessity, the route proposed has to be modified, a new application should be sent when opportunity offers.

In all cases aircraft that have been authorised to make flights must conform to the provisions of the International Convention for the Regulation of Aerial Navigation, 13th October, 1919. They must not fly over any prohibited area or land in any such area.

It is expressly forbidden to carry explosives, bombs, photographic or cinematographic apparatus, films or plates. They should not fly over any town, port, village, or place of public assembly save at such altitudes as would enable them to land outside such town, port, village or place of public assembly, should the engine fail in consequence of mechanical breakdown or any other unforeseen cause. This prohibition does not apply within a circle with a radius of one mile from the centre of any spot appointed for the landing of aircraft.

Aircraft are equally prohibited from carrying out any trick flying while over populous districts, unless special permission has been obtained.

6. In the arsenal at Salamis the right of assigning berths to foreign warships and auxiliaries is vested in the Commandant of the arsenal.

7. Warships visiting Greek ports or territorial waters must obey these regulations, as also fiscal laws, and the regulations of sanitary inspectors and harbour police.

On entering territorial waters they should hoist their national flag.

If a warship fails to comply with these regulations, the attention of her Commanding Officer will be called thereto by the Harbour Master. Should this course fail the warship may be requested to leave the harbour at once.

8. On entering any Greek port, foreign warships will be boarded by an officer sent by the Senior Officer of such Greek warships as may be in the harbour, or by the Harbour Master should there be no warships present; this officer will offer courtesy of the port to the Commanding Officer of the foreign warships, will assign their anchoring berth and will ask for information on the object of the visit, the name and rank of the Commanding Officer, etc.

Should this officer arrive after the warship has anchored, he may either confirm the anchoring berth, or assign another as circumstances necessitate.

9. Shore leave may be given to the crews without previous notification. If it is desired to land unarmed troops in military formation or patrols, a special notification should be sent to the Military Authorities and to the Police, through the medium of the Harbour Master, whose duty it will be to regulate the details of the landing and the action of the patrols on shore.

If no military or other authorities exist, this information should be sent to the Mayor.

10. If it is desired to land armed troops, in military formation, or otherwise (with the exception of patrols armed with bayonet only), a

special permission is required; requests for this should be made through the usual diplomatic channels.

If funeral honours are to be given on land, and the Commanding Officer desires that the cortege should be accompanied by an armed detachment, he should ask permission from the Commander-in-Chief (Commandant en Armes) through the medium of the Harbour Master.

No foreign warship may execute a sentence of death in territorial waters.

11. Officers landing are permitted to carry swords.

12. The conditions governing the admittance and sojourn of foreign belligerent warships remain in conformity with the terms of international treaties and the regulations or laws of the Hellenic Republic.

13. List of saluting stations:—

- (i) Piraeus and Phalerum. Battery on the peninsula of Piraeus or guard ship.
- (ii) Salamis. Arsenal.
- (iii) Poros. Gunnery training ship.
- (iv) Corfu. Battery at the flagstaff bastion on Cape Sidero.
- (v) Suda (Crete). Battery.
- (vi) Patras. The Citadel.
- (vii) Salonika. Battery on the Heptapyrgion.

14. Regulations for the use of W/T:—

- (i) Foreign ships of war being in the proximity of Greek naval bases, or in harbours near such bases should apply to the Commander in Chief of the base, or to the Harbour Master for permission before using their wireless.

The application should contain the following information; the system of W/T apparatus, wave length, and the proposed hours for sending messages.

- (ii) Foreign ships of war, lying in any other anchorage not in proximity to naval bases, should comply with the following regulations:—
  - (a) Sending messages with a wave length of 600 metres is forbidden, save for the purpose of sending distress signals, or answering such signals.
  - (b) Interfering with the messages of Government wireless stations is forbidden.
  - (c) The emission of W/T messages must cease as soon as required by any Naval authority, harbour authority, or any Government W/T station.
  - (d) Prolonged emission should be avoided where the signals sent are not purely continuous (arc or valve system).
  - (e) If Greek ships of war are lying in the anchorage, permission is required from the Senior Officer before foreign ships make use of their wireless apparatus.
- (iii) In the roadsteads or harbours of Phalerum, Corfu, Suda (Crete), Salonika, Dedeagatsh and Chios specifically the officer visiting a foreign ship of war will assign to the Commanding Officer the hours and wave lengths permitted for W/T communication.

General Staff of the Navy.

ATHENS,

September, 1928.

(A.F.Os. 17/29 and 2767/29.)

**\*17.—Greece—Regulations for Visits of Foreign Aircraft.**

(M. 4723/28.—4.1.1929.)

The following regulations dated September, 1928, regarding visits of foreign aircraft to Greece, have been issued by the Greek General Staff.

[Translation.]

*Rules concerning the Visits of Foreign Aircraft to Greece.*

1. Aircraft coming from any State which is a party to the Convention for the Regulation of Aerial Navigation, dated the 13th October, 1919, have the right of passage over Greece without landing, provided they conform to the rules of the above-mentioned Convention.

2. The passage of all aircraft of nationality other than the States that are parties to the Convention for the Regulation of Aerial Navigation over Greek territory is forbidden, unless special permission is obtained.

3. Service aircraft, or any employed in State service, desiring to traverse or to land in Greek territory, must always obtain special permission through diplomatic channels.

Service aircraft accompanying ships of war should comply with the regulations concerning the visits of warships to Greece (*vide* A.F.O. 16/29).

4. Any private or civil aircraft desiring to traverse Greek territory, and having the nationality of any State in treaty with Greece in the matter of aerial navigation, or belonging to an aerial navigation company that has a special agreement with the Greek Government, should have their papers concerning such flight viséd by the Greek Consul at their place of departure.

5. Should any civil or private aircraft desiring to fly over or to land on national territory have the nationality of a State not in express treaty relations with Greece in the matter of aerial navigation, it should apply for a special permission through diplomatic channels.

6. Any request for permission to fly over or land on Greek territory should be addressed to the Minister of Foreign Affairs at least 15 days before the flight proposed.

7. This request should contain the following details:—

- (a) Type of machine (aeroplane or seaplane).
- (b) Whether Service or private.
- (c) External signs, for purposes of identification.
- (d) Make of aeroplane and of its engines.
- (e) Names of the pilot, the crew, and of any passengers.
- (f) Description of W/T installation. Call sign of the aeroplane. Type of wireless telegraphy apparatus. System and wave lengths it is proposed to use in transmitting and receiving messages, and wave lengths that can be used. Range of apparatus. Names of Greek stations with which communication is desired.
- (g) Place of departure, final destination, route of the aeroplane, localities in Greece where it is desired to land and replenish fuel tanks; nature of the arrangements made for this purpose. If on its return journey the aeroplane should have to cross Greek territory again, the same details should be furnished.
- (h) The date and hour, if possible, at which the aeroplane should arrive in Greece.
- (i) If for any reason other than *force majeure* the route and the places of landing should have to be altered, a new application should be sent to this Department in good time.

8. In the interest of the aeroplane's own safety, it would be advisable to notify by telegram the legation concerned of the date and hour on which the aeroplane left its last landing place before arriving in Greece, so that the Minister of Foreign Affairs can be acquainted immediately for the information of the competent Department, which will then take all steps to assist or facilitate the journey of the foreign aeroplane.

9. Any aircraft authorised to make a flight must conform to the Rules of the International Convention for the Regulation of Aerial Navigation, dated 13th October, 1919, and should not therefore cross any prohibited area, or land in such area. They should also respect the Greek fiscal laws and the sanitary regulations applicable to aircraft.

10. The carriage of explosives, photographic or cinematographic apparatus, films and plates is strictly forbidden without a special permission obtained through diplomatic channels.

11. Aircraft should not fly over towns, ports, villages or other places of public assembly at a height less than would be required for the aircraft to land outside such places, should the means of propulsion fail through mechanical breakdown or other unforeseen cause. This prohibition does not apply within a circle with a radius of one nautical mile, whose centre is at the aerodrome.

Aircraft are equally forbidden to carry out trick flying over inhabited places without special permission.

General Staff of the Army.

General Staff of the Navy.

ATHENS,

September, 1928.

(A.F.O. 16/29.)

## 18.—Italian Ports—Visits of Foreign War Vessels.

(M. 4190/27.—4.1.1929.)

The following is a translation of Italian Royal Decree, No. 860, of 28th May, 1922 (published in the "Gazzetta Ufficiale" of 18th July, 1922, and modified by Royal Decree, No. 899, of 29th March, 1923) has been reproduced owing to inaccuracies having been reported in the translation previously issued.

With regard to Royal Decree, No. 243, of 24th May, 1906, governing the anchoring in Italian waters of foreign warships belonging to friendly countries, and taking into account the fact that the said Decree is no longer suitable to the technical-naval exigencies of the present times, and in order that the regulations may be based on similar lines to those existing in other Maritime countries, the Naval Staff are favourable, and in agreement with the Ministers of Marine, War, Foreign Affairs, and the Colonies, to decreeing the following law:—

### ARTICLE 1.

The present Decree refers only to peace-time conditions, when war vessels of non-belligerent powers are allowed anchorage in the ports of Italy and her Colonies; all other dispositions in any way contradictory to the present Decree are to be considered null and void.

### ARTICLE 2.

The term "war vessel" is to be understood to apply not only to those vessels generally designated as such, but also to all other craft flying a flag of war and used in Naval service.

### ARTICLE 3.

In peace-time, foreign ships of war are, in a general sense, allowed to visit the ports of Italy and her Colonies, and to anchor in Territorial Waters at a distance less than six\* miles from the low tide line, provided that the number of ships belonging to one Power does not exceed three for each sector (see Article 6).

Notice of such visit, however, must invariably be given, through the usual diplomatic channels, and (circumstances permitting) this notice should be received at least seven days prior to the intended visit.

The said ships will not be allowed to remain in Italian ports or Territorial Waters for a period exceeding eight days. They must sail from such ports within six hours' notice, should they be requested so to do by the Naval Authorities; this clause also holds good even should they not have completed the eight days' stay.

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\* Note.—H.M. Government has informed the Italian Government that a territorial limit of six miles from the coast cannot be accepted.

In the event of a Foreign Naval Squadron arriving at a port with a larger number of vessels than that indicated in the first paragraph of this Article (3), the Naval Authorities must at once acquaint the Commanding Officer of the squadron with the foregoing regulations, so that he may take steps to order the ships in excess of the authorised number to proceed to sea again.

#### ARTICLE 4.

The restrictions relative to the maximum number of foreign war vessels and the number of days' stay, as indicated in the preceding Article (3), may only be exceeded in cases of enforced stay, or by formal permission applied for through diplomatic channels to the Italian Government.

#### ARTICLE 5.

The above rules and regulations do not apply to the following :—

- (a) To war vessels having on board personages of high rank, Heads of States, members of reigning Royal Families and their suites, and members of the Diplomatic Corps accredited to the Government of H.M. the King of Italy.
- (b) To war vessels obliged to take refuge owing to breakdowns, heavy weather, or other unforeseen circumstances;
- (c) To war vessels employed in sea patrol duties in localities conventionally agreed upon with the Royal Italian Government.

#### ARTICLE 6.

For the application of the present regulations, the littoral of Italy and her Colonies is divided into the following sectors :—

- (1) Adriatic sector, from the frontier to Santa Maria di Leuca; including Zara and the Adriatic Islands belonging to Italy;
- (2) Ionian sector, from Santa Maria di Leuca to Scilla on the (Calabrian) Peninsula and from Cape Peloro, along the east and south coasts of Sicily, to Cape Lilibeo;
- (3) Tyrrhenian sector, from the French frontier to Cape Peloro and Scilla, with the north coast of Sicily to Cape Lilibeo, including all the Tyrrhenian and Sicilian islands.
- (4) Sector comprising Tripolitania and Cyrenaica;
- (5) Sector comprising Eritrea;
- (6) Sector comprising Somaliland;
- (7) Ægean Sea sector.

#### ARTICLE 7.

On arrival of a foreign war vessel in an Italian port or roadstead not being a fortified Naval station, the Port or Naval Authorities will assign her a berth.

In the event of the vessel having already anchored, the Authorities may allow her to remain there or assign her another anchorage should they think that she would cause an impediment to the navigation or traffic of the port.

The Naval Officer, or Port Authority charged with the Naval or port duties, will, after the sanitary regulations have been complied with, send a copy of the appended notification form (*see* Appendix) to the Commanding Officer, requesting the latter to complete the form by filling in the required information, and to sign and return it. He should also furnish the Commanding Officer with a copy of the present Decree, for his information.

Should the vessel be in a state to warrant quarantine, the aforesaid official will send the Commanding Officer a copy of the Decree. The Commanding Officer should then send ashore the ship's Medical Officer, or other person authorised by him (taking the usual precautions) in order to visit the local sanitary authorities and furnish the necessary details and arrange for the sanitary treatment of which the ship may be in need.

## ARTICLE 8.

When a foreign war vessel, in proceeding to take anchorage in a fortified port, and in departing therefrom, is obliged to pass through the fortified belt, she shall, when warned so to do, by the local Naval Authorities, carry a pilot officer or other responsible agent sent by the said Authorities, under whose guidance the vessel should be steered both when taking up her berth and when sailing. This service is gratuitous and no responsibility is undertaken by the Italian Government or by its agents for any damage which might arise to the vessel; it is quite independent of the ordinary pilot service which may be called for by signal by the vessel herself or offered by the local pilots, or which is, owing to special conditions of localities, obligatory.

\*For the purposes of this article, and for saluting purposes, the fortified Naval ports are:—

Vado (Savona).

Spezia.

Monte Argentario (Talamone and Porto S. Stefano).

Gaeta.

Messina, and dependent anchorages on both sides of the Straits.

Taranto.

Brindisi.

Venice, and anchorages in the Laguna.

Pola, and islands of Cherso and Lussin.

Maddalena, with adjacent islands and Sardinian Coast.

Tobruk (the Naval base).

To the above-mentioned fortified ports (with the exception of Vado and Monte Argentario), it is expected that a return salute will be fired by foreign men-of-war when taking up their respective anchorages, if they are in a condition to do so.

This rule is also applicable to the ports of Naples, Zara and Tripoli, also to any other anchorage in the State or Colonies where there is present an Italian warship capable of returning the salute.

In every fortified town or Naval port, the National flag is hoisted on some prominent building, or works, from 8 a.m. till sunset, besides being temporarily hoisted outside of the prescribed hours should there be a war vessel in sight under way, and in every case when a war vessel is sighted with colours flying.

## ARTICLE 9.

In the interests of the Defence of the State it may be necessary to forbid the transit or stay of foreign war vessels in any locality of the Territorial Waters which may from time to time, be indicated. The said prohibition, whether temporary or permanent, shall be made public by means of hydrographical notices relative to navigation; and semaphore and signal stations, and Italian war vessels, which may be in the vicinity of the locality in question, will communicate such prohibition, by means of international signalling, to foreign war vessels in the vicinity.

## ARTICLE 10.

All foreign war vessels which anchor in an Italian port or Territorial Waters, are compelled to respect the laws and regulations laid down regarding customs, police and sanitary conditions.

They are also obliged to follow and conform to all the local rules and regulations which govern war vessels of the Italian Royal Navy.

In order that the Commanding Officer of a warship may acquaint himself with these regulations, a copy of same will be supplied him by the local Naval Authorities.

Foreign war vessels are not allowed, when in Territorial Waters, to take land bearings or soundings, nor to practise, without special authorization, firing exercises or landings, nor to discharge torpedoes or lay mines.

No under-water repairs are allowed without previous notification to the Naval Authorities or their agents.

No aircraft carried, escorted, or towed by a warship is allowed to take flight in Territorial Waters without special permission.

\* See A.F.O. 1/30 for latest list of saluting stations.

All submarines allowed to anchor in ports are to be on the surface during the period of their stay; they are strictly forbidden to submerge without special permission from the Authorities.

They are to navigate, both on arrival and departure, and for the whole of the time they are in Territorial Waters, on the surface.

It is strictly forbidden for foreign men-of-war to send ashore armed parties for exercises, armed pickets or armed funeral parties or for any other purpose without first obtaining permission from the local Military Authorities, or in their absence, from the port Authorities.

Officers and Petty Officers are allowed to carry those sidearms which form part of their uniform.

The number of liberty men and the hours between which these are allowed to go on shore, is to be arranged by mutual agreement between the Commanding Officer, or officers of the foreign war vessels and the local Civil and Military Authorities, at the same time taking into account the possible arrival of other war vessels belonging to another Power.

Launches and other small craft in use in ports and Territorial Waters are not allowed to be armed.

No death sentence is allowed to be carried out during the stay in Territorial Waters.

#### ARTICLE 11.

In the event of the neutrality of the State in armed conflicts between other Powers, the conventions and rules at present existing according to maritime law, will be observed in Italian ports and Territorial Waters.

#### ARTICLE 12.

The local Naval Authorities, or in their absence, the port Authorities or, failing these, the Military Authorities on land, are responsible for the observance of these rules.

It is the duty of the above-mentioned authorities to advise the Officer Commanding any foreign war vessel in the event of the transgression of or refusal strictly to obey any of the rules and regulations laid down in the present Decree. In cases of persistence or refusal to comply with them, they will, after duly warning the Commanding Officer by formal protest, report the matter by urgent telegram to the Headquarters of the Naval Command in whose jurisdiction the foreign war vessel is lying, and to the Ministry of Marine; also to the War Office, when the report is sent by a Military Authority on land.

In the Colonies the report is to be urgently telegraphed to the local Governor who should at once inform the Central Authorities.

The present Decree has been presented to Parliament and converted into law.

ROME, 28th May, 1922.

#### APPENDIX.

### NOTIFICATION FORM OF THE ARRIVAL OF FOREIGN WAR VESSELS IN ITALIAN WATERS.

Will the Commanding Officer kindly fill in on this form the required information.

1. Nationality of vessel.
2. Name and classification of vessel.
3. Guns, number and calibre.
4. Submerged torpedo tubes, number and type.
5. Aircraft, number and type.
6. Name and rank of Commanding Officer.
7. Complement.
8. Number of passengers, if any.
9. Sanitary condition of ship.
10. Where from.
11. Destination.
12. Probable length of stay.
13. Cause of putting into port.
14. Nature of cargo (in the event of supply ships).

Date,.....19 ,

(Signature of Commander.)

## II.

**Regulations for the use of W/T.**

The following regulations respecting the use of radiotelegraphy and radiotelephony in the ports of Italy and Italian Colonies were promulgated by Royal Decree dated 10th July, 1924 :—

## ARTICLE 1.

Foreign warships and the aircraft accompanying them must, while in the waters of the fortified places and in the ports of the kingdom and colonies, observe the following regulations for the use of radiotelegraphy and radiotelephony in addition to those prescribed by the Royal Decree No. 860 of 28th May, 1922, as modified by the Royal Decree No. 899 of 29th March, 1923.

## ARTICLE 2.

Foreign warships and the aircraft accompanying them, while in the waters of maritime fortified places and naval bases of the kingdom and colonies or anchorages in their vicinity referred to in Article 8 of the Royal Decree No. 860 of 28th May, 1922, as modified by the Royal Decree No. 899 of 29th March, 1923, must, in order to utilise their radiotelegraphic or radiotelephonic apparatus, obtain from the Commander of the place or port the relative permission on previous notification of the system, the wavelength to be employed in transmission and the time of working.

## ARTICLE 3.

Foreign warships and the aircraft accompanying them, while in other ports of the kingdom and colonies not adjacent to a maritime fortified place or naval base, must conform to the following rules :—

- (a) Transmissions on waves of 600 metres are forbidden except for messages for assistance or in answer to the same;
- (b) Interference with messages of national radiotelegraphic stations, whether movable or stationary, must be avoided;
- (c) Transmissions must be suspended on a request from any naval or port authority or any stationary national radiotelegraphic station;
- (d) Prolonged messages with apparatus which do not transmit with a pure continuous wave must be avoided;
- (e) If units of the Royal Navy are in port, their High Command must be asked previously.

The present Decree will have effect from 10th July, 1924.

**19.—Italy—Officers and Men Travelling in.**

(M. 1869/27.—4.1.1929.)

The attention of all officers and men contemplating travel in Italy is to be drawn to the necessity of avoiding controversies with railway or Fascist officials on trains or at railway stations. They must also conform to the local marks of respect paid to the Colours, Fascist emblems, etc., and generally be careful not to offend national susceptibilities.

2. Officers travelling or residing temporarily in Italy are advised to call on the Naval Attaché at the British Embassy, Rome, if that city is visited.

3. Although no visas are required on passports, all foreigners visiting Italy must within three days of their arrival, register with the police authorities who will hand them a receipt, and this receipt (identity card) is always to be carried while in Italy.



## 20.—Japan—Use of W/T by Foreign Warships.

(M. 3809/27.—4.1.1929.)

The following is a translation of Japanese Imperial Ordinance No. 226.

### IMPERIAL ORDINANCE No. 226.

#### ARTICLE 1.

Foreign men-of-war (being at anchor) or foreign military or naval aircraft, which desire to transmit messages by wireless telegraph or telephone within the limits of a naval port or a minor naval port or within the radius of not more than 20 kilometres outside the limits of a naval port or a minor naval port, shall beforehand obtain permission from the Commander-in-Chief of the naval port or the Commander of the minor naval port concerned, stating the system of apparatus, power, wave-lengths and the proposed time of transmission: provided, however, that cases of signals of distress are excepted.

#### ARTICLE 2.

Foreign men-of-war (being at anchor) or foreign military or naval aircraft, which desire to transmit messages by wireless telegraph or telephone in the territory outside the districts provided for in the preceding article, shall conform to the following regulations:—

- (i) Except in cases of signals of distress, transmission on wave-lengths of 600 and 2,400 metres is prohibited.
- (ii) Except in cases of using pure continuous waves protracted transmission is prohibited.
- (iii) Transmission shall be suspended immediately upon a request to that effect being made by a governmental, a military or naval wireless telegraph station.
- (iv) In case there is a Japanese warship lying at anchor in the neighbourhood, the Commanding Officer shall be consulted in the matter of transmission.

#### *Appended Provision.*

The present Ordinance shall take effect on and after 1st August, 1927.

## 21.—Latvia—Regulations regarding Visits of Foreign Warships.

(M.—4.1.1929.)

The following regulations for foreign men-of-war visiting Latvian ports have been issued by the Latvian Government, 12th April, 1923:—

(1) Foreign men-of-war may enter Latvian harbours and remain in Latvian territorial waters only after previous sanction by the Government, to which application should be made, in each individual case, through the Ministry of Foreign Affairs, indicating the name and type of vessels as well as the time of arrival and length of stay in the harbours or territorial waters.

*Note.*—Without the Government's consent foreign men-of-war may enter Latvian ports only in cases of extreme necessity (*relâche forcée*).

(2) Men-of-war are forbidden to enter the port of Riga or the mouth of the Daugava (river Dvina) between sunset and sunrise.

(3) Salutes in acknowledgment of the salute to "the Nation" by foreign men-of-war entering the Daugava (Dvina) will be fired by a special saluting battery of the Daugavgriva (Dunamunde) fortress. This battery is situated on the right bank of the river near the flagstaff of the fortress.

(4) A salute to "the Nation" can only be returned in other ports if a Latvian man-of-war having the right to salute is in harbour.

2. The administration of the port should be informed 5 days before the arrival of foreign warships of the date of arrival, and the length, breadth and draught of the vessels.

3. The following regulations have been abstracted from Instructions dated 17th September, 1924, issued to the Commander of the Daugavgriva Defences and Pilots of Riga Harbour:—

\* \* \* \* \*

Merchantmen of all countries are allowed to enter the Daugava at any time, but men-of-war only by a special permission of the Government and during day time. Men-of-war which arrive at the river at night cast anchor in the bay not nearer than the whistling buoy in the sector S. and S.E. in the direction of the lighthouse.

*Remark.*—Night is calculated from sunset to sunrise.

Foreign men-of-war of which information has been given in the manner mentioned in paragraph 3, the Daugavgriva artillery command permits to approach the coast and to enter the Daugava, exchanging with them salutes laid down in special regulations.

If a foreign man-of-war, the arrival of which has not been notified, approaches the shore and the Daugava for a "*relâche forcée*", she must anchor in the Daugava not beyond the line between the saluting battery which is situated on the right bank of the river 57° 4' 24" N. latitude and 24° 2' 56" E. longitude and the Russian church of the fortifications on the left bank.

If pilots have gone out to sea at night to meet a vessel which turns out to be a foreign man-of-war they do not take her into the harbour but return immediately and report to the Daugavgriva artillery commander, who acts in accordance with instructions contained in paragraph 4.

When the entrance into the Daugava and the waters of the fortified zone of the Riga harbour are closed for foreign men-of-war, the latter are forbidden to approach the shore closer than 5 nautical miles and pilots do not go on board foreign men-of-war and do not take them into the harbour.

Foreign men-of-war are forbidden to approach the shore at the entrance to the Daugava closer than 5 nautical miles (even when the harbour is not closed) between the meridians 23° 50' and 24° 20' Eastern longitude from Greenwich, with the exception of the sector S. and S.E. in the direction of the lighthouse.

The Marine Department informs foreign countries and vessels of the closing or opening of the harbour as well as of the signals indicating the closing.

When entrance into the Daugava and the waters of the fortified zone of the Riga harbour are closed for all trading vessels, the latter are forbidden to approach the entrance to the Daugava and the shore between the meridians 23° 50' and 24° 20' Eastern longitude from Greenwich closer than 2 nautical miles, and pilots do not meet merchantmen and do not take them into the harbour.

#### SIGNALS FOR CLOSING HARBOUR.

Order dated 29th September, 1924.

When entrance into the Daugava (Dvina) and the waters of the Riga, fortified zone is completely closed for *all vessels*.

*During the day:*—One cylinder is hoisted at the pilots' tower.

*During the night:*—(a) The lighthouse of the Riga harbour sends out red flashes instead of the usual white flashes.

(b) The leading lights along the "entering line" are extinguished.

When entrance into the Daugava and the waters of the Riga fortified zone is closed for *foreign men-of-war*.

*During the day*:—One cylinder over one ball is hoisted at the pilots' tower.

*During the night*:—The lighthouse of the Riga harbour sends out three white and one red flash instead of the usual four white flashes.

When the entrance into the Daugava and the waters of the Riga fortified zone is closed for *merchantmen*.

*During the day*:—One ball over one cylinder is hoisted at the pilots' tower.

*During the night*:—The lighthouse of the Riga harbour sends out two white and two red flashes instead of the usual four white flashes.

*Note*.—When the harbour is completely or partially closed, the Daugavgriva artillery searches the horizon with a searchlight.

When the harbour is completely or partially closed, any vessel approaching the shore by day or by night closer than the indicated line is warned by shots from the Daugavgriva artillery.

- (a) If the vessel approaches the shore closer than the indicated line and pays no attention to the signals from the pilots' tower—one salute shot is fired in the direction of the vessel;
- (b) If the vessel does not stop—a ball shot is fired into the sea in front of the vessel;
- (c) If the vessel still pays no attention—one shot is fired between her masts;
- (d) If, notwithstanding the three warning shots, the vessel does not stop—she is fired at.

The Daugavgriva artillery acts in the same way if a foreign man-of-war does not comply with the regulations laid down in paragraph 9 of the instructions.

*Note*.—A protest has been made against the Latvian claim to a territorial limit of 5 miles.

## 22.—Netherlands—Regulations for Admission of Foreign Warships.

(M. 118/24.—4.1.1929.)

### (A).—REGULATIONS FOR ADMISSION OF WARSHIPS.

By a Netherlands Royal Decree dated 11th March, 1919, the Royal Decree of 30th July, 1914, withdrawing temporarily the Royal Decree of 30th October, 1909, respecting the admission of Warships of Foreign Powers into Netherlands Territorial Waters and the Netherlands Water-territory situated within such waters has been repealed; and the provisions of the said Royal Decree of the 30th October, 1909, have again been brought into force.

The terms of the Decree of the 30th October, 1909, were as follows:—

STAATSBLAD OF THE KINGDOM OF THE NETHERLANDS.

(No. 351)

DECREE of 30th October, 1909, fixing new Rules in respect of the admission of Warships of foreign Powers into the Netherland territorial waters and into the Netherland water-territory situated within those territorial waters.

WE, WILHELMINA, BY THE GRACE OF GOD, QUEEN OF THE NETHERLANDS, PRINCESS OF ORANGE-NASSAU, etc., etc., etc.

On the joint proposal of Our Ministers of Marine, of War, for Foreign Affairs, and of Justice, of 26th April, 1909, 3rd May, 1909, 18th May, 1909, and 25th May, 1909;

Having seen the Royal Decree of 2nd February, 1893, containing provisions respecting the admission of warships of foreign Powers into the estuaries, harbours and inland waters of the State;

Considering that it is desirable to fix new rules in respect of the admission of warships of foreign Powers into the Netherland territorial waters and into the Netherland water-territory situated within those territorial waters;

Having consulted the Council of State (report of 17th August, 1909);

Having regard to the further Report of Our Ministers of Marine, of War, for Foreign Affairs, and of Justice, of 13th September, 1909, 8th October, 1909, 11th October, 1909, and 15th October, 1909;

Having approved and agreed to stipulate as follows:—

#### ARTICLE 1.

The aforesaid Royal Decree of 3rd February, 1893, shall be withdrawn.

#### ARTICLE 2.

1. Without prejudice to the provisions of Article 4 relative to previous permission to enter the estuaries therein mentioned and relative to the navigation of the inland waters of the State, warships of foreign Powers shall be permitted to proceed from the sea into the Netherland territorial waters and the Netherland water-territory situated within those territorial waters, provided this takes place in order to reach by the shortest way and with the observance of the provisions of Article 3, the roadstead or harbour situated nearest the sea, in order to anchor there, and provided the number of warships, including those under the same flag already present within the Netherland jurisdiction, does not exceed three.

2. The provisions for the first paragraph do not prevent the free passage through the territorial waters so far as this is recognised in International Law.

#### ARTICLE 3.

1. When navigating the estuaries and inland waters of the State, warships of foreign Powers shall not be permitted to proceed outside the buoyed channels of which use is made by the State Pilots on behalf of shipping.

2. A warship of a foreign Power shall only be permitted to find the ship's position and to make soundings for as far as is required for safe navigation.

3. We reserve to ourselves the right to cause the strict observance of this provision to be controlled by causing the ship to be guided by an Officer of the Royal Navy or an official of the Pilot service.

#### ARTICLE 4.

1. It shall be prohibited for warships of foreign Powers to enter the estuaries mentioned hereafter, without the permission of our Minister of Marine, or to navigate the inland waters of the State without such permission.

2. The estuaries referred to are those of:

Terschelling.  
Texel.  
Ymuiden.  
Hook of Holland.  
Goeree.

3. By inland waters of the State shall be meant all navigable waters situated within the estuaries of the State.

#### ARTICLE 5.

1. In special cases permission may be granted by us to deviate from the prescriptions of Article 2 respecting the number of warships.

#### ARTICLE 6.

1. Warships of foreign Powers may not stay within the territory of the State longer than fourteen consecutive days.

2 The same warship may not, after its departure, again enter one of the estuaries of the State within thirty days without permission of our Minister of Marine.

## ARTICLE 7.

1. The restrictive prohibitive provisions of Articles 2, 4 and 6 shall not be applicable:

2. (a) To the warship on board which, according to the Standard or flag flown, there is a reigning Sovereign, a Member of a reigning Royal House, the President of a Republic or the Head of a Legation of a foreign Power in the *Netherlands* or the Head of a Mission of a foreign Power destined for the *Netherlands*, or to the accompanying warships.

3. (b) To cruisers for the public supervision by the Powers for which the Convention of 6th May, 1882, is in force on the North Sea Fisheries.

4. (c) To warships of foreign Powers which are exclusively destined for religious, scientific or benevolent objects.

5. (d) To warships of foreign Powers in cases of distress, danger from the sea, or casualty. As soon as in the opinion of the Minister of Marine these causes cease to exist, the provisions of Articles 2, 4 and 8 shall again enter into operation.

6. The exceptions to the restrictive prohibitive provisions mentioned in points (a) to (c) inclusive shall only be applicable towards the Powers which observe the same line of conduct towards *Netherlands* warships.

## ARTICLE 8.

1. The permission mentioned in Article 4 must, so far as it is not obtained through the diplomatic channel, be applied for.

2. (a) As regards the estuaries:\*

For the estuary of Terschelling or that of Goeree, through the intermediary of the Commissioner of Pilotage at Terschelling or at Hellevoetsluis, respectively.

For the estuary of Texel, through the intermediary of the Commander of the Navy at Willemsoord.

For the estuary of Ymuiden or that of the Hook of Holland, through the intermediary of the Commander of the warship stationed there, or, failing such a warship, through the intermediary of the Commissioner of the Pilotage Service.

3. (b) As regards the inland waters:—

In the estuaries mentioned in Article 4, through the intermediary of the authorities mentioned above under (a).

In the other estuaries, through the intermediary of the Commander of the warship stationed there.

4. If no warship is stationed there, permission should be applied for through the intermediary of the State Harbour Master; failing a State Harbour Master, through the intermediary of the Commissioner of the Pilotage Service; or, if none of these authorities are present, through the intermediary of the Burgomaster.

## ARTICLE 9.

1. A copy of these provisions and a form to be fixed by our Minister of Marine, containing a few questions, which form should be filled in to the best of the knowledge (of the Commander of the foreign warships), shall be presented by the Authority mentioned in Article 8 to the Commander of the foreign warship.

## ARTICLE 10.

1. Within the estuaries and territorial waters of the State, and in general within the limits of the State, warships of foreign Powers may not make any hydrographic or terrain observations, or carry out any exercises in landing; or, without having obtained the permission of our Minister of Marine, hold any gun, torpedo or mine-practice.

2. The crew may not come on shore otherwise than unarmed; this does not apply to Officers and Under-Officers so far as the sword or the poniard belonging to their uniform is concerned.

3. The ship's boats may not make any journeys otherwise than unarmed.

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\* As modified by Royal Decree, 15th November, 1923 (M.118/24).

4. If, on the occasion of funeral ceremonies on shore, it is desired to deviate from the prohibition contained in the second paragraph of this Article, permission to do so must first be asked of our Minister of Marine through the intermediary of the authorities mentioned in Article 8.

5. No sentence of death may be executed within the estuaries and territorial waters of the State on board the warships of foreign Powers.

#### ARTICLE 11.

1. Warships of foreign Powers shall be bound to respect the existing police, sanitary, and fiscal laws and regulations and to submit to all Harbour Regulations for as far as the warships of the Royal Navy are bound to do so.

#### ARTICLE 12.

1. Warships of foreign Powers staying within the limits of the State, which transgress the aforesaid provisions, may be ordered to depart; if necessary they may be compelled by force to do so.

#### ARTICLE 13.

1. If permission to enter has been granted through the diplomatic channel, the State Pilots stationed outside the estuaries and ports shall be notified thereof, if possible.

2. In general, these Pilots are acquainted with the contents of these provisions and with the existence or non-existence of opportunity for answering a salute to the Netherland flag.

3. So far as necessary, they shall communicate the foregoing to the Commander of the foreign warship which is being piloted by them, and they shall further furnish to the said Commander such information regarding the foregoing provisions as he shall desire to receive.

#### ARTICLE 14.

1. These provisions shall obtain in time of peace and towards warships of foreign Powers who are not belligerent.

2. We reserve to ourselves the right in time of war, impending war or maintenance of neutrality, and further in all special circumstances, to restrict or to entirely prohibit the admission of warships of foreign Powers into the Netherland territorial waters and into the Netherland water-territory situated within those territorial waters.

3. Warships of foreign Powers which are present in the Netherland territorial waters or in the Netherland water-territory situated within these territorial waters, by virtue of this Decree, shall in any case be bound to put to sea within six hours as soon as they shall have received an invitation to that end from or on behalf of Our Minister of Marine.

Our Minister of Marine, or War, for Foreign Affairs, and of Justice shall be charged with the execution of this Decree, which shall be inserted in the "Staatsblad," and of which a copy shall be sent to the Council of State.

The Loo, 30th October, 1909.

WILHELMINA.

#### (B).—USE OF W/T IN TERRITORIAL WATERS.

The following extracts are taken from Regulations issued by the Dutch Minister of Waterways in 1913:—

*Article 1* (1).—It is forbidden to use W/T or R/T apparatus, whether for public service or not, installed on board foreign ships within Dutch territorial waters or waters within the territory of the Kingdom, unless the provisions of these Regulations are observed.

(2).—As far as waters within the territorial limits of the Kingdom are concerned, those stations may only be worked by consent of the Director-General of Posts and Telegraphs when due regard is given to the conditions prescribed in the permit.

*Article 2* (1).—Foreign ship stations may exchange telegrams or converse with radio-telegraph or radio-telephone stations destined for public service under reserve of the special rules which may be valid for these stations.

*Article 3* (2).—Foreign ships must cease working their stations as soon as they observe, or when they are informed that, their working gives rise to interference.

2. It is to be observed that these regulations make no distinction between war vessels and merchant vessels. Arrangements have, however, been made by which British war vessels visiting Dutch ports will be able to use their W/T apparatus.

Care must be taken not to abuse this privilege by using W/T more than is necessary, and particularly not to interfere with commercial messages from Scheveningen. If informed that such interference is taking place, every endeavour must be made to meet the convenience of the Dutch authorities.

3. On arriving in Dutch waters, it is probable that a communication on the subject will be received direct from the Dutch authorities.

### (C).—COLONIAL REGULATIONS.

Royal Decree of 11th June, 1920, No. 57, containing regulations relating to the admittance of foreign warships into territorial waters and the inland waters of the Netherlands Colonies.

#### ARTICLE 1.

Definitions of terms occurring in this decree:—

- (a) "The territorial waters": the coastal waters up to a distance of three nautical miles from low water line; as regards the bays, the distance of three miles is measured from a straight line drawn across the bay as near as possible to the entrance at the first point where the width of the bay does not exceed 10 nautical miles. (*See Note 1.*)
- (b) "The inland waters": the water lying within the said 10 miles line.
- (c) "The Governor": in Netherlands Indies the Governor General, and in Suriname and Curacao the Governors of those Colonies.

#### ARTICLE 2.

1. Foreign warships are allowed to enter the territorial waters and inland waters of the Netherlands Colonies from the sea, provided the shortest route be followed, in order to call at any port or roadstead open to general shipping, with due observation of the provisions of Article 3, and provided the number of warships of any nationality, including those already staying within the territory of the colony, does not exceed three. Prior to entering any of the roadsteads mentioned in Article 4, section (a), a permit must be obtained.

2. The provisions contained in the foregoing section do not impose any restrictions on vessels sailing through the territorial waters in so far as this is permitted by international law.

#### ARTICLE 3.

1. In navigating the entrances to harbours and roadsteads as well as the inland waters, neither foreign warships nor their boats are allowed to sail outside the buoyed fairways.

2. The taking of observations and soundings is only permitted in so far as the safety of navigation is required.

3. The Governor is authorised to enforce the observation of these regulations by having the vessel piloted by a government official. (*See Note 2.*)

#### ARTICLE 4.

Without the permission of the Governor, foreign warships are prohibited from—

- (a) Calling at the roadsteads of Soerabaya and Tjelatjap;
- (b) Navigating the waters within the three miles limit, except in the cases mentioned in Article 2, section 1.

#### ARTICLE 5.

The Governor may in exceptional cases grant exemption from the regulation regarding the number of ships laid down in Article 2.

## ARTICLE 6.

1. Warships of foreign nationality will require a special permit from the Governor to stay more than 14 days within the territory of the colony.

2. Except in the case mentioned in Article 2, section 2, such warships may not re-enter the territory of the Colony within 30 days of their departure without the Governor's permission.

## ARTICLE 7.

1. The restrictions of Articles 2, 4 and 6 are not applicable in the following cases, viz. :—

- (a) To a warship on board of which, as shown by the flag or standard flown, is a reigning monarch, a member of a reigning house, the president of a republic or the head of a mission from a foreign power proceeding to the colony, or to the accompanying warships.
- (b) To warships of foreign nationality exclusively devoted to religious, scientific or philanthropic objects.
- (c) To foreign warships in case of emergency, perils of the sea or average. As soon as, in the opinion of the authority to be designated by the Governor, the provisions of the clauses of this Article cease to exist, Articles 2, 4 and 6 again become operative.

2. The exceptions laid down in (a) and (b) of this Article are only applicable to those powers who reciprocally grant similar facilities to Dutch warships.

## ARTICLE 8.

The permits mentioned in Article 4, in so far as they are not obtained through diplomatic channels, may be applied for through consular officials recognised by the Government, or from local civil or military authorities to be designated by the Governor.

## ARTICLE 9.

A copy of these regulations will be handed to the commander of the foreign warship by the local authorities mentioned in the preceding article. At the same time a form containing questions will be handed to the commander, who will fill in the form to the best of his ability.

## ARTICLE 10.

1. Ships of foreign nationality may not be allowed to carry out hydrographical or land surveying operations within the territory of the Colony, or to carry out landing exercises, to hold firing, torpedo or mining exercises, or perform any exercises with flying machines without the permission of the Governor.

2. The crew may not go ashore bearing arms; this restriction does not apply to Officers or petty officers as far as regards the carrying of a sword or dagger forming a part of their uniform. With a view to the maintenance of law and order on shore, arrangements must be made with the authorities mentioned in Article 8 with regard to the number of members of the crew allowed to proceed ashore at the same time.

3. Small boats must carry no weapons.

4. If in case of a burial ashore it is desired to act contrary to section 2 of this article, application must be made to the Governor and, if so desired, through the medium of the local authorities mentioned in Article 8.

5. No sentences of death may be carried out on board of any foreign warships whilst lying within the territory of the colonies.

## ARTICLE 11.

Warships of foreign nationality are bound to observe existing police, sanitary and fiscal laws and regulations, and are subject to all harbour regulations in so far as warships of the Royal (Dutch) Marine are bound by the same laws and regulations.



## ARTICLE 12.

Any foreign warships staying within the territory of the colonies and committing any breach of the foregoing regulations may be ordered to leave and, in case of need, may be removed by force.

## ARTICLE 13.

1. The pilots stationed at sea will be informed in case the permit mentioned in Article 4 is issued.

2. They will inform the Commanding Officer of the foreign war vessel which they are piloting of these regulations, and state whether in case of the Dutch flag being saluted the salute can be answered.

## ARTICLE 14.

1. The provisions herein contained are not operative in time of war.

2. We reserve to ourselves the right in case of apprehended war or in the maintenance of neutrality and in other special circumstances to restrict or prohibit the entrance of warships of foreign nationality to the territory of the colonies.

3. Foreign warships which in accordance with these rules and regulations are staying within the territory of the colonies are in all cases bound to leave within six hours of their being requested to do so by or on behalf of the Governor.

## ARTICLE 15.

This decree enters into force on 1st September, 1920.

Our Ministers of Colonies, Foreign Affairs and Marine, are each, as far as concerns himself, charged with the execution of this decree, copy of which shall be forwarded to the Council of State.

Het Loo, 11th June, 1920.

WILHELMINA.

*Notes.*

1. Commanding Officers are, until further orders, to be guided by the definition of territorial waters in this particular case, but it must be understood that this does not involve any change in British policy as regards bays generally, i.e., "recognition of territorial waters as extending three nautical miles from the land and *no* jurisdiction outside those limits."

2. If this rule is enforced a full report of the circumstances should be forwarded to the Admiralty.

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The foregoing regulations have been promulgated by the Government of Suriname, together with the following resolutions:—

RESOLUTION of 23rd December, 1920, No. 4402, designating the *local authority* through whose medium, pursuant to Article 8 of the Royal Decree of 11th June, 1920, No. 57, containing regulations regarding the admittance of foreign warships into territorial waters and the inland waters of the Colonies of the Netherlands, permission can be applied for to navigate the inland waters of the Colony of Suriname.

Pursuant to Article 8 of the Decree aforesaid, the local authority through whose medium the permit mentioned in Article 4 of the said decree to navigate the inland waters of Suriname (subject to the provisions of section 1 of Article 2 of the said decree)—in so far as the permit is not obtained through diplomatic channels, shall be the *District Commissioner of Beneden Commewijn*.

RESOLUTION of 21st December, 1920, No. 4372, laying down the form of the list of questions designated in Article 9 of the Royal Decree of 11th June, 1920, No. 57, containing regulations regarding the admittance of foreign warships into territorial waters and the inland waters of the Netherlands Colonies.

The form designated in Article 9 of the said Royal Decree is laid down as shown in the Appendix attached to this resolution.

Interrogatory.	Answer.	Particulars.
1. Name of the ship		
2. Flag		
3. Type		
4. Draught of water		
5. Name and rank of the Captain		
6. Crew		
7. Armament		
8. Reason of the voyage		
9. Whence hailing		
10. Length of stay		
11. Destination		
12. Length of voyage		
13. State of health of the crew		

14. Place and date

Signature of the Captain

### 23.—Netherlands Aircraft—Distinguishing Marks.

(M. 53332/21.—4.1.1929.)

The markings of Dutch Military and Naval aircraft have been altered by royal Decree which states that the Netherlands aircraft for land and sea shall carry as distinguishing marks the following:—

“ At the end of each wing (on the top side of the upper plane and the under side of the lower plane, and in the case of monoplanes on both sides of the plane), also on both sides of the body of the machine, a circle divided into three equal sectors, wherein a small concentric circle. The inner circle is to be orange coloured and the sectors of the outer circle are to be coloured successively red, white and blue. The vertical rudder is to be painted in three horizontal bands, red, white and blue. These marks will be carried only by Dutch military aircraft.”

2. In the above decree, the word “military” is used in the sense of “non-civilian.”

## 24.—Norway—Regulations for Visits by Foreign Warships.

(M. 4776/24.—4.1.1929.)

### (A).—REGULATIONS REGARDING THE ADMISSION OF FOREIGN MEN-OF-WAR TO NORWEGIAN PORTS AND WATERS, DATED 20TH JANUARY, 1913.

1. No foreign men-of-war—except those mentioned in Article 4—may enter Norwegian military ports or naval stations without having previously obtained permission to do so, from His Majesty the King, or from such person as he may have authorised to grant such permission.

The types and names of the men-of-war which desire to enter Norwegian military ports or naval stations, and the time and duration of the visit must be stated in advance.

The duration of the visit must not, without special permission and in extraordinary circumstances, exceed eight days, and not more than three men-of-war of the same nationality will, as a rule, be permitted to visit the same port at the same time.

2. At present the following portions of the Norwegian coast are considered as War Ports or Naval Stations: Kristiania Fjord, with the waters enclosed by the line running Tönsberg Tönde, Faeder Lighthouse, Torbjörnskjaer Lighthouse, Vikertangen in Asmalö, Askholm in Skjebergkilen. The Port of Kristiansand, with the waters inside Fredriksholm, Oxö Lighthouse, Gronningen Lighthouse, and Torso Lighthouse. The Port of Bergen and the approaches, inside a line running Fonnes (East side of Lygrefjord), Helliso Light, Tekslen (the North side of Kors-Fjord), Lyse-Kloster Church. Trondhjems-Fjord inside a line between Smellingen and Grindviktangen.

The war port of Vardø is limited as follows:—

Towards the East and the North by a line from Hasselnes to Kvalvikhaugen through the Western point of Renøen Island, thence to the Northern point of Skagodden; to the West by a straight line from Skagodden to the Easternmost point of Tyveholmen, thence towards the column on Svartnes; to the Southward by a line from the column on Svartnes S. 75° E., till this line meets a line drawn due south from the Easternmost point of Vaaberget.

Compass bearings given are true.

3. After previous notice has been given, foreign men-of-war are free to enter other ports and anchorages in the kingdom, provided no regulations to the contrary have been issued in special cases. Not more than three such vessels of the same nationality may, however, stay in the same port, and the duration of the stay must not exceed fourteen days.

Deviations from the regulations contained in this section can only be made in accordance with permission obtained through the diplomatic channel.

4. The following are exempt from the main regulations contained in Articles 1 and 3:—

- (a) Ships of war carrying the Heads of foreign States and escorting vessels.
- (b) Ships of war in evident distress, through perils of the sea; these can at any time seek shelter in the ports of the kingdom.
- (c) Ships of war intended or used for fishery inspection, or for hydrographic or other scientific work.

5. In every Norwegian port, where Harbour Authorities exist, foreign men-of-war are obliged to take up the anchorage berths which may be assigned to them by the Harbour Authorities (the Harbour Master).

Permission granted to foreign men-of-war to visit Norwegian ports or anchorages may be withdrawn at any time.

Every foreign man-of-war lying in a Norwegian port or anchorage must at any time—even if entitled to lie there in accordance with what is stated above—comply with a request to weigh anchor and leave the port within six hours, or shift berth in accordance with directions received.

6. No person from a foreign man-of-war lying in a Norwegian port or waters may, without special permission, approach or enter any zone within which there are batteries, fortifications, or other military works, or which is enclosed by the military authorities.

Landing exercises and firing exercises with guns, rifles, or torpedoes must not be carried out. The crew must be unarmed, when on shore, but officers, petty officers and cadets may bear the arms belonging to their respective uniforms.

7. It is forbidden for persons belonging to foreign men-of-war to make, copy, or publish plans or sketches of ports or territorial waters of the kingdom, or to make measurements or take soundings other than those recognised as necessary for the safe navigation in the usual channels.

They are also forbidden to make, copy or publish plans, sketches, photographs or descriptions of Norwegian fortifications or establishments, etc., belonging to them (*see* Article 3 of the law regarding Secrets of War, 18th August, 1914).

8. The Commander of a foreign man-of-war must comply with the sanitary, Customs, pilotage and harbour regulations issued by the local authorities.

9. The above regulations shall remain in force until His Majesty the King orders otherwise.

#### (B).—REGULATIONS REGARDING PILOTAGE.

The following Bill, which became law on 2nd June, 1922, amends the Norwegian Pilotage Acts. It repeals the Act of 18th August, 1914, which enacted that no foreign warship or other vessel sailing on account of a foreign Government or foreign pleasure boat or training ship might enter a Naval port or Naval place of anchorage without employing a permanent Norwegian pilot, nor sail in Norwegian waters inside the Skerries without a permanent Norwegian pilot or in default thereof a coast pilot.

#### TEXT OF THE LAW.

##### I.

The Pilotage Act of 26th May, 1899, § 2, shall read as follows:—

The following are exempted from the obligation to carry pilots imposed on vessels:—

- (1) Vessels under 30 nett register tons.
- (2) Vessels which leave the Kingdom for the purpose of fishing, whaling or sealing in the open sea, and are under 130 nett register tons, although they may enter a foreign port, provided that this is only for the purpose of preparing or unloading the catch landed during the voyage.
- (3) Warships and transport vessels which are running on behalf of the Government of any country and under the command of personnel paid by that Government.
- (4) Pleasure vessels (yachts) which enter Norwegian harbours as such, and not for the purpose of trade, and only such harbours as may be determined by the Crown.
- (5) Vessels engaged in carrying cargo which is destined for a foreign country when they enter a port for the purpose only of taking on board provisions or coal, or signing on or discharging crews or of landing sick persons.

If the vessels mentioned in § 3, 4 and 5 employ a pilot, they are to be treated in the same manner as vessels which are obliged to take a pilot, but in that case pilotage dues are to be charged in accordance with the special rates fixed by the Crown.

Vessels sailing to or from Sweden are subject to the same regulations in respect of pilots as if sailing to a foreign country. It shall, however, be lawful for the Crown to make such alterations as may be deemed advisable with a view to facilitate communication between the two countries, provided that similar facilities are accorded to Sweden.

It shall be lawful for the Crown, if deemed necessary for public security, or because of the state of the seas or for other reasons, to impose compulsory pilotage, in such manner and to such extent as may be deemed advisable, that is to say, to determine that any particular vessel shall employ a pilot or, if no pilot be available, any person recognised by the master pilot as qualified to carry out the duties of a pilot. Detailed regulations regarding this enforcement of pilotage shall be issued by the Crown.

## II.

The Act of 18th August, 1914, supplementing and amending the Pilotage Act of 26th May, 1899, together with the Supplementary Act thereto of 28th March, 1906, is hereby repealed.

### (C).—WIRELESS TELEGRAPHY.

Regulations relative to the use of W/T apparatus on board foreign vessels within Norwegian territorial limits are contained in the following Norwegian Government Resolution, dated 7th January, 1922:—

Sanction is given to the following regulations for the use of wireless stations on board ships of foreign non-belligerent Powers during their stay in Norwegian waters in times of peace:—

1. Within Norwegian territorial limits wireless telegraph or telephone stations on board foreign vessels must not be used except in accordance with special permission, unless such use concerns:—

- (1) Correspondence regarding ships in distress, or for the prevention of accident.
- (2) Correspondence with the nearest Norwegian coast station, and also
- (3) Correspondence with other ship stations, when each of the ships is at least 10 nautical miles from the nearest Norwegian coast station.

In the cases mentioned under (2) and (3), however, transmission must at once cease when this is demanded by the Telegraph Board, the Naval Board, or by any wireless station which falls within the jurisdiction of these authorities.

2. In Norwegian ports where public wireless stations are established and within the areas which at any time may be determined by a Norwegian authority, and concerning which information is obtainable at the nearest public coast station, the station must not, however, be used for correspondence other than that mentioned under paragraph 1 (1) unless special permission is obtained.

3. Application for permission to make use of the station within Norwegian territorial limits for correspondence other than that mentioned above, should be sent to the Telegraph Board, which will make its decision after conference with the Naval Board.

4. The above rules, however, with the exceptions mentioned below, are not applicable to stations on board the warships of foreign Powers.

Should the latter, whilst calling at a Norwegian port where a public wireless station is established (*see* the list issued by the Telegraph Board), desire to make use of the wireless apparatus on board, they must first make application to the director of the public wireless station at that place, who will notify the times at which it is permissible to make use of the apparatus concerned.

In the said application, which may be made by wireless, the wave length which it is desired to employ shall also be stated. Otherwise in Norwegian ports and Norwegian territorial waters such vessels may freely make use of their wireless stations. Transmission, however, shall at once cease when this is demanded by the Telegraph Board, the Naval Board or by any wireless station which falls within the jurisdiction of these authorities.

5. When the station is used during the ship's stay in Norwegian waters, such use shall take place under observance of the provisions of the International Telegraph Convention, with the regulations appertaining to the same.

6. The above provisions only apply when Norway is not at war, and only in respect of the ships of non-belligerent Powers.

7. The above rules come into force from 1st September, 1922. From the same date are cancelled the previous regulations sanctioned by Royal Resolution of 24th October, 1908.

(D).—RULES CONCERNING VISIT OF FOREIGN NAVAL AND MILITARY PERSONNEL TO NORWAY.

Issued by the Ministry of Defence, 5th September, 1924.

1. Foreign military persons and other persons belonging to establishments that can be compared with military establishments are not permitted to stay upon Norwegian territory in uniform except when they have obtained official permission to do so. Such permission is granted by the Ministry of Defence.

2. Foreign military persons and other persons who in accordance with section 1 have permission to stay in Norway in uniform, must on arrival report themselves, at Christiania, to the Commander of the Akershus Fortress, and to the Chief Officer in command at the following places:—Fredrikshald, Fredrikstad, Kjeller, Elverum, Hamar, Hønefos, Kongsberg, Horten, Melsomvik, Kristiansand, Stavanger, Bergen, Molde, Trondhjem, Levanger, Stenkjaer, Mjösen, Ramsund, Narvik, Harstad, Tromsø, Altgaard, Kirkenes.

On arrival at fortresses notification must be given to the commander of the fortress in question, and on arrival at military training grounds to the commander of the place.

3. In addition to complying with the above-mentioned obligation to notify, the persons concerned must observe the rules in force at any time regarding notification to the police authorities. (Cp. Law of 4th May, 1901, regarding the Notification of Travellers and Foreigners, with subsequent additional laws.)

4. Companies of troops under command must not stay upon Norwegian territory. In exceptional cases, e.g., when taking part in parades, reviews, etc., permission to do so may be granted by the Government.

5. The above regulations do not in general apply to persons belonging to the crews of foreign warships during their stay in Norwegian ports.

The chief of such vessels, when the visit has been officially announced, may give the crews leave on shore, unless special circumstances are a hindrance to the same. The persons concerned, however, may not without special permission proceed to any great distance from the town or harbour in which the foreign warships are lying. In the event of their doing so the provisions of sections 2 and 3 above shall be observed.

Armed or unarmed troops may not be landed from foreign warships without the permission of the authorities of the place, obtained through the acting diplomatic or consular representative of the country concerned, if such be found at that place.

6. The provisions of sections 1-5 are only applicable provided they are not contrary to special agreements with foreign States.

## 25.—Portuguese Ports—Use of W/T and Ceremonial procedure.

(M. 5557/24.—4.1.1929.)

### USE OF WIRELESS TELEGRAPHY.

1. The following information, communicated by the Portuguese Minister for Foreign Affairs, has been received from H.M. Minister, Lisbon:—

W/T may be used in Portuguese territorial waters, but its use is not permitted in Portuguese ports, except in the case of the leading ships of a squadron, which are authorised to make use of W/T for communication with units under their command navigating outside the ports, and for communication with the nearest station. The employment of W/T is subject to the general regulations of the International Convention and is not permitted between 1 a.m. and 2 a.m., 8 a.m. and 10 a.m., 1 p.m. and 2 p.m., or 8 p.m. and 10 p.m. The leading ships may only employ wave lengths of 600 metres ("spark") and 1,000 to 2,200 metres ("continuous waves").

### CEREMONIES.

2. H.M. Ships present in Portuguese ports on the following national holidays are to adopt ceremonial procedure as outlined below:—

<i>Date.</i>	<i>Occasion.</i>	<i>Ceremony to be observed.</i>
3rd May ...	Anniversary of discovery of Brazil.	Dress Ship overall—Salute at midday.
5th October ...	Anniversary of proclamation of Republic.	Ditto.
1st December	Autonomy of Portugal ...	Ditto.
1st January ...	In commemoration of fraternal unity.	Masthead flags—No salute.
31st January	In commemoration of the originators and martyrs of the Republic.	Ditto.
	Anniversary of abortive revolution at Oporto, 1891.	
14th August ...	Anniversary of the Battle of Aljubarrota.	Ditto.
25th December	Christmas Day ... ..	Ditto.

3. Should any of these days fall on a Sunday, the following day will also be a holiday.

4. There are also local holidays, of the second category, on dates settled by the local Town Council. In Lisbon it is 10th June, in commemoration of the Poet Luis de Camoens.

5. In default of any specific directions on the subject, Commanding Officers of H.M. Ships should act in unison with the procedure adopted by the Commanding Officer of any Portuguese Ship of War present in port. No salute should, however, be fired other than those detailed in paragraph 2.

## 26.—Roumania—Use of Wireless by Foreign War Vessels.

(M. 2966/25.—4.1.1929.)

The following regulations regarding the use of wireless telegraphy by foreign war vessels in Roumanian ports and waters, issued by Royal Decree, dated 9th June, 1925, are promulgated for information and guidance:—

### ARTICLE I.

In the ports of Constantza, Sulina and Galatz, as also in the roads and anchorages situated within a radius of 25 kilometres from these ports, foreign warships or aeroplanes accompanying them cannot make use of the radio-telegraphic, or radio-telephonic stations without first receiving a permit from the higher naval authorities of the port, who, having been informed of the system used and the length of wave required, will indicate the working hours.

## ARTICLE II.

During the fixed working hours foreign warships shall not be able to make use of communications with 600 metres wave-lengths, except in the case of the transmission or reception of a signal for help.

Radio-telegraphic or radio-telephonic communications, even during working hours are, however, liable to be interrupted at the request of the higher naval authorities of the port.

For urgent communications, outside of the working hours, permits may be applied for to the naval authorities of the port, taking care not to interfere with the communications of the Roumanian naval or land stations.

## ARTICLE III.

In the other Roumanian roads or ports, foreign warships must observe the following rules :—

(a) Transmission (of messages) with wave-length of 600 metres is forbidden, except in cases of making or replying to a signal for help ;

(b) Care must be taken to avoid interfering with the radio communications of the military or air forces, or of the nearest land station ;

(c) The transmission (of messages) shall be suspended upon the request of the naval authorities of the port or of the nearest inland station ;

(d) The transmission should be avoided of long messages with an apparatus which does not emit a continuous pure wave ;

(e) If a Roumanian warship is in the port or the road, its commanding officer shall be consulted.

**27.—Kingdom of Serbs, Croats and Slovenes—W/T Regulations.**

(M. 1078/27.—4.1.1929.)

The following is a translation of Article 10A of Regulations made by the Ministry of War and Marine, Belgrade :—

## ARTICLE 10A.

Foreign ships of war and aircraft accompanying such ships, when navigating in zones considered to be of naval or military importance, and in ports of the Kingdom of the Serbs, Croats and Slovenes, should conform to the following regulations concerning the employment of wireless telegraphy and telephony :—

(a) Foreign ships of war and aircraft accompanying such ships, should in the following cases ask the Commandant of the Port or other competent authority for permission to use their wireless telegraph and telephone apparatus, indicating in advance the system and wave-length to be employed as well as the nature of the telegraphic communications to be made.

When entering the waters of naval bases of the Kingdom of the Serbs, Croats and Slovenes, or fortified places of the littoral or where they are moored in the immediate vicinity of the latter, and lastly, when entering zones which are considered as being of naval or military importance.

(b) In all other ports of the Kingdom, ships of war and aircraft accompanying such ships, should conform to the following regulations :—

(1) It is forbidden to employ wave-lengths of 600 metres except for signals of distress or for response to such signals.

(2) Ships should avoid interfering with the telegraphic communications of Government W/T stations, mobile or fixed.

(3) Transmission should be stopped at the request of any naval or port authority or any Government W/T station.

(4) Ships should avoid making long signals with apparatus which are not adapted for the transmission on reduced power.

(5) In cases where units of the Royal Navy are present in the port, ships should communicate in advance with the Senior Officer of such units.



## 28.—Soviet Government—Official Communications.

(M. 1195/24.—4.1.1929.)

The term "Russia" should not now be used in Official communications when referring to the Soviet Government. The full title is "Union of Soviet Socialist Republics," but the term "Soviet Union" may be employed as an abbreviation.

## 30.—Soviet Union—Rules concerning Navigation in Soviet Coastal Waters.

(M. 1002/25.—4.1.1929.)

The following notices to mariners issued from Leningrad contain Regulations as to the navigation of vessels within the coastal waters of the Soviet Union:—

*No. 265.*

20/9/24.

### DIRECTIONS FOR THE NAVIGATION OF VESSELS IN COASTAL WATERS WITHIN THE LIMITS OF THE ZONE OF FIRING OF THE COAST BATTERIES IN TIME OF PEACE.

1. All merchant vessels and war vessels, both S.S.S.R. (i.e., Russian) and foreign, have the right of unimpeded navigation in the zone of firing of coast batteries outside territorial waters.

2. Merchant vessels of the S.S.S.R. and of foreign powers have the right of unimpeded navigation within the limits of territorial waters, with the exception of the special zones, of which a list is appended.\*

\* See last paragraph.

*Note (a).*—War vessels of foreign powers have the right to navigate in territorial waters, but must not anchor, carry out drills, exercises, target practice, etc., the only exception being in case of damage, when foreign war vessels may enter our ports for assistance which will be sanctioned by the local military command, who will report to the higher authorities to obtain the necessary instructions.

*Note (b).*—Special regulations for the passage of merchant vessels of the S.S.S.R. and also foreign vessels through the zone of firing of coast batteries may be introduced only in cases of special military necessity. These regulations when introduced are to be communicated to the proper organs of the maritime transport department for directions to be given to the masters of merchant vessels, and to the National Commissariat of Foreign Affairs for communication to Foreign Governments.

3. Should a foreign war vessel be seen carrying out drills, exercises, target practice, etc., or anchored within the limits of territorial waters, the coast battery that has noticed her will report the fact to the nearest naval station. The senior Officer will in this case act in accordance with his instructions on this matter.

4. Communications with foreign vessels are to be made by the International code of signals. The introduction of a special code for this purpose is not permitted.

5. Every vessel entering the zone of territorial waters and being within the limits of visibility of signal stations must hoist her number, indicating her name, and conform with the signal hoisted at the signal mast, on board the patrol vessel or made by any other means.

6. Should a vessel fail to comply with the directions stated in Clause 5, the master of the vessel will be held responsible for any consequences arising therefrom.

7. Should the necessity arise to warn one of our vessels or a foreign vessel of a danger of a navigational or mining character threatening her, the battery will give her warning by every signalling method available, and as a last resource fire a blank shot. The firing will be reported by the battery to the nearest naval station.

8. All war vessels and merchant vessels, both ours and foreign, when entering and leaving port and navigating in territorial waters must, in accordance with international rules, show the national flag by day, and the regulation signal lights by night.

9. Timely notice will be given of target practice to be carried out by batteries to the local naval command, and the corresponding organ of mercantile shipping in order that due warning may be given to vessels putting to sea or arriving from sea.

*Note.*—Should a vessel appear in the area when firing is taking place, the Commander of the battery firing will take every measure of precaution, even to ceasing firing temporarily. Vessels on their part must take every measure not to interfere with the practice.

10. Foreign Governments and the relevant organs of our mercantile shipping will be notified of the prohibition of navigation in defined areas of the territorial waters of the S.S.S.R.

11. In the event of our vessels going out into a zone referred to in Clause 10 in order to sweep for mines or to lay mines or for any other purpose, the naval command is to give timely notice to the land command (coast battery).

#### PROHIBITED ZONES.

The prohibited zones for the navigation of merchant vessels of the S.S.S.R. and foreign vessels within the limits of the territorial waters of the S.S.S.R. will be notified later.

*No. 321.*

12/11/24.

With reference to Notice No. 265 of 1924, the following prohibited zones for navigation of merchant vessels of the S.S.S.R. and foreign vessels within the limits of the territorial waters of the S.S.S.R. (i.e., Russian waters) are notified:—

(1) Baltic Sea—Kronstadt: In the limits between the meridian of Tolbukhin lighthouse and the west coast of the Karelski isthmus from Kurort † to Lisi Nos, and between the boundaries of Finnish territorial waters and Kotlin Island; the water area bounded by the shore between Ijorski post and Klyuchinskaya pier and the conventional lines: Ijorski post—Kronslot and Kronslot—Klyuchinskaya pier.

(2) There are no prohibited zones in other waters, except the areas in the Black Sea which have not yet been swept.

*Note:—*

†(i) “Kurort” is not shown on Admiralty, Finnish or Russian charts. It is probably the southern end of the Russo-Finnish frontier.

(ii) It is to be observed that a portion of the prohibited zone is outside the three-mile limit.

### 31.—Soviet Union—Use of W/T by Foreign Vessels.

(M. 3628/28.—4.1.1929.)

The following regulations have been issued by the Soviet Government regarding the use of W/T by foreign vessels in Soviet waters:—

(Attention is drawn to the fact that H.M. Government do not recognise any claims to control W/T outside the general three-mile limit of territorial waters, and also that they do not acquiesce in the clause in paragraph 9 prohibiting the use of cyphers or codes).

#### REGULATIONS FOR THE USE OF WIRELESS TELEGRAPHY IN SOVIET INLAND OR TERRITORIAL WATERS.

(1) Foreign war and merchant (non-war) vessels, in the maritime frontier zone of the Union of Soviet Socialist Republics and in inland waters of the Union of Soviet Socialist Republics, within a distance of ten miles from the shore are allowed to use their wireless installations only on the bases set forth in this decree.

(2) Foreign merchant vessels, within the regions where coastal wireless installations are established, are forbidden to exchange wireless telegrams, except in the cases mentioned in Article 7 of the present decree.

(3) Foreign merchant vessels in ports where the nearest coastal wireless installation is outside a radius of ten miles and also within the Sea of Azov, may be allowed to use their wireless installations only under special written permits from the chief of the corresponding commercial port, to be issued for a period or for each separate occasion that the vessel visits the ports or inland waters of the Union of Soviet Socialist Republics.

In case the nearest coastal wireless station belonging to the People's Commissariat for Military and Naval Affairs or other department is situated at a distance of not more than ten miles in radius from the corresponding commercial port, the aforesaid foreign vessels receive permission for wireless communication from the chief of the commercial port only in agreement with the local representatives of the respective departments.

(4) The local command of Naval forces has the right to restrict wireless communication between foreign war vessels within the ten-mile zone, both as regards time and place of conducting conversations, and also as regards wave-length.

(5) The chief of the nearest commercial port will supervise the execution of the regulations in Article 2 of the present decree.

He closes and seals wireless installations of foreign merchant vessels throughout their stay in port or within the ten-mile zone mentioned in Article 1 of the present decree.

(6) Foreign vessels standing at anchor in quarantine and requiring to communicate by wireless with the local coastal wireless station, may in exceptional cases, use the minimum power of the main wireless transmitter or a low-powered wireless set during days and hours to be communicated by the said station.

(7) The restrictions on the rights to use vessels' wireless installations foreseen in Articles 2 and 6 of this decree do not affect:—(a) Vessels in danger, or transmitting communications to prevent an accident; (b) vessels rendering help to other vessels in distress; and (c) while conducting vessels through ice.

When entering ports where coastal wireless stations exist, foreign vessels in specially important cases are allowed to finish a wireless communication started with the corresponding port, but not otherwise than on the condition that they switch over to the minimum power or to low-powered sets.

(8) In all cases where vessels' wireless installations are used in accordance with the present decree, foreign war and merchant vessels are guided by the appropriate regulations for international wireless communication accepted by the Union of Soviet Socialist Republics, and also by the regulations controlling inland wireless communication of the Union of Soviet Socialist Republics.

The unpublished regulations for inland wireless communication are communicated to foreign vessels by the corresponding local military-naval or port authorities upon the arrival of the vessels in ports of the Union of Soviet Socialist Republics.

(9) Wireless communications by foreign war and merchant vessels may be in plain language only, without the use of any kind of cyphers or codes, except the established signals under the international service regulations for wireless communication, and also under the International Code of Signals.

(10) The person empowered to communicate with the authorities on all questions arising out of the present decree is the Commander or Captain of the foreign vessel in question.

(11) The regulations promulgated in the present decree remain in force only when the Union of Soviet Socialist Republics is not in a state of war, and only as regards vessels flying the flag of non-warring States.

(12) Persons infringing the regulations promulgated in the present decree are liable under the criminal legislation of the respective federal republics.

### **32.—Soviet Union—Visit of Foreign Naval and Merchant Vessels to Ports.**

(M. 03250/25.—4.1.1929.)

The following extract from a translation of a circular issued by the Soviet Government for the guidance of Soviet Authorities in ports visited by foreign naval or merchant vessels in time of peace is promulgated for information:—

#### *Paragraph 2.*

The frontier maritime zone extends for 12 marine miles from low water mark from the shores of the mainland and also of the islands of the U.S.S.R., or from the boundaries of its internal waters.

In the frontier maritime zone where, for technical reasons (such as shallowness), loading and discharging of cargo is carried out outside the limits of zone, the place of such loading and discharging shall none the less be considered as forming part of the zone.

The White Sea and the Sea of Azov belong in their entirety to the internal waters of the U.S.S.R.

In the frontier maritime zone our competent authorities may in case of necessity issue orders, and foreign vessels are bound to obey such orders.

#### *Paragraph 5.*

Foreign commercial vessels are permitted to enter all ports where there are customs authorities and also ports declared open to foreign vessels by joint orders of the People's Commissariat for Foreign Affairs, the People's Commissariat for Foreign Trade, the People's Commissariat for Ways of Communication and the State Political Department.

When entering a port both naval and commercial vessels must fulfil the rules laid down in this connection.

#### *Paragraph 6.*

In cases which admit of no delay (storm, shipwreck and so forth), a foreign naval vessel may be accorded the right of refuge in port during the time of a storm and for repair of damage. In all such cases a report shall be sent to the Centre and also to local plenipotentiaries or agents of the People's Commissariat for Foreign Affairs and to the Maritime Control.

*Paragraph 7.*

The position in port of commercial and naval vessels is absolutely different: the former are subject to customs control, to examination of the crew and passengers, to sanitary inspection and to measures of security, according to the special instructions of the corresponding authorities; at the same time, such vessels have the right of communication with the shore in the sense of landing members of the crew, loading and discharging cargo, landing and taking aboard passengers in accordance with the rules laid down.

The latter, that is to say naval vessels, having the rights of extritoriality, cannot be subjected to any administrative action on the part of our authorities, though they are bound to fulfil all the commercial rules laid down. The actions of foreign naval vessels in the roadstead and on shore, such as go farther than the realm of internal order on board (in which they are subject only to their own internal laws), shall be arranged in agreement with the naval authorities of the port.

Free communication between naval vessels and the shore is permitted in accordance with instructions from the Centre; in the absence of such, in cases of necessity, this question is decided by agreement between the local agent or plenipotentiary of the People's Commissariat for Foreign Affairs and of the Maritime Control and naval authorities of the port, who shall in any case give their sanction to the most necessary acts, such as the obtaining of provisions and water, the removal of sick members of the crew, the delivery of service correspondence and so forth.

The local authorities shall inform the commander of the vessel of the rules laid down in connection with communication with the shore by the customs, sanitary and other authorities and shall together with him arrange individual details relating to ships' communication with the shore and to the landing of members of ships' crews.

*Note.*—The British Government does not recognise claims to jurisdiction outside the three mile limit of territorial waters.

**33.—Soviet Territory, Arctic Ocean—Entry of Foreigners.**

(M./N.I.D. 7476/26.—4.1.1929.)

Entry has been forbidden, without special permission, of any foreigners into the territory of the Yakut Autonomous Socialistic Republic, or into the islands of Vaigach, Kolguev and Novaya Zemlya.

**34.—Spain—Regulations for Visits of Foreign War Vessels.**

(M./N.I.D. 90/28.—4.1.1929.)

The following is a translation of instructions issued in Spanish Royal Decree No. 59, dated 4th January, 1928 :—

I hereby decree as follows :—

*Article 1.*—The phrase "warship" must be considered as including not only the ships designated as such, but also auxiliary vessels of all types.

*Article 2.*—In time of peace foreign warships are authorised to visit Spanish ports, with the sole exception of the Arsenal, for entry into which special authorisation is required.

The notice that a visit is projected will have to be forwarded diplomatically, so that it arrives, if circumstances permit, not less than fifteen days before the commencement of the projected visit.

This notice will contain a declaration of the number of vessels, their names and classes, ports it is proposed to visit, and probable length of stay at each of them.

*Article 3.*—The provisions of the preceding article shall not apply :—

- (a) To ships on board which are embarked Heads of States, members of reigning families, their suites, or diplomatic representatives accredited to the Spanish Government.
- (b) To warships obliged to enter a Spanish port by reason of damage, storm or other cause of *force majeure*.
- (c) To warships which belong to countries with which there is a special agreement regarding the matter.

*Article 4.*—The superior authority of the Navy at each port has the power of allotting the place of anchorage for foreign warships or to change that which they already have taken up if considered necessary. For this purpose, on entering a Spanish port, a foreign warship will be boarded immediately by a Naval officer, sent by the authority in question, who will welcome the Commander and will indicate to him the anchorage assigned to his ship and will inquire as to the object and duration of the visit, name of the Commander, and other information as required.

In case the officer referred to should arrive on board after the foreign warship has already anchored, he will be limited to welcoming the Commander, getting the information indicated, and confirming the place of anchorage already taken, or allotting a new one if necessary.

*Article 5.*—Foreign warships entering a port or Spanish jurisdictional waters are obliged to respect the legal provisions in force in customs and health matters, and also the port regulations to which warships of the National Navy are submitted, and precise details of which will be supplied by the Naval authority.

These ships will not be required to take up a pilot, and will not have to pay anything for his services unless asked for.

In the estuary of Bilbao, Guadalquivir River and other navigable rivers where pilotage is obligatory for merchant ships, it will also be obligatory for warships, and in all cases mooring will be obligatory wherever this service happens to be established.

*Article 6.*—For the entry of warships into State Arsenals a special authorisation will be necessary, which will be granted by the Minister of Marine.

This same authorisation must necessarily precede the visit of individuals of the crew of the vessels in question to the industrial zones of those establishments.

*Article 7.*—The stay of foreign warships in Spanish jurisdictional waters or ports will be understood as conditional on the following stipulations :—

*First.*—No ships must draw up plans of the land or practice soundings.

*Second.*—Submarines must not proceed submerged nor submerge in jurisdictional waters and ports.

*Third.*—As a general rule, the use of wireless communications will not be limited for foreign warships during their stay in the ports of our Kingdom and in jurisdictional waters ; but the Spanish State can limit them, and even suspend them when special circumstances may advise such action.

*Fourth.*—They must not carry out the death penalty.

*Fifth.*—The landing of individuals or parties of the crew with arms is prohibited, except in special cases, for certain ceremonies.

*Sixth.*—Smaller boats travelling round the ports and jurisdictional waters must not be armed.

*Article 8.*—Unless previous authorisation has been obtained from the local Naval authority, warships must not :—

- (1) Carry out manœuvres or landing or firing exercises in Spanish jurisdictional waters.
- (2) Carry out any submarine work, whatever may be its object, whether they require the services of divers or not.

*Article 9.*—When the Commander of a foreign warship desires to land an armed detachment for the purpose of rendering funeral honours on shore, he must obtain due authorisation through the local Military authority, which is granted by the Minister of War or Captains-General of Regions in cases of recognised urgency.

*Article 10.*—In case a foreign warship does not obey the provisions contained in this present statute, the Naval or Military authority will call the attention of her Commander to the violation committed, and will invite him formally to observe the dispositions in question.

If this request is disobeyed, the competent Naval or Military authority shall invite the foreign warship to leave the port or jurisdictional waters immediately.

*Article 11.*—The Ministries of State, War and Marine are charged with the execution of this present decree in so far as it affects each one.

ALFONSO.

Given at the Palace, 4th January, 1928.

## II.

### *Exchange of Visits between Military Authorities and Officers of Foreign Warships.*

The following is a translation from instructions issued by the Spanish Ministry of Marine in 1911.

#### CHAPTER VI.

Exchange of visits between the Military authorities and the officers of foreign men-of-war.

##### *Preliminary Visit.*

1. On the arrival in harbour of one or more foreign men-of-war, the Senior Military Authority will send an officer to the recently arrived ship, or, in the case of a squadron, to the flagship, in order to pay the usual compliments.
2. This Military officer, if he cannot use his own boat, will go on the boat with the Naval officer who goes to present the compliments of the Senior Naval Officer.
3. The Commanding Officer of the ship or ships recently arrived will send an officer to return the visit.

##### *Official Visit.*

4. The Senior Officer of the Fleet or of the ship which has arrived will visit, within twenty-four hours, the Senior Officer of the Army and of the Navy of the place, if they are of the same rank; the visit will be returned within twenty-four hours.
5. In case of officers of different rank the junior will pay the first call.
6. The officers of superior ranks will pay visits in the following manner :—
7. A general officer will visit post captains and officers senior to post captains.
8. To officers in command of ships whose rank is below that of post captain, a colonel will be sent to return the visit.
9. Colonels and officers of lower ranks will personally pay a return visit to every Commanding Officer of a ship, whatever his rank may be.
10. District captains-general will personally return visits to the Commander-in-Chief of a foreign fleet, of their own rank or higher, which anchors at the port where he usually resides.
11. In other cases, the rules contained in the Instructions approved by Royal Decree of 7th July, 1911, will be strictly adhered to.
11. The salutes which foreign ships give to the military authorities will be returned, gun for gun, by the shore batteries.
12. The military guards will pay to the Commanding Officers of fleets and ships of foreign nations the same honours as are laid down for those of equal rank in Spain on their official visits.
13. Visits to foreign ships will be made in undress uniform (media gala).
14. The scale of gun salutes is as follows :—

	<i>In Command.</i>	<i>Not in Command.</i>
Capitan-General de la Armada ... ..	19	—
Almirante ... ..	17	15
Vice-Almirante ... ..	15	13
Contra-Almirante ... ..	13	11
Capitan de navio in command of a division ...	11	9

### 35.—Spanish Territorial Waters—Pollution by Oil.

(M./T.D. 12377/25.—4.1.1929.)

A circular was published in the "Madrid Gazette" of 9th September, 1925, prohibiting the discharge of mineral oils or petroleum by vessels which employ this class of fuel, and also the emptying of the ballast water tanks, when these have held petroleum, within Spanish territorial waters, and more especially inside the harbours.

This disposition becomes operative, as far as the harbours are concerned, as from the date of publication of the circular (9th September, 1925), and for the territorial waters ninety days from the publication of the circular in the "Madrid Gazette," and it will remain in force so long as there is no international agreement in regard to the matter.

*Note.*—Spain claims a six mile limit of territorial waters, but this is not recognised by H.M. Government.

### 36.—Swedish Ports—Visits of Foreign War Vessels and Aircraft.

(M. 852/26.—4.1.1929.)

#### I.

The following is a translation of Swedish Royal Decree No. 467, dated 21st November, 1925:—

(Attention is drawn to the fact that H.M. Government do not recognise any right to make regulations for waters outside the general three-mile limit of territorial waters except in accordance with a specific international agreement.)

*Translation.*

No. 467.

#### ROYAL DECREE

relating to the Access of Foreign War Vessels and Service Aircraft to Swedish Territory in time of Peace.

Given at the Palace, Stockholm, 21st November, 1925.

His Majesty has been pleased to decree as follows:—

#### SECTION I.

#### *Introductory Regulations.*

#### Article 1.

The provisions of this Decree regarding the access of foreign war vessels and service aircraft to Swedish territory are applicable at a time when both Sweden and the foreign Power to which the vessel or aircraft belongs are in a state of peace.

Under other conditions special regulations on the subject will be applicable.

#### Article 2.

The term Swedish territory in this Decree shall be understood to include all Swedish land and water and the air area above it.

#### Article 3.

1. The waters referred to in Article 2 consist of inner and outer territorial waters.



2. Swedish inner territorial waters in this Decree shall be understood to include—

- (a) Swedish lakes, waterways and canals;
- (b) Swedish harbours, harbour approaches and inlets; and
- (c) those parts of Swedish territorial waters which are situated within and between Swedish islands, islets, and rocks which are not permanently washed by the sea.

In The Sound only Swedish harbours and harbour entrances are to be regarded as Swedish internal territorial waters.

#### Article 4.

1. The Swedish naval ports are Stockholm, Karlskrona and Gothenburg.
2. The naval port of Stockholm is bounded on the east by a line—

	<i>Lat.</i>	<i>Long.</i>
from the point on the mainland north-east of Gregersboda ... ..	59° 34'8 N.	18° 40'3 E.
through the north-east point of Ostra Lagnö ... ..	59° 33'2 N.	18° 50'0 E.
Runö lighthouse on the east point of Runö	59° 17'9 N.	18° 43'1 E.
and Kofoten lighthouse ... ..	59° 13'5 N.	18° 37'3 E.
to the east point of Elgö ... ..	59° 16'0 N.	18° 22'2 E.
and on the west by the meridian ...	17° 58'0 East.	

That section of the naval port of Stockholm which is situated west of a line from the south-east point of Väderö (Bogesundlandet) to the north point of Ormingelandet (south-east of Furuholmen) and a line passing through Stäkesund at the north point of Skogsö is the inner part of the naval port, and that section which is situated east of the said lines is its outer part.

3. The naval port of Karlskrona is bounded seawards by a line—

	<i>Lat.</i>	<i>Long.</i>
from Torhamn point ... ..	56° 4'4 N.	15° 51'0 E.
through Utlängan lighthouse ... ..	56° 0'8 N.	15° 47'5 E.
and Hasselö. flötor ... ..	56° 5'3 N.	15° 24'9 E.
to Lindö point ... ..	56° 7'1 N.	15° 21'2 E.

4. The naval port of Gothenburg is bounded on the west by a line—

	<i>Lat.</i>	<i>Long.</i>
from the south-west point on the mainland within Klockskär ... ..	57° 36'7 N.	11° 63'2 E.
through the west point of Styrsö, south of Langholmen ... ..	57° 36'3 N.	11° 45'1 E.
to the south-west point of Hisingen east of Stora Varholm ... ..	57° 42'0 N.	11° 43'3 E.

and on the east by a line from Ryanäs (0.6 kilometres east of Ryanabbe) across the River Göta to Röda sten.

#### Article 5.

As closed waters are to be regarded those parts of Swedish inner territorial waters which, though not belonging to the area of a naval port, are situated—

- (a) in the "Skärgård" (Coastal Archipelago) of Norrbotten, west of 23° 50' E. Long. and north of 65° 2' N. Lat.;
- (b) in the "Skärgårds" of Västerbotten and Angermanland, between 63° 53' N. Lat. and 62° 32' N. Lat.;
- (c) in the "Skärgårds" of Öregund, Stockholm, Södermanland and Östergötland between 60° 31' N. Lat. and 58° 9' N. Lat.;
- (d) on the coasts of Gothland;
- (e) in Kalmar Sound, between 57° 12' N. Lat., and 56° 21' N. Lat.;
- (f) in the "Skärgård" of Blekinge between 15° 51' E. Long., and 14° 51' E. Long., and
- (g) in the "Skärgårds" of Halland, Göteborg and Bohus, between 57° 15' N. Lat., and 58° 25' N. Lat.

## SECTION II.

*Regulations regarding War Vessels.*

## Article 6.

1. A foreign war vessel has access to—
  - (a) A Swedish naval port and closed waters only after permission has been obtained through diplomatic channels, unless for special reasons other arrangements are made;
  - (b) a Swedish port or roadstead which is not to be regarded as a naval port, and which is not situated within closed waters, only after notification through diplomatic channels, which notice should arrive if possible at least eight days before the intended visit; and
  - (c) other Swedish territorial waters without notice.
2. Permission or notice in accordance with paragraph 1 is, however, not required for warships—
  - (a) having on board the Sovereign of a foreign State or his official representative;
  - (b) escorting a vessel referred to in (a) of this clause, but with the restriction in regard to numbers made in Article 7;
  - (c) exclusively intended for the supervision of fishery or for scientific works; or
  - (d) in distress.

## Article 7.

Unless special permission has been obtained through diplomatic channels, not more than three war vessels belonging to the same Power may simultaneously lie in Swedish inner territorial waters within each of the three following coastal areas, to wit:—

the frontier on the River Torne—60° 31' N. Lat.; 60° 31' N. Lat.—Falsterbo; and Falsterbo—the frontier at Svinesund.

## Article 8.

1. When a foreign war vessel passes through Swedish inner territorial waters, the officer in command may not follow any route other than that laid down in the Official Sailing Directions and, unless otherwise prescribed, he shall be required to employ the services of a duly licensed Swedish pilot.

2. A foreign submarine, when in Swedish territorial waters, may lie only in the surface position.

## Article 9.

On the visit of a foreign war vessel to a Swedish port, the officer in command of the vessel in selecting an anchorage or mooring, etc., must observe the instructions issued, in the case of the interior section of the naval port of Stockholm: by the C.-in-C. of Stockholm Naval Station;

in the outer section of the aforesaid naval port: by the Commandant of the fortress of Vaxholm;

in the naval port of Karlskrona: by the Admiral in command at Karlskrona;

in the naval port of Gothenburg; by the Commandant of the fortress of Alvsborg; and

in a port other than a naval port: by the proper port authority.

## Article 10.

If the competent military authorities referred to in paragraph 9 consider it desirable, the authorities, in consultation with the Commanding Officer of a foreign war vessel, may make further arrangements in regard to the number of personnel, who for the purpose of shore leave or otherwise, may be landed within the area of the naval port, and with regard to the time and place for the landing and embarking of the men on leave.

## SECTION III.

*Regulations regarding Service Aircraft.*

1. Foreign service aircraft have access to Swedish territory only after permission has been obtained through diplomatic channels.
2. Such permission shall not be required, however, for service aircraft—
  - (a) having on board a foreign Sovereign or his official representative;
  - (b) forming an escort for the craft referred to in (a) of this clause, provided that the number of escorting aircraft does not exceed two;
  - (c) carried on board a war vessel, but subject to the condition that the aircraft shall remain on board the war vessel during its visit in Swedish territory, or
  - (d) in distress.

## Article 12.

The provisions of the regulations in force with regard to air navigation shall be applicable in corresponding parts also with respect to foreign service aircraft, but mounted guns without ammunition and mounted photographic apparatus without plates and films may be carried on such aircraft.

## Article 13.

When foreign service aircraft visit a Swedish service aerodrome, the officer in Command of the aircraft shall observe the instructions issued by the officer in charge of the aerodrome with regard to selection of position, anchorage, mooring, etc.

## SECTION IV.

*General Regulations.*

## Article 14.

In applying for permission under Articles 6 or 11, particulars shall be given regarding the number of war vessels or service aircraft which are intended to take part in the visit, the type of vessel or craft and other particulars necessary for their identification, the intended route through Swedish territory, the place or places to be visited, the approximate date and duration of the visit, and as regards war vessels on board which aircraft are carried, the number and type of the latter, and in the case of aircraft provided with wireless telegraphy, the call sign of the aircraft for wireless signalling.

When such permission has been obtained, the time of arrival should be notified.

## Article 15.

Without special permission, obtained through diplomatic channels, the visit of a war vessel or service aircraft may not be extended beyond a fortnight.

## Article 16.

The Commanding Officer of a foreign war vessel or service aircraft is obliged, when within Swedish territory, to comply with the instructions issued by the health, pilotage, customs, traffic, port and police authorities.

## Article 17.

1. Maps may not be made from foreign war vessels or service aircraft within Swedish territory, nor by their personnel, nor may nautical surveys be made nor soundings taken, with the exception of soundings which may be necessary for the safety of the vessel. Nor, without special permission, may torpedo or gunnery practice, other firing practices, mining, mine-sweeping or other submarine exercises, or landing exercises be carried out. Armed troops may not be landed except on the occasion of a military funeral, and then only by permission from the competent military authority.

2. In regard to the use in Sweden of wireless apparatus, special regulations have been made. (See below.)

3. Boats belonging to a foreign war vessel or service aircraft may not be armed when within Swedish territorial waters nor, except on such an occasion as is referred to in paragraph 1, may they carry armed troops.

4. Personnel on shore leave from foreign war vessels or service aircraft may not carry arms; but officers and warrant officers may wear their swords.

#### Article 18.

1. If Commanding Officers or other personnel belonging to a foreign war vessel or service aircraft fail to observe the regulations made in this Decree, the military authority referred to in Article 9 within the area of naval ports, and in Article 13 within the area of service aerodromes, and in other cases the supreme military or, failing this, civil authority at the place, shall draw the attention of the Commanding Officer to the matter.

Should this not have the necessary effect, the vessel or aircraft, where the King so determines, shall be called upon by the aforesaid military or civil authority to leave Swedish territory forthwith, or at latest after the lapse of six hours, even if the time allowed for the visit has not expired.

2. A foreign war vessel or service aircraft, where the King so determines, may be called upon to leave Swedish territory in the manner stated in paragraph 1, even without such a reason as is referred to in that paragraph.

This Decree comes into force on the 1st January, 1926, from and including which date the Decree of the 20th December, 1912 (No. 401) relating to the Access of Foreign Vessels to, and Piloting in, Swedish Ports and other Swedish Territorial waters shall cease to be in force.

The following extracts have been taken from Royal Decree No. 468 dealing with the reporting of movements of foreign men-of-war on the coast of Sweden, and the piloting of such vessels within Swedish Territorial Waters:—

A licensed pilot must not pilot a foreign warship to a Swedish port or closed waters, unless the latter has received permission.

Exceptions may, however, be made for vessels which enter a Swedish Naval port or closed waters, as already stated.

(*Note.*—This presumably refers to Decree No. 467, Section II, Article 6, paragraph 2.)

A licensed pilot, when taking a foreign warship through Swedish Territorial Waters may use only the recognised channel.

## II.

### Regulations governing the use of W/T in Swedish Waters.

The following is a translation of Royal Decree No. 383, dated 25th July, 1924:—

Given at Särö, 25th July, 1924.

His Majesty, in virtue of paragraph 9 in the Law of 16th May, 1924 (No. 121), relating to the erection and use of electric apparatus for wireless telegraphy and telephony, etc., has thought fit to decree as follows:—

#### *Paragraph 1.*

Radio apparatus on board a foreign vessel which is not stationary in Swedish Territorial Waters is termed in this Decree "radio apparatus on foreign vessels."

#### *Paragraph 2.*

1. Radio apparatus on foreign vessels may be used in Swedish harbour areas solely by special permission of the Telegraph Administration granted after consultation with the Head of the Naval Staff, and subject to the detailed instructions which the Telegraph Administration may issue.

2. Within those parts of Swedish Territorial Waters which lie at a lesser distance than 10 nautical miles (distance minutes) from a Swedish coastal station, radio apparatus on foreign vessels may not be used except in case of distress, or when necessary for correspondence with the nearest coastal station.

3. The Telegraph Administration, after consultation with the Head of the Naval Staff, may issue a prohibition against, or prescribe restrictions in the use, except in case of distress, of wireless apparatus on foreign vessels also in other parts of Swedish Territorial Waters than those referred to in clause 2.

*Paragraph 3.*

The Telegraph Administration shall be entitled to issue instructions regarding the dismantling of radio apparatus on a foreign vessel which is found within an area where pursuant to paragraph 2 such apparatus may not be used.

*Paragraph 4.*

It is incumbent on the Telegraph Administration, for the information of mariners, to publish in a suitable manner, whether once for all, or for a certain period, or for a certain case, regulations and instructions issued pursuant to paragraph 2, clause 3 and paragraph 3; and the Telegraph Administration shall be entitled to make requests to the Pilotage Board, the Customs Administration, and the Provincial Governments concerned regarding control, by their staff, of the observance of the regulations and instructions thus issued.

*Paragraph 5.*

When radio apparatus on foreign vessels is used in Swedish Territorial Waters, except where otherwise prescribed, the provisions of the existing international radio-telegraph convention with appertaining regulations shall be observed in corresponding parts.

*Paragraph 6.*

Infringements of the provisions of this Decree or of regulations or instructions issued by the Telegraph Administration in virtue of this Decree, shall be punishable with a fine of not less than twenty-five kronor and not exceeding one thousand kronor.

*Paragraph 7.*

Offences referred to in paragraph 6 shall be prosecuted by the Public Prosecutor.

Regarding the competent court in suits relating to such offences, the provisions of paragraph 328 of the Maritime Law shall apply in corresponding parts.

Fines imposed in such suits shall go to the Crown. Fines which cannot be paid in full shall be enforced.

*Paragraph 8.*

The provisions of paragraphs 6 and 7 shall not be applicable to war vessels.

This Decree shall come into force on 1st August, 1924.

### **37.—Turkey—Visits of Foreign Warships, etc., to Ports.**

(M. 4677/25.—4.1.1929.)

The following regulations\* regarding visits of foreign warships, auxiliary vessels, and aircraft accompanying them, to ports and territorial

\* Translation of French version communicated by Turkish Delegation, Constantinople, to H.M. Ambassador, which was marked "Translation not guaranteed."

waters of the Turkish Republic, are promulgated for information and guidance:—

#### ARTICLE 1.

No warship, auxiliary transport, state vessel, aircraft carrier or aircraft accompanying it, may visit the ports and territorial waters of Turkey without having obtained an authorisation from the Government of the Turkish Republic, through diplomatic channels.

Every foreign state which desires to obtain such authorisation will have to inform the Turkish Government through diplomatic channels at least 10 days before the projected visit, of the details and names of the warships and other vessels, and also the name of the Commanding Officers, the strength of the crews, the duration and purpose of the visit.

#### ARTICLE 2.

Foreign submarines may in no case enter the territorial waters of the Turkish Republic.

*Note.*—This regulation does not affect freedom of passage of the Straits in accordance with the Straits Convention.

#### ARTICLE 3.

The Turkish Government reserves the right to fix and limit the number of warships and other vessels belonging to one and the same foreign state which may be allowed to visit the ports and territorial waters, and to limit such visit. In cases where necessity demands the lengthening of the visit, the authorisation of the Turkish Republic will also have to be obtained through diplomatic channels.

- (a) Warships and auxiliary vessels having on board foreign sovereigns, presidents of republics, or members of reigning houses, and also
- (b) Warships and other auxiliary units which owing to damage, danger or unforeseen circumstances, are obliged to enter a Turkish port,

are exempted from the provisions of Articles 1 and 3.

#### ARTICLE 4.

Foreign warships are obliged to fly their flag as soon as they approach Turkish territorial waters and enter a zone where the signals can be perceived.

#### ARTICLE 5.

In all Turkish ports where there is a Naval Commandant or a Port Captain, foreign warships must anchor in the position the above-mentioned authorities in that case indicate to them. Boats, steam and motor boats, and other methods of transport of these ships may not go alongside any part of the port other than that allotted to them.

#### ARTICLE 6.

All authorisations to stop in Turkish ports and territorial waters granted previously to foreign warships and other vessels, when the Government considers it necessary, may be withdrawn and the Government concerned informed. In cases where these ships receive such communication, they will be obliged to leave port within six hours, or to anchor in the positions allotted to them.

#### ARTICLE 7.

Officers, seamen and other members of the crews of foreign warships lying in ports and territorial waters of the Turkish Republic by virtue of a special authorisation, may not walk in those places where there are fortifications, batteries, or naval establishments or works.

## ARTICLE 8.

Foreign warships lying in Turkish ports and territorial waters by virtue of special authorisation, may not land parties or carry out any kind of gun firing, infantry firing, torpedo firing, or mine-laying, in these ports and territorial waters, or devote themselves to "schools of firing" (*sic*) and exercises with searchlights.

## ARTICLE 9.

It is absolutely forbidden any person belonging to foreign warships to take photographs of the ports and coasts of the Turkish Republic, to draw plans, obtain, reproduce and publish plans, drawings, tracings, photographs or descriptions of fortifications and batteries, as well as of establishments belonging thereto and situated within 10 kms. of them, to carry out soundings and surveys, and, finally, to carry out, without the authorisation of the Government, with the assistance of their boats or in any other way, hydrographic or topographic surveys of any nature whatsoever; to lay out maritime marks, to carry out air flights and reconnaissances of any kind over the territory and coasts and to obtain cartographic views.

## ARTICLE 10.

In cases where air forces accompany the foreign warships authorised to visit the ports and territorial waters of the Turkish Republic, the aircraft may not enter these waters by the air route.

## ARTICLE 11.

Members of the crew of foreign warships may only land in order to go for walks, and then must not be armed.

But, if the C.O. of the ship desires, in cases of funerals, to land firing parties, he must apply to the local authorities to obtain authorisation, and settle, in agreement with them, the number of men who, according to the nature of the ceremony, are to be landed.

Officers may, for official visit, wear their swords which make part of their uniforms.

## ARTICLE 12.

Warships belonging to different foreign states, taking up a hostile attitude against each other, may not stop, search, seize or destroy ships in ports and territorial waters of the Turkish Republic.

## ARTICLE 13.

The Commanding Officers of foreign warships must wholly conform to the laws and regulations in force in the Turkish Republic regarding public health, customs, W/T and the ports.

## ARTICLE 14.

In cases when the Commanding Officers of foreign warships do not conform to the provisions of these regulations, the local authorities—either military or naval—shall first draw their attention to the fact and invite them to respect them.

If this step does not produce the desired results, the Turkish Naval or Military Commandants will invite the ship to leave immediately the ports and territorial waters of the Turkish Republic.

## ARTICLE 15.

The Turkish Government reserves the right, in cases of danger or of declaration of war, to grant or not to grant to foreign warships permission to enter its ports and territorial waters, or to draw up all restrictions it considers convenient, and it may also suppress certain local regulations.

## ARTICLE 16.

The provisions of the Treaty of Lausanne, of 24th July, 1923, relating to the Straits Zone, will be wholly respected.

## THE WAR PORTS.

## ARTICLE 17.

As has been detailed in Article 1 of present regulations, all foreign warships and other units in order to have access to the ports of the Turkish Republic, which the latter has declared or will declare War Ports, and which will have been notified as such to the Foreign Powers, will have to conform to the provisions of that article, but their entry and departure from these ports can be authorised only during the day, between sunrise and sunset.

## ARTICLE 18.

All foreign warships, naval vessels and naval aircraft and balloons which accompany them—excepting the warships and auxiliaries enumerated in paragraphs (a) and (b) of Article 3—which seek to enter Turkish War Ports without having special authorisation, will be prevented.

**\*38.—Importation of Dogs and Cats Order of 1928.**

(M. 5099/28.—4.1.1929.)

The following Order has been made by the Minister of Agriculture and Fisheries and came into operation on 1st January, 1929.

The Ministry has explained that lions, tigers, leopards, lynx, cheetahs, and a variety of smaller animals are included in the definition of feline animals given in Article 12 and come within the scope of the Order.

The Minister of Agriculture and Fisheries by virtue and in exercise of the powers vested in him under the Diseases of Animals Acts, 1894 to 1927, and of every other power enabling him in this behalf, hereby orders as follows:—

*Restriction on Importation of Canine and Feline Animals.*

1.—(1) An imported canine animal (hereinafter referred to as “dog”) or feline animal (hereinafter referred to as “cat”), that is to say, a dog or cat brought to Great Britain from any other country, except Ireland, the Channel Islands and the Isle of Man, shall not be landed in Great Britain unless its landing is authorised by a licence of the Minister previously obtained, and when landed it shall be subject to the provisions of this Order, and to the conditions inserted in any licence authorising its landing.

(2) The provisions of this Order shall also apply to a dog or cat taken from Great Britain, Ireland, the Channel Islands or the Isle of Man, into any port in any other country (except Great Britain, Ireland, the Channel Islands, and the Isle of Man), as if the animal were an imported dog or cat, and also to any dog or cat which has, at any time before or after arrival at a port in Great Britain, been in contact with any imported dog or cat as defined in this Order.

*Detention and Isolation of Imported Dogs and Cats.*

2.—(1) An imported dog or cat shall, for a period of six calendar months after its landing, be detained and isolated at the expense of its owner upon premises in the occupation, or under the control, of a veterinary surgeon, which shall have been previously approved in writing by the Minister for that purpose, and such premises are in this Order referred to as the “place of detention.”

(2) Subject as hereinafter provided, the dog or cat shall not be moved from the place of detention during the said period except to another place of detention or to a vessel for exportation, and in either case only with a licence of the Minister authorising such movement.



(3) The Minister may at any time suspend or withdraw his approval of any place of detention or of any part thereof, or may by the service of a notice signed by an Inspector or Officer of the Ministry direct the removal of an imported dog or cat from one part of the place of detention to another part thereof, or to some other place of detention subject to such conditions as may be inserted in the Notice.

(4) This Article shall apply to—

- (a) an imported dog or cat which is shown to the satisfaction of the Minister to be a bonâ fide performing animal; or
- (b) an imported dog or cat which is intended to be exported from Great Britain within 48 hours after its landing; or
- (c) a canine animal (other than the domestic dog) or a feline animal (other than the domestic cat) imported for breeding or exhibition or other special purpose;

only so far as its provisions are applied by way of conditions inserted in the licence authorising the landing of the animal.

*Rules and Conditions of Licence.*

3. The Minister may make such Rules and may insert in a licence granted by him under this Order such conditions as he thinks necessary or desirable.

\* \* \* \* \*

*Action in case of Illegal Landing or other Default.*

4.—(1) If an imported dog or cat is not detained and isolated as required by this Order or by the conditions or provisions of any licence or notice thereunder, or if there is reason to believe that a dog or cat has been landed in contravention of this Order, an Inspector or other Officer of the Ministry or of a Local Authority or a Police Constable may:—

- (a) serve a notice upon the owner or person in charge of the dog or cat requiring that within a time specified in such notice the dog or cat shall be moved (i) to a vessel for exportation, or (ii) to a place of detention approved by the Minister for the purpose of detention and isolation at the expense of the owner of the dog or cat for a period of six calendar months from the date of landing of the dog or cat; or
- (b) seize and detain the dog or cat, and the dog or cat shall as soon as practicable thereafter be removed to a place of detention approved by the Minister for the purpose of detention and isolation for a period of six calendar months from the date of the landing of the dog or cat.

(2) Such provisions may be inserted in any notice served in pursuance of this Article as the Minister may think necessary or desirable for any of the purposes mentioned in this Order. The Inspector or other Officer or Constable shall take such steps as may be necessary to ensure that the requirements of the notice are complied with.

(3) The operation of a notice under this Article may be terminated by notice to that effect given by an Inspector or other Officer of the Ministry or of the Local Authority to the owner or person in charge of the dog or cat on proof to the satisfaction of the Inspector or Officer that the dog or cat was not landed in contravention of this Order or that six calendar months have expired since the date of the landing of the dog or cat.

(4) An Inspector or other Officer or Constable shall report immediately to the Minister and to the Local Authority any action taken by him under this Article and the circumstances in which such action was taken.

(5) Where a dog or cat has been seized and detained in accordance with this Article, the owner of the dog or cat shall, from time to time as may be notified to the owner by the Minister, pay to the Minister the expenses of the detention and isolation of the dog or cat, and if the owner of the dog

or cat fails to comply with this requirement the Minister may destroy or otherwise dispose of the dog or cat as he thinks expedient without further notice to the owner and without prejudice to his claim for any such expenses payable to him.

*Re-landing prohibited of Imported Dogs or Cats moved to Vessels for Exportation.*

5. An imported dog or cat which has been moved to a vessel for exportation in accordance with a licence or notice under this Order shall not be re-landed in Great Britain without a licence of the Minister authorising such landing.

*Regulation of Transshipment of Imported Dogs or Cats.*

6. An imported dog or cat shall not be transhipped in a port in Great Britain except with the written permission of an officer of the Ministry or of an officer of Customs and Excise.

*Proceedings under Customs Acts for Unlawful Landing.*

7.—(1) If any person lands or attempts to land a dog or cat in contravention of this Order, he shall be liable, under and according to the Customs Acts, to the penalties imposed on persons importing or attempting to import goods, the importation whereof is prohibited by or under the Customs Acts, without prejudice to any proceedings against him under the Act of 1894 for an offence against that Act.

(2) The dog or cat in respect whereof the offence is committed shall be forfeited under and according to the Customs Acts in like manner as goods, the importation whereof is prohibited by or under the Customs Acts.

*Detention of Dogs and Cats on Vessels in Port.*

8.—(1) Every dog or cat to which this Article applies shall at all times while on board a vessel in any port in Great Britain be—

(a) confined in an enclosed part of the vessel from which it cannot escape;

(b) or, alternatively in the case of a domestic dog, secured to some part of the vessel by a collar and chain and muzzled with a wire cage muzzle, so constructed as to render it impossible for such dog while wearing the same to bite any person or animal, but not so as to prevent such dog from breathing freely or lapping water.

(2) If any dog or cat to which this Article applies shall die, or be lost from a vessel, in any port in Great Britain, the person in charge of the dog or cat shall forthwith give notice of such death or loss to the *Secretary, Ministry of Agriculture and Fisheries, Whitehall Place, London, S.W.1.*

(3) The provisions of this Article shall apply to every imported dog or cat which is not accompanied by a licence issued by the Minister authorising the landing of such dog or cat in Great Britain.

*Extension of the meaning of "animals" for the purposes of the Diseases of Animals Act, 1894.*

9. Canine animals and feline animals shall be animals for the purposes of the undermentioned Sections of the Act of 1894, viz.:—

Section 43 (Police).

Section 44 (General Administration Provisions).

Section 56 (Proceedings under Customs Acts for unlawful landing or shipping).

*Local Authority to enforce Order.*

10. The provisions of this Order, except where it is otherwise provided, shall be executed and enforced by the Local Authority.

*Offences.*

11. Any person committing, or aiding, abetting, counselling or procuring the commission of any breach of the provisions of this Order, or any Rules or the conditions of any licence made or issued thereunder shall be deemed to be guilty of an offence against the Act of 1894.

*Interpretation.*

12. In this Order unless the context otherwise requires:—

“Canine animal” means dog, all other animals of the canine tribe wild or domesticated, and hyæna.

“Feline animal” means cat, and all other animals of the feline tribe, wild or domesticated.

“Inspector” includes veterinary inspector.

“Master” includes a person having the charge or command of a vessel.

“Police Constable” includes any member of the Police Force employed by a railway company or dock authority.

“The Act of 1894” means the Diseases of Animals Act, 1894.

“Minister” means the Minister of Agriculture and Fisheries.

“Ministry” means the Ministry of Agriculture and Fisheries.

*Revocation of Orders.*

13. The Orders specified in the Schedule to this Order are hereby revoked; provided that this revocation shall not affect the operation of any licence granted or notice given under any of such revoked Orders before the commencement of this Order.

*Extent.*

14. This Order extends to England, Wales and Scotland.

*Commencement.*

15. This Order shall come into operation on the first day of January, nineteen hundred and twenty-nine.

*Short Title.*

16. This Order may be cited as the IMPORTATION OF DOGS AND CATS ORDER OF 1928.

(L.S.)

Secretary.

## SCHEDULE.

*Orders Revoked.*

(ARTICLE 13).

No.	Date.	Short Title.
7695	1909. 12th May ...	Importation of Canine Animals Order of 1909.
8302	1912. 15th March...	Order amending the above-mentioned Order of 1909.
9290	1914. 23 October ...	Importation of Dogs Order of 1914.
9985	1918. 5th December	Importation of Dogs (Amendment) Order of 1918 (No. 2).
4298	1926. 16th August	Importation of Dogs (Amendment) Order of 1926.
4503	1927. 9th November	Importation of Dogs (Amendment) Order of 1927.

## \*41.—Fleet Exercises, Firing, etc.—Notification to Local Authorities.

(M. 4676/28.—4.1.1929.)

On all occasions of H.M. ships in home waters carrying out exercises in which there is risk of damage on a large scale being caused to fishing nets, or which involve firing, the use of star shell, rockets, Very's lights, etc., likely to be seen or heard from the shore, the officer conducting the exercises is to furnish the Commander-in-Chief of the home port responsible for the area concerned with particulars of the date and time of such exercises and area affected. The latter will be responsible that this information is passed to the appropriate District Officer of Coastguard and Local Fishery Officer to enable adequate notice to be given to lifeboat authorities, owners of fishing and other craft, and to permit display of notices of the proposed exercises in places where fishermen would be most likely to observe them.

The Fishery Flag will be displayed at the coastguard stations enumerated below for the purpose of warning fishermen that such stations have information concerning Naval exercises in the vicinity.

The flag will be flown "at the dip" to indicate that information in connection with Naval exercises has been received at the station, and will be hoisted "close up" while the exercises are in progress.

### LIST OF STATIONS.

Swanage.	Exmouth.
St. Albans Head.	Dawlish.
Lulworth.	Teignmouth.
Kimmeridge.	Torquay.
Weymouth.	Brixham.
Portland Bill.	Dartmouth.
Fortuneswell.	Torcross.
Wyke.	Hope Cove.
Fleet.	Looe.
Abbotsbury.	Polperro.
West Bay.	Mevagissey.
Seaton.	Falmouth.
Budleigh Salterton.	R.N. Station, Grove Point.

It has been decided to abandon the practice of broadcasting to shipping general warnings of night firing exercises. In the event, however, of the Commander-in-Chief, to whom notice of the operation is given, considering that the circumstances under which firing takes place are unusual or exceptional, and that it is desirable that shipping should be warned, he should give notice to the Hydrographer of the Navy in order that a warning may be disseminated by W/T to merchant shipping and fishing vessels afloat. Such warnings will be treated as navigational warnings and promulgated as "W" messages.

At least 48 hours' notice of the operations should be given to the Commander-in-Chief.

2. In the event of exercises being arranged at very short notice, warning may be given to the Coastguard and Fishery Officers direct at the same time as the Commander-in-Chief is notified.

3. A list of Coastguard Districts and Fishery Officers is attached. The postal and telegraphic addresses of Coastguard Stations are "Coastguard" followed by the name of the place.

<i>Coastguard Divisions.</i>		<i>District Officers.</i>	
North Scotland Division	...	...	Lerwick. Kirkwall (temporarily under District Officer, Lerwick). Wick. Stornoway. Cromarty.
Aberdeen Division	...	...	Banff. Peterhead. Aberdeen. Carnoustie. Elie.
Tynemouth Division	...	...	Berwick. Seahouses. Blyth. Seaham Harbour.
Scarborough Division	...	...	Saltburn-by-the-Sea. Whitby. Withernsea. Mablethorpe.
Great Yarmouth Division	...	...	Cromer. Great Yarmouth. Aldeburgh.
Hove Division	...	...	Ramsgate. Sandgate. Eastbourne. Worthing.
Weymouth Division	...	...	Ventnor. Swanage. Wyke. Seaton.
Brixham Division	...	...	Torquay. Hope Cove. Looe. Charlestown. Cadgwith.
Penzance Division	...	...	St. Ives. St. Mary's, Scilly. St. Agnes. Padstow. Bude. Ilfracombe.
Mumbles Division	...	...	Mumbles. Tenby. Fishguard. Carnarvon (Abersoch). Holyhead.
Hoylake	...	...	Hoylake. Portpatrick. Ramsey.
North Ireland	...	...	Ballycastle. Glenarm. Ballywalter. Newcastle.

## FISHERY OFFICERS.

## ENGLAND AND WALES.

LONDON, at 43, Parliament Street, London, S.W.1.

Telegrams : Fisheries, Parl, London.

Telephone : Victoria 8700.

Mr. H. S. Moss-Blundell, C.B.E., Chief Inspector of Fisheries.

Mr. T. E. Pryce Tannatt (D.F.O.), in charge of Salmon and Freshwater Fisheries.

NORTH-EASTERN DISTRICT, at District Office, Trinity House, Fish Quay, North Shields.

*Area.*—Coastwise from Berwick to Hartlepool (inclusive).

Telegrams : Fishmin, North Shields.

Telephone : North Shields 161.

HULL DISTRICT, at District Office, 330, Hessle Road, Hull.

*Area.*—Coastwise from Hartlepool (exclusive) to the Humber.

Telegrams : Fishmin, Hull.

Telephone : Hull Central 33461.

*Scarborough*, at Park Hall, Aislaby, Sleights R.S.O., Yorks.

GRIMSBY DISTRICT, at District Office, 174-176, Cleethorpe Road, Grimsby.

*Area.*—Coastwise from the Humber to Hunstanton (inclusive).

Telegrams : Fishmin, Grimsby.

Telephone : Grimsby 2184.

EASTERN DISTRICT, at District Office, The Esplanade, Lowestoft.

*Area.*—Coastwise from Hunstanton (exclusive) to Tilbury.

Telegrams : Fishmin, Lowestoft.

Telephone : Lowestoft 88.

THAMES DISTRICT, at District Headquarters, 43, Parliament Street, London, S.W.1.

*Area.*—The River Thames, west of a line drawn from Tilbury to Gravesend, and all its tributaries.

SOUTH-EASTERN DISTRICT, at District Office, The Quay, Poole.

*Area.*—Coastwise from Gravesend to Lyme Regis (inclusive).

Telegrams : Fishmin, Poole.

Telephone : Poole 97.

*Ramsgate*, at Fisheries Office, Fish Market, Ramsgate.

SOUTH-WESTERN DISTRICT, at District Office, Barclays Bank Chambers, Princess Square, Plymouth.

*Area.*—Coastwise from Lyme Regis (exclusive) to Avonmouth (inclusive).

Telegrams : Fishmin, Plymouth.

Telephone : Plymouth 1856.

SOUTH WALES DISTRICT, at District Office, Government Buildings, St. Mary's Street, Swansea.

*Area.*—Coastwise from Avonmouth (exclusive) to Aberystwyth (exclusive).

Telegrams : Fishmin, Swansea.

Telephone : Swansea 4264.

MILFORD HAVEN, at Fisheries Office, The Fish Docks, Milford Haven.

Telephone : Milford Haven 12.

NORTH WALES DISTRICT, at Castle Bank, Conway.

*Area.*—Coastwise from Aberystwyth (inclusive) to Hoylake (inclusive).

Telephone : Conway 19.

NORTH-WESTERN DISTRICT, at District Headquarters, Central Chambers, North Albert Street, Fleetwood.

*Area.*—Coastwise from Hoylake (exclusive) to the Scottish Border.

Telegrams : Fishmin, Fleetwood.

Telephone : Fleetwood 579.

## SCOTLAND.

Addresses of Fishery Officers.	Extent of District.	Telephone Numbers.	Notification.
Fishery Office, Berwick-on-Tweed	Border to St. Abbs Head ... ..	Berwick-on-Tweed 110	Gun-firing Firth of Forth: officers at Leith and Anstruther concerned.
Fishery Office, Leith ... ..	Cove (Berwickshire), south side of Firth of Forth; north side of Firth of Forth to Dysart, Fifeshire.	Leith 229	
" " Anstruther ... ..	Buckhaven to Newburgh (Fife) ... ..	Anstruther 21	
" " Montrose ... ..	Dundee to Gourdon ... ..	Montrose 189	Gun-firing Firth of Tay: officers at Anstruther and Montrose concerned
Inspector, Fishery Office, Aberdeen	Shieldhill (Kincardineshire) to Aberdeen	Aberdeen 865	Gun-firing in Moray Firth: officers from Aberdeen to Wick concerned.
Fishery Office, Peterhead	Newburgh (Aberdeenshire) to Rattray Head	Peterhead 254	
" " Fraserburgh	Rattray Head to Troup Head	Fraserburgh 176	
" " Macduff	Troup Head to Sandend	Macduff 33	
" " Buckie	Cullen to Portgordon	Buckie 87	
" " Lossiemouth	Lossiemouth to Inverness	Lossiemouth 43	
" " Helmsdale	Avoch (Ross-shire) to Dunbeath (Caithness)	Wick 31	
" " Wick	Latheronwheel (Caithness-shire) to Cape Wrath...	—	
" " Kirkwall	Orkney Islands	—	
" " Lerwick	Shetland Islands	—	
" " Stornoway	Lewis and Harris	—	
" " Castlebay, Barra	North and South Uist, and Barra Island	—	
" " Ullapool	Cape Wrath to Loch Torridon	—	
" " Kyle of Lochalsh	Loch Torridon to Loch Nevis, including Skye	—	
" " Oban	Loch Nevis to Oban, including Islands of Mull, Canna, Rum, etc.	Oban 83	Gun-firing in Minches: officers concerned.
" " Campbeltown	Colonsay, Jura, Islay, Gigha and Cantyre, south of line drawn from Tayinloan to Skipness.	—	Gun-firing Firth of Clyde: officers concerned.
" " Tarbert, Loch Fyne	Argyllshire on the west, Oban south to Tayinloan. On the east—Loch Fyne to Ardlamont.	—	
" " 2, Oswald St., Glasgow	Firth of Clyde, Upper Reaches, Arran and Bute	Glasgow Cent. 4883	
" " Girvan	From Ayr south, including Luce Bay. Wigtown Bay and Scottish Waters of Solway.	Girvan 54	

Telegrams :—Fishery Officer (Place).

**\*46.—Recommendations for Advancement.**

(N. 3861/28.—4.1.1929.)

As some doubt has been expressed in regard to the respective values of the two forms of recommendation for advancement, it should be understood that:—

- (a) The expression "recommendation for advancement," which has taken the place of the former "recommendation for advancement in due course," makes a man eligible for advancement in his turn on the roster and, except as stated in Article 414, Clause 4, it implies fitness for immediate advancement.
- (b) Such a recommendation is not to be given unless the Commanding Officer considers the man is fit for immediate advancement (except as stated in Article 414, Clause 4), and would be satisfied to have him in his ship in the higher rating. Attention is directed to paragraph 8 in black type of the instructions on the back of Form S.507.
- (c) A recommendation for accelerated advancement is made on Form S.507 in red ink. It gives a man two months' advantage on the roster or, if the roster is based on the "point" system, four additional points. It may still be given to a rating who is not fully qualified by examination, time, etc., but only if such rating is considered otherwise fit for immediate advancement, and if the Commanding Officer would be satisfied to have him in his own ship in the higher rating if he were so qualified.

**58.—Cartridges Q.F. 2 pdr. Practice and Practice Sub-calibre fitted with Weighted C.P. Shell, Cordite Lot H. 3473, filled Priddy's Hard—Special Examination—REPORTS.**

(G. 18212/27.—4.1.1929.)

Reports having been received on the exudation of moisture from cartridges, Q.F., 2 pdr., containing weighted C.P. shell, cordite, Lot. H.3473, filled Priddy's Hard, all 2 pdr. practice and practice and sub-calibre ammunition, fitted with weighted C.P. shell, and filled Priddy's Hard with cordite Lot H.3473 in H.M. ships at home and abroad is to be returned to store on the first opportunity on receipt of other ammunition, which should be demanded in lieu.

2. All cartridges of the above descriptions in store at Naval Armament Depôts at home and abroad, together with those returned under this Order, are to be specially examined for this defect.

3. On completion of the examination, a report is to be furnished to the Chief Superintendent of Armament Supply, Branch "B," stating the result.

**63.—Issued Confidentially.****66.—Reduction of Temperatures in Cable Passages.***Battleships and Battle Cruisers.*

(D. 6016/28.—4.1.1929.)

With a view to preserving the life of electric cables, it is desired to reduce the temperatures in the cable passages of battleships and battle cruisers without incurring the expense of completely lagging the inner bulkheads and undersides of the passages. It would appear that improvement could be made by fitting local areas of lagging on the boiler room side in the vicinity of steam pipes, having regard to the ventilating arrangements already fitted.



2. Dockyards should investigate this matter, in conjunction with ships' officers, as ships come in hand for refit, and forward proposals with sketches for lagging extra hot portions of inner bulkheads and undersides of passages, viz., in the vicinity of steam pipes and hot pockets, the opinion of ships' officers being taken as to their locality; and also forward for consideration any proposals for improvements in the ventilating arrangements of boiler rooms that may be practicable, and that would prevent the retention of pockets of heated air in the upper outer corners of boiler rooms adjacent the cable passages. In H.M.S. "Tiger" natural supply pipes to the weather deck should be fitted, so that ventilating arrangements to the cable passages can be worked when the hatches in the escape trunks are closed.

In H.M.S. "Revenge" only it has been approved to alter the ventilating fan to the passage abreast "B" boiler room on one side of the vessel from exhaust to supply, for trial in the Mediterranean, and a report is to be forwarded as to the efficiency of this alteration as soon as possible.

3. In H.M. ships of the "Royal Sovereign" Class, the natural supplies to the cable passages lead into the tops of the escape trunks, and are therefore cut off when the hatches at the bottoms of these trunks are closed and the exhaust fans have to be stopped, causing a rise in temperature. In these vessels the sliding shutters under middle deck are to be left partly open when boilers are alight and treated as "A" doors.

### **67.—Incinerators—Retention on Board.**

(D. 17110/28.—4.1.1929.)

A number of proposals having recently been received from H.M. ships to land their incinerators, Commanding Officers are informed that these fittings are to be regarded as a permanent article of equipment and are accordingly to be retained on board.

### **70.—Carbon Packing for Turbine Glands—Local Purchases.**

(C.P. 29213/28.—4.1.1929.)

In future, competitive tenders for carbon packing for turbine glands are to be invited from the following firms:—

Messrs. Cromil & Piercy, Ltd.,  
Milburn House,  
Newcastle-on-Tyne.

The Morgan Crucible Co., Ltd.,  
Battersea Works,  
London, S.W.11.

### **71.—Canteens Operated by Navy, Army and Air Force Institute at Naval Shore Establishments.**

(N.S. 13997/28.—4.1.1929.)

The cost of repairs to beer engines fitted in buildings provided by the Admiralty at Naval Shore Establishments for use as canteens operated by the Navy, Army and Air Force Institute, is an Admiralty liability.

2. Repairs which are beyond the resources of the establishment, should if possible be undertaken by the dockyard, if the canteen is situated close thereto. Where it is necessary for the work to be carried out by contract the cost is chargeable to Vote 8 (II), Subhead B.8.

3. Particulars of necessary repairs should be notified by the representative of the Navy, Army and Air Force Institute to the Senior Naval Officer of the Command under which the canteen is operating, and arrangements for the execution of the repairs should be initiated by this officer.

4. If the work is carried out by dockyard labour or by contract arranged by a dockyard department the transaction should be passed through the dockyard accounts, but if the work is carried out under contract arranged direct between the Naval Authorities and contractors, payment should be made locally by the Accountant Officer.

## 98.—W/T—Publication of Technical Information.

(M. 601/24.—11.1.1929.)

The following regulations respecting the publication by individuals of W/T Technical information are promulgated for general information and guidance. Similar orders have been issued to the Army and Air Force:—

The technical experts (whether Officer or civilian) of the W/T Departments of the three Services may be granted permission to write scientific papers for publication. The form of publication may be either by journal or lecture.

2. No detailed reference is to be made to service apparatus in such publication.

3. The application for permission to publish should be forwarded through the usual channels to the Admiralty, War Office or Air Ministry, as the case may be, and should be accompanied by a copy of the paper, which will be passed to the W/T Board to ascertain whether the paper itself is likely to contain any matter which the other Services consider should be kept secret.

4. The instructions and procedure laid down above apply only in the case when individual persons desire to publish articles on W/T Subjects.

## \*102.—Japanese National Fête Day.

(M. 5309/28—11.1.1929.)

A new Japanese National Fête Day has been established by Japanese Law, to be observed annually on 3rd November, in commemoration of the birthday of the late Emperor Meiji.

## 107.—Exercises and Experimental Operations—Procedure for Notification of Obstructions or Restrictions of Traffic.

(N.L. 2260/28.—11.1.1929.)

Fishermen's gear has recently been damaged by fouling temporary obstructions laid by Naval authorities in connection with an exercise.

2. In future, early information of the intention to lay obstructions in any area at home or abroad or to prohibit or restrict traffic within a dockyard port is to be given to local craft by means of local Notices to Mariners or suitably displayed posters, and fishermen are to be warned through the local Fishery Officer. These arrangements are to be made by the officer responsible for the exercise, experiment, or other operation, through the Commander-in-Chief, except when the operation

is to be carried out within the limits of a dockyard port, when the responsibility for issuing warnings will fall upon the King's Harbour Master. Notice of obstructions, restrictions on traffic, etc., in home waters is also to be sent by the officer responsible to the Hydrographer of the Navy, to arrive in sufficient time (if possible 21 days, but never less than 14 days) to allow for the publication of Admiralty and Board of Trade Notices to Mariners.

3. It is also to be noted that obstructions of a permanent character, or which would cause considerable inconvenience to traffic require prior Admiralty approval, and should be submitted in ample time for this to be given.

4. In a dockyard port the Order or Orders-in-Council constituting the port are to be strictly complied with, and when action is taken under an Order-in-Council, the article under which the restriction or prohibition is to be made should be quoted. In any case where an advertisement has to be inserted in the *London Gazette*, ample notice to enable this to be done should be given, and attention should be drawn to the necessity of so doing in the communication sent to the Hydrographer.

### 108.—Signalling between H.M. Ships and Merchant Vessels.

(M. 460/28.—11.1.1929.)

The procedure laid down in Chapters 2 to 9 inclusive, of the Allied Signal Manual is to be used for all V/S intercommunication between British Men-of-War and British Merchant Vessels.

2. This applies equally whether the message itself is made from the International Code of Signals or from the Allied Signal Manual.

3. British Merchant Vessels are being instructed accordingly.

4. In order to encourage signalling in the Mercantile Marine it is desirable that H.M. Ships should carry out signalling exercises with Merchant Ships as frequently as possible, and no opportunity should be lost in exercising visual signalling with British Merchant Ships by day and by night, at sea or in harbour. Attention is drawn to the necessity for rendering Form S.174 (Quarterly Return of Signalling with British Merchant Ships) which should be forwarded to Admiralty through Commanders-in-Chief or Senior Officers. Blank returns are also required, reasons being given for the failure to carry out such exercises.

5. Great interest is displayed by the shipping companies in the results of the signalling exercises, which are published in the Press, and this has undoubtedly aided in stimulating keenness in signalling efficiency throughout the Mercantile Marine.

6. In order that the summaries published in Admiralty Fleet Orders, on which the Press notices are based, may give a true indication of the results of the signalling exercises with merchant ships, it is particularly desirable that the returns on Form S.174 should afford a careful and accurate report on the exercises performed, and that, so far as possible, the standard by which such exercises are judged for special mention in the "Remarks column" should be the same in all ships.

7. Attention is also drawn to Article 83 of the Allied Signal Manual regarding the use of signalling projector.

8. Several cases of failure to answer signals made by H.M. Ships to merchant vessels, which have been investigated, show that these cases occurred when the merchant vessel was in pilotage waters. It should be remembered that merchant vessels do not carry any signal staff, and that on these occasions all the Officers and ratings who can read signals are usually fully occupied navigating the ship. Communication with merchant vessels should, therefore, only be attempted for the purpose of exercising signals either in the open sea or at anchor, and, in the latter case, neither just after the merchant vessel has anchored nor when she is preparing to get under way.

9. When one of H.M. Ships fails to get a reply to signals made to ships of the Mercantile Marine, a wireless message should be sent as follows :—

“ Please note that H.M.S.....has been endeavouring to communicate with you by Flags, or Morse, etc. No answer has been received to her signals.”

A reply should *not* be asked for by W/T.

### 110.—*Issued Confidentially.*

### 118.—Torpedo Tubes—Cutting Holes in Horizontal Dividing Plates.

*Submarines of “ L.50 ” Class except “ L.52,” “ L.53 ” and “ L.71.”*

(G. 19216/28.—11.1.1929.)

An item for carrying out the following work should be included in the next list of alterations and additions to be forwarded by H.M. Submarines of “ L.50 ” class, except H.M. Submarines “ L.52,” “ L.53 ” and “ L.71 ” :—

To cut holes in the horizontal dividing plates between the torpedo tubes.

### 120.—No. 7, Mark II\*, Dial Sights and Brackets—Allocation—REPORT.

*Battleships, Battle Cruisers, Cruisers, Submarine “ X.1,” Leaders, Destroyers, Sloops fitted with director firing gear, and Portsmouth Yard.*

(G. 17427/28.—11.1.1929.)

*Battleships, Battle Cruisers, Cruisers, Submarine “ X.1.”*

A number of No. 7, Mark II, dial sights have been improved in various respects, principally by the addition of two-power magnification, and when so modified are designated No. 7, Mark II\*, dial sights. These are now available at Portsmouth Yard for issue to the Fleet to replace the original type of dial sight.

2. The No. 7, Mark II\*, dial sight requires, however, a special bracket for attachment to director sights, and the type of bracket is dependent on the type of director sight in use.

3. Manufacture of the brackets required is being carried out by Portsmouth Yard. When available the brackets and dial sights are to be supplied according to the allocation given below. They should be fitted up by ships' staffs and the replaced old type of dial sight should then be returned to Portsmouth Yard without delay, The old brackets should be brought to produce.

4. In heavy ships and cruisers, director sights are of two types. These are :—

*Type A*, in which the telescope rocking axis is behind the vertical sight pivot ; and

*Type B*, in which the telescope rocking axis is in front of the vertical sight pivot. Dial sight brackets for these two types of director sights are dissimilar and are shown in E.F.O. 152/28 (1) and (2).

5. The allocation of these brackets and the No. 7, Mark II\*, dial sights is as follows :—

HEAVY SHIPS AND CRUISERS.

*Ships with Type "A" Director Sights. Brackets shown in E.F.O. 152/28 (1).*

Class of Ship.	No. of Ships.	No. of Brackets per Ship.	No. of No. 7, Mark II*, Dial Sights per Ship.	Remarks.
"Royal Sovereign" Class.	5	2 (1 to each secondary armament director).	2 (1 for main and 1 for secondary armament directors).	Existing bracket for aloft director to be modified as stated below.
"Queen Elizabeth" Class.	5	2 (do.)	1 (for secondary armament directors).	G.B.1 dial sights fitted to aloft director.
"Iron Duke" Class ...	4	2 (do.)	1 (do.)	do.
"Hood" ...	1	2 (do.)	1 (do.)	G.B.1 dial sight will be fitted to aloft director.
"Tiger" ...	1	2 (do.)	1 (do.)	G.B.1 dial sight fitted to aloft director.
"Renown" and "Repulse."	2	3 (1 to each aloft and secondary armament director).	2 (1 for main and 1 for secondary armament directors).	
"Hawkins" Class ...	4	1 (for the main director).	1 (for the main director).	
"D" Class cruisers (except "Diomedé" and "Despatch").	6	1 (do.)	1 (do.)	
"Carlisle" Class ...	5	1 (do.)	1 (do.)	
"Ceres" Class ...	5	1 (do.)	1 (do.)	
"Caledon" Class ...	3	1 (do.)	1 (do.)	
"Centaur" Class ...	2	1 (do.)	1 (do.)	

*Ships with Type "B" Director Sights. Brackets shown in E.F.O. 152/28 (2).*

"Emerald" ...	1	1 (for the main director).	1 (for the main director).	
"Diomedé" and "Despatch."	2	1 (do.)	1 (do.)	
"Caroline" Class ...	4	1 (do.)	1 (do.)	
"Cambrian" Class ...	5	1 (do.)	1 (do.)	
Totals ...	55	63 Type A. 12 Type B.	62	

6. In ships fitted with type "A" director sights, where the trainer's telescope bracket has been modified to accommodate the Henderson firing gear it will be necessary to fit an adaptor bracket as shown in sketch E.F.O. 152/28 (4) in order that the dial sight will clear the trainer's telescope and holder. Ships concerned should make and fit the necessary adaptor brackets when fitting the dial sight brackets.

7. In the "Royal Sovereign" Class, the aloft director sights are fitted, at present, with brackets for mounting No. 7, Mark II, dial sights. On receipt of the new type of dial sight these brackets should be modified in accordance with E.F.O. 152/28 (3) in order to accommodate it. The modifications are to be carried out by ships' staffs.

8. The design of bracket for the director sight of submarine "X.1" is shown in E.F.O. 152/28 (5). As the domed cover of the director tower is capable of being raised and lowered, a caution plate is provided on the bracket.

9. The receipt and fitting of dial sights and brackets in accordance with the foregoing allocation should be reported to the Admiralty.

10. The No. 7, Mark II, dial sights returned from H.M. ships are to be forwarded by Portsmouth Yard to Messrs. Barr & Stroud, to be modified to No. 7, Mark II\*, in accordance with Admiralty Letter dated 23.1.1926, C.P. 36903/25, which covers the modification of 152 dial sights. This number is not to be exceeded, observing that a number of dial sights have already been modified. The completion of the contract should be reported to the Admiralty.

*Leaders, Destroyers, Sloops fitted with Director Firing Gear.*

11. Manufacture of the brackets required is being carried out by Portsmouth Yard. After the ships enumerated in paragraph 5 have been provided for, the brackets and dial sights are to be supplied according to the allocation given below. They should be fitted by ships' staffs.

12. Dial sight brackets for the ships quoted are of two designs, viz. :—

- (i) As in E.F.O. 152/28 (6) and (7) for ships fitted with the repeat "W" type director sight, and
- (ii) As in E.F.O. 152/28 (8) and (9) for ships fitted with the light type director sight.

13. The allocation of dial sights and brackets is as follows :—

*Ships fitted with Repeat "W" Type Sights.*

"Wallace" and "Campbell."

*Ships fitted with Light Type Sights.*

5th Destroyer Flotilla, excluding "Wallace."

6th Destroyer Flotilla, excluding "Campbell."

Sloops: "Bluebell," "Hollyhock," "Foxglove," "Magnolia," "Laburnum," "Veronica," "Daffodil," "Delphinium," "Crocus," "Cyclamen," "Verbena," "Wallflower" and "Wistaria."

14. No. 7, Mark II\*, dial sights, fitted with a "slip-on" ring, will be supplied to all ships fitted with the light type director sight. This is necessitated by the fact that on these sights the dial sights are shipped in a position differing 180 degrees from the normal.

15. *Field Guns.*—It should be noted that the No. 7, Mark II, type is still to be used with field mountings and will not be modified for this service. The allocation of dial sights for field mountings will be issued separately.

121. }  
128. } *Issued Confidentially.*

## 129.—W/T Waves—Designation—Kilocycles.

(M. 2563/28.—11.1.1929.)

It was decided at the International Radiotelegraph Conference, held at Washington in 1927, that W/T waves should in future be designated in the first place by their frequency in kilocycles per second (kc/s). Following this designation there will be indicated, in parenthesis, the approximate length in metres given by the quotient of the number 300,000, divided by the frequency expressed in kilocycles per second.

2. Approval has been given for the Navy to conform, and the new nomenclature is to be used for all purposes on and after 3rd November, 1928.

**131.—Electrical Fittings—Protection from Salt Water.***H.M. Ships.*

(D. 0820/28.—11.1.1929.)

A fuze release switch on the ring main system of one of H.M. ships recently burnt out, causing serious electrical damage. The burn-out is considered to have been attributable to an arc having been started inside the top of the case, between the positive and negative sub-mains, probably brought about by percolation of brine sprayed from an evaporator pump relief valve through leaky glands in the fitting.

2. In order to guard against any such risk as may at present exist in any of H.M. ships, suitable protective baffles are to be fitted to all salt water relief valves in the neighbourhood of electrical fittings.

3. Where fuze release switch boxes or similar boxes carrying heavy currents are secured to the inboard bulkheads of oil fuel tanks, arrangements are to be made for a sheet of asbestos  $\frac{3}{8}$  in. thick to be fitted between such fittings and the walls of the oil fuel tanks.

4. The above work should be carried out by ships' staffs with materials supplied, where necessary, by the dockyard.

**132.—Mast-head and Yard-arm Flashing Lanterns—Arcing at the Keys.***H.M. Ships.*

(S.D/G. 12258/28.—11.1.1929.)

A case has been reported in which trouble has been experienced with arcing at the keys of mast-head and yard-arm flashing lanterns in H.M. ships.

Condensers, Pattern 4497, of 0.45 micro farad capacity, are intended for use with 100 volt mast-head and yard-arm flashing lanterns.

**133.—Auto-control Gear of V.S.G. Unit of Forward Capstan Gear—Failure.**

(D. 17647/28.—11.1.1929.)

A failure of the auto-control gear fitted in connection with the variable speed gear of a forward capstan was found to be due to the slacking back of the screwed piece "A" (E.F.O. 150/28 (1) ) which connects the ram to the worm shaft. The connecting piece is secured against slacking back by a thin keep plate "C," which has projections bent over into grooves in the connecting piece and the worm shaft. This keep plate was found to be broken.

2. A more positive method of preventing slacking back of the connecting piece is shown at "X" (E.F.O. 150/28 (2) ), and this modification should be made by ship's staff as soon as possible in the case of similar details, *e.g.*, capstan or boat hoist plant in any vessels so fitted.

**135.—Fan Motors—Internal Ventilation—REPORT.**

(S. 8121/28.—11.1.1929.)

Where excessive internal temperatures are found to occur in fan motors after installation, the methods indicated on drawing E.F.O. 153/28 may be employed to reduce the temperatures. The second method will be found to be of the most general application, but in some instances the ventilating pipe will be required to be led to the commutator end of the motor to assist in ventilating the armature.

2. All types of fan motors can usually be modified to pipe ventilation on the lines shown on drawing E.F.O. 153/28, and for Admiralty design fan motors special provision, as stated below, is made in the construction of the machines for the fitting of ventilating pipes when necessary :—

- (a)  $7\frac{1}{2}$  in. *Fan Motors (High Speed and Low Speed)*.—A boss is provided in the commutator end cover and a space left on the under side of the magnet for drilling.
- (b)  $12\frac{1}{2}$  in. *Fan Motors (High Speed), Frame Size 2*.—A boss is provided in the fan end cover for drilling, and at the commutator end the cover plate can be drilled and a pipe fitted.
- (c)  $12\frac{1}{2}$  in. *Fan Motors (Low Speed), Frame Size 3*.—Bosses are provided in both commutator and fan end covers for drilling.
- (d)  $17\frac{1}{2}$  in. *Fan Motors (High Speed), Frame Size 4*.—Bosses are provided in both commutator and fan end covers for drilling.
- (e)  $17\frac{1}{2}$  in. *Fan Motors (Low Speed), Frame Size 5*.—A boss is provided in the commutator end cover for drilling and the fan end cover can be drilled to receive the pipe.

3. Where Admiralty design motors for  $12\frac{1}{2}$  in. and  $17\frac{1}{2}$  in. fans are installed, the addition of an internal fan for circulating air around the windings can also be made after installation by removing the fan unit from the casing and dismantling the motor. The fan can be mounted on the armature shaft or armature end ring, and would then be an integral part of the motor. The presence of the fan will, however, interfere with the ease of dismantling the motor, which may be undesirable,

Fans for this purpose are not at present available, but will be provided if required.

4. Pipe ventilation or the fitting of an internal fan is only necessary where the machine is installed in a very hot compartment, as a result of which the temperature of the motor consistently exceeds  $190^{\circ}$  F.

5. In all ships where such excessive motor temperatures are experienced and cannot be dealt with as above, a report should be forwarded to the Admiralty through the Administrative Authority, giving details of the temperature rise of the motor, temperature of compartment, and the current taken by the motor. These particulars should be recorded over a period and the readings taken should be given in the report. Where the removal of the motor to a cooler place is impossible, or it is impracticable to fit additional ventilation to the compartment, consideration will be given to the supply of an internal fan.

6. Where found to be necessary, the work of modification is to be carried out by the ship's staff.

### 136.—Boiler Room and Engine Room Doors on Upper Deck.

*H.M.S. "Clematis" and Sloops affected ; also H.M. Dockyards concerned.*

(D. 15031/28.—11.1.1929.)

The following extracts from correspondence relative to a defect in the boiler room and engine room doors on the upper deck in H.M.S. "Clematis" are promulgated for information :—

\* \* \* \* \*

*Extract from report by C.O., H.M.S. "Clematis," 28.8.28, No. 25/52.*

The present means of securing hinged vertical doors, non-watertight, situated in the fore well deck and waist on the upper deck, consists of a single plain brass door-lock, and, in addition, a small sliding bolt. In the event of heavy weather being experienced, it is considered that these would be quite ineffective to ensure the efficient battening-down of these doors, and it is distinctly possible, and even probable, should one of these doors break adrift in a seaway, to flood a boiler room or the engine room thereby.

It is submitted that these doors should be fitted with clips as for an ordinary hinged watertight door during H.M.S. "Clematis" approaching refit.

It is not considered that these doors need be made strictly watertight provided the above is approved. The work entailed would be slight.



*Extract from Malta Yard Letter, 20.9.28.*

With the present fittings considerable leakage might take place through these doors in heavy weather, and the fitting of clips is considered desirable for use when battened down.

If approved, it is proposed to fit three clips on the vertical edges of the doors opposite the hinged edges and one clip on the bottom edge. Eight doors are affected.

\* \* \* \* \*

2. The proposal contained in the extract from Malta Yard letter has been approved for H.M.S. "Clematis," and similar work is to be carried out in all sloops affected, where not already done.

### **137.—Private Wireless Apparatus—Installation in Admiralty Buildings.**

(M. 1772/26.—11.1.1929.)

The usual G.P.O. licence is always to be obtained before private wireless apparatus is installed in any Admiralty building.

2. Private wireless apparatus, except receiving apparatus employing an indoor aerial, is not to be installed in any Admiralty building (including messes, etc.) unless permission has been obtained in the manner shown below.

3. Experimental transmitting apparatus:—

(i) Applications for the installation of privately owned transmitting apparatus will be approved only in very exceptional circumstances, and are to be forwarded through the usual service channels to the Admiralty.

4. Broadcast receiving apparatus:—

(i) Applications for the installation of private receiving apparatus employing an outdoor aerial, are to be forwarded through the usual service channels to the Commander-in-Chief concerned.

(ii) Except as provided for in paragraph 5, the Commander-in-Chief may authorise the fitting of the installation on condition that no expense is met from public funds, that all attachments, etc., to buildings for aerials, lead in or earth wires, etc., are made to the satisfaction of the local Officer-in-Charge of Works and Electrical Engineer.

5. Admiralty approval is to be obtained before wireless apparatus, employing an outdoor aerial, is installed within 200 yards of any building containing explosives of any description. Special conditions, such as the installation of lightning arresters, etc., may then be imposed.

6. As a precaution against fire, installations employing an outdoor aerial are, when not in use, to be definitely earthed outside the building. Earth connections are not to be made to gas pipes or fittings.

7. The operations of any private wireless apparatus installed in Admiralty buildings under the terms of these regulations are to be suspended immediately if interference is caused to service signalling. If the apparatus is removed on change of occupancy, any expense incurred in removal and making good is to be borne by the applicant.

8. The Admiralty accept no responsibility for wireless sets other than those held on the authorised establishment of units.

9. This Order applies to all Admiralty buildings, whether used for service purposes or let. A list of the installations authorised is to be kept up to date by the Officer-in-Charge of Works.

### 139.—Signalling Requirements—Introduction and Allocation of Pattern 3 Message Carrier.

*Flotilla Leaders, Destroyers and New Construction.*

(N.S. 9981/28.—11.1.1929.)

It has been decided to introduce a standard pattern message carrier for use where 3-in. carrier voicepipes are fitted for signal communication purposes.

2. Arrangements have been made for the purchase as shown below of Pattern 3 message carriers, one of which will be supplied for each 3-in. carrier voicepipe fitted in new construction and in all flotilla leaders fitted with Type 38 or 38S, and in all destroyers fitted with Type 37 or 37A.

3. Flotilla leaders and destroyers and, in the case of new construction, the Dockyard or Admiralty overseers concerned, should demand the requisite number of message carriers, quoting this Order as authority.

4. On receipt of Pattern 3 message carrier it is necessary to attach a suitable length of cod line.

5. The message carriers should be dealt with as permanent stores (E.11). The necessary amendments to the Establishments concerned will be promulgated in due course.

Chatham	...	...	...	...	...	...	...	60
Portsmouth	...	...	...	...	...	...	...	60
Devonport	...	...	...	...	...	...	...	60

### 142.—Watches, Telescopes and other Valuable Portable Articles returned from H.M. Ships—Method of Return.

(N.S./N.L. 3458/28.—11.1.1929.)

A watch was recently lost—believed to have been stolen—during the return of a quantity of general stores from one of H.M. ships prior to being paid off into the Reserve Fleet. The vessel was not stored under the Central Storekeeping arrangements.

2. In future, when valuable portable stores such as watches, telescopes and other articles liable to be misappropriated are to be returned to a dockyard as no longer required, arrangements are to be made for them to be taken personally to the Return Store by a responsible officer or rating and handed over to the Storehouseman in Charge. On no account are such articles to be included in the bulk stores returned when a ship pays off.

### 144.—Stores for Recreational Training.

(N.S. 15039/28.—11.1.1929.)

Several requests have been received from H.M. ships for such items as football covers and bladders, tennis balls, etc. These stores are allowed to certain ships and services for recreational training, which is carried out as part of service routine, and any supplies so made should not be used for playing games ashore.

### 146.—Mica Strips—Abolition.

(N.S. 1457/28.—11.1.1929.)

After the present stocks of mica strip, 11½ in. by 2½ in. by ⅛ in. have been exhausted, no more will be provided, and requirements for armature bands should be met from stocks of mica, Patterns 9174 to 9179, and for commutator separators from Patterns 9182 to 9189.

2. The necessary amendment to the Rate Book will be made in due course.

3. *Yards only.*—All dues of mica strip should be considered as cancelled.

### 147.—Titanium Tetrachloride and Chlorosulphonic Acid— Distinctive Marking of Drums.

(N.S. 14988/28.—11.1.1929.)

Drums containing titanium tetrachloride and chlorosulphonic acid are to be painted red with iron oxide and are to be marked as follows for purposes of identification :—

#### *Titanium Tetrachloride.*

Two green circumferential bands 2 in. wide, and on each end of the drum two green diagonal stripes and the stencilled letters TITET.

#### *Chlorosulphonic Acid.*

One green circumferential band at the centre of the drum 2 in. wide, and on each end of the drum one green diagonal stripe and the stencilled letters C.S. ACID on each end of drum.

### 157.—Telegraphic Regulations—Special Orders applicable to H.M. Naval Service.

(M. 2637/23.—11.1.1929.)

#### GOVERNMENT TELEGRAMS.

Attention is called to the following regulations respecting Government telegrams, especially to regulations (iii) (b), (iv) and (vi) :—

- (i) A telegram on Government service must be certified as such by the sender in the space provided in the right-hand top corner of the form.
- (ii) Only Officers of the Crown whose salary is wholly provided for out of an Annual Parliamentary Vote are entitled to send a telegram on Government service without payment. Temporary Civil Assistants are not so entitled.
- (iii) The following classes of telegrams, amongst others, even when arising out of matters connected with the Service, are not allowed to be sent as on Government service without payment; they must in all cases be paid for as private telegrams :—
  - (a) From the sender to a member of his family, advising his detention at the office on official business.
  - (b) Ordering sleeping or other accommodation at hotels or elsewhere for Officers of the Crown travelling on the public service.
  - (c) Advising an official superior of illness, except in case of urgency, when immediate steps have to be taken to provide for the duties of the sender.
  - (d) Requesting leave of absence.
  - (e) Sent by members of an Officer's family, or others, on that Officer's behalf.
- (iv) A telegram must be sent only when a communication by post will not be quick enough.
- (v) The utmost brevity consistent with clearness must be used in framing Government telegrams; needlessly long telegrams hinder the transmission of other telegrams.
- (vi) A communication of a private nature must be excluded from a Government telegram and paid for as a separate message.

#### MESSAGES TELEPHONED TO POST OFFICES FOR DESPATCH AS TELEGRAMS.

2. The sender of a Service message is to inform the Post Office operator that the message is being sent as O.H.M.S., and is on Admiralty service, and the sender is to furnish his name and rank as evidence that he is entitled to send official telegrams without prepayment. The cost of telegrams so dictated as O.H.M.S. is charged against the Admiralty. All proper names and difficult words should be spelled, spelling by analogy being resorted to in cases of words and letters having similar sounds.

The operator will read over the telegram on completion, and the repetition should be carefully checked to eliminate errors. The above instructions apply only to messages telephoned to Post Offices for despatch over the public telegraph lines. They do not apply to phonograms sent over the Admiralty private telephone lines.

When a private telegram is sent by telephone the operator is to be informed to that effect at the time the message is accepted. Private telegrams sent over public lines are not to be certified as official, and are to be paid for.

#### REPLY-PAID TELEGRAM VOUCHERS.

3. In cases where a reply-paid voucher is received with a telegraphic inquiry, the reply should invariably be sent on the reply-paid voucher, and not on an official form.

#### REGISTERED TELEGRAPHIC ADDRESSES.

4. Any new telegraphic addresses that may be registered or submitted for registration should normally not consist of more than one word in addition to the necessary geographical particulars. Telegraphic addresses registered in Great Britain and Northern Ireland are to be reported to the Admiralty for cancellation when no longer required.

### 158.— { Admiralty Long Distance Telephone System—Organisation. Phonograms (P/N)—Procedure and Instructions for use. (M. 373/26.—11.1.1929.)

The long distance Naval Telephone lines terminating in London are concentrated in the Admiralty Trunk Exchange (A.T.X.), and the other ends of these lines terminate at a Naval Trunk Exchange (N.X.) at Chatham, Sheerness, Portsmouth, and Plymouth. The A.T.X. and long distance Naval telephone system are closed every night between the hours of 1830 and 0800, and during the week-ends from 1830 on Saturday to 0800 on Monday.

2. The long distance telephone system is used for general Naval and Dockyard work, and also for communication with certain Air Stations in the vicinity of these Naval Ports (*see* also paragraph 13).

3. It is to be used for Service purposes only, and private calls or conversations are not allowed.

4. The general working of the system is controlled by the Admiralty, but each Naval Trunk Exchange is under the orders of the Senior Officer for local working.

5. A list of N.Xs. and the authorities connected to them is given at the end of this order.

6. At night and during week-ends, when the A.T.X. is closed, the Resident Clerk and Duty Commander at the Admiralty may be communicated with by telephone via the Post Office Trunk system. The caller should ask for (Victoria 9001), "Admiralty Duty Commander," or (Victoria 1925), "Admiralty Resident Clerk."

7. The Admiralty Trunk Exchange will be kept continuously open during times of emergency, or when it is considered that continuous direct telephonic communication between the Admiralty and the Dockyard Ports is necessary. In emergencies, it may be necessary to suspend or delay routine traffic.

#### CONVERSATIONS.

8. The lines are worked on the Trunk Lines System. When making a call, the caller will ring up the local N.X. (A.T.X. in London) and will tell the operator the name, telephone number and department or establishment of the person he wishes to speak to. The N.X. operator will obtain the connection if the Trunk line required is available, or, if a line is not available, particulars will be noted and the caller will then ring off, after giving his own name and number, and will be called later. (N.B.—When A.T.X. is required, "Admiralty Trunks" should be asked for.)

9. The operators keep a list of all calls which have been deferred, with the times at which they were asked for, and calls are connected in the order of the times recorded against them, calls in both directions being treated equally.

10. Calls should be as short as possible. When a large number of calls is waiting on a line, calls will be limited to three minutes from the time the conversation begins, but may be extended if specially asked for, at the discretion of the Officer-in-Charge of the Exchange. In certain cases longer calls will be arranged for special purposes.

11. A call which has been asked for and found subsequently not to be required, should be cancelled by informing the N.X. operator (A.T.X. in London), otherwise time on the long distance lines is wasted.

12. Calls may be made between the Naval Ports specified in paragraph 1 via the A.T.X., but should circumstances, such as the bad state of the lines, render communication difficult, it may be necessary to stop such calls.

13. Communication on service matters via the Admiralty long distance telephone system is also possible between subscribers connected with the local Post Office exchanges in London and the Ports specified in paragraph 1. This system cannot be employed for conversation where the connection would involve a toll or trunk call on Post Office lines.

#### PHONOGRAMS (P/N).

14. When the A.T.X. is open the long distance telephone system is used as an alternative to the telegraph for sending messages between the Admiralty and Naval Ports, and also between two Naval Ports. Messages sent in this manner are known as phonograms (abbreviation P/N).

15. Messages between the ports will be accepted at the Admiralty as phonograms and re-transmitted to the N.X. at the place of destination.

16. When the Admiralty Trunk Exchange is open phonograms may also be sent via the long distance Naval telephone lines between any Naval Authorities who are connected to the telephone system. The phonogram is to be passed via Naval Trunk Exchange nearest the sender. When economy is effected thereby, this Exchange will utilise Admiralty trunk lines to pass the message via the Admiralty to any other Naval Trunk Exchange which may be nearer the addressee, this Exchange in turn taking down the message for forwarding it to the addressee via the Post Office telephone system. Phonograms, instead of telegrams, should be sent by Naval Authorities to firms which are connected to the telephone system in the vicinity of the A.T.X. or any N.X., the phonogram being transmitted by the A.T.X. or appropriate N.X. to the addressee by telephone. In this connection it is observed that the expense of the local telephone call to the addressee is only one penny. Phonograms sent to private firms are in all cases to be confirmed in writing by the originator of the message.

17. Code and Cypher messages can be sent by P/N.

18. Messages should be sent by P/N on all possible occasions when this method is cheaper than the telegraph, and when a letter or postgram will not suffice (*see also* paragraph 26). Experience has shown that messages between Naval Establishments can be sent as accurately by P/N as by telegram, and in most cases phonograms will be delivered more expeditiously than telegrams.

19. Phonograms are telephoned between the phonogram rooms of the A.T.X. and the N.Xs. where they are written down on receipt. They are not telephoned direct from the A.T.X. to addressees at the Ports, nor direct from the N.Xs. to addresses at the Admiralty. In no case are they to be passed direct from the originators to the addressees. Phonograms will usually be delivered to the addressee from the N.X. by telephone, a written copy being forwarded in confirmation if required by the addressee, but when more convenient, written copies may be sent without telephoning the phonogram. Phonograms received at the Admiralty are circulated in the same way as telegrams.

20. Messages for despatch by P/N should normally be sent in writing to the Exchange (at the Admiralty to the War Registry), but when of an immediate nature they may be telephoned by the originator to the phonogram room of the local Naval Exchange (A.T.X. at the Admiralty), and should then invariably be confirmed in writing to the phonogram room for record.

21. Phonograms bear originator's numbers in the same series as messages sent by W/T, P/G and telegraph, and carry the same authority.

22. Particulars of all phonograms are recorded in the Exchanges and copies are kept for reference.

23. All phonograms are to be repeated back after the whole of the message has been taken down.

24. The names of the persons who actually pass and receive a phonogram are to be noted on the forms used, together with the time of receipt.

#### GENERAL.

25. It is essential for the satisfactory working of the lines that the foregoing rules should be strictly adhered to, and that no unnecessary conversations take place. In order to ensure this, arrangements exist whereby the Naval Officer-in-Charge of the Admiralty Trunk Exchange can listen to any conversation over the lines. If he should hear matters of a secret nature being discussed, or conversations on non-service matters or on service matters which are obviously not urgent and which could be dealt with by letter, the call will be summarily terminated and an explanation asked for.

26. The telephones are not to be used when a Postagram or a letter will suffice, but are to be reserved for urgent work or when actual conversation is necessary. Also, as no telephone line, even if direct or private, is entirely free from overhearing, the telephone is never to be used to discuss matters of a secret nature, unless the conversation is so worded that no information would be disclosed to a third party who might overhear the conversation.

27. Except where otherwise stated the rules given above apply only to Admiralty telephone lines and not to ordinary Post Office lines, on which different arrangements for working are in use.

28. When it is necessary to send a message to the Admiralty during the hours that the Trunk Exchange is closed, it should be sent by telegram. Only messages bearing the indication "Immediate," or an indication of a higher relative degree of priority in accordance with the instructions contained in Signal Manual and Coding Instructions, will be dealt with immediately on receipt at the Admiralty during these hours (*see also* paragraph 6).

#### NAVAL TRUNK EXCHANGES AND PRINCIPAL AUTHORITIES CONNECTED TO THEM.

##### I.—CHATHAM N.X.

All Naval, Marine and Dockyard Authorities and Establishments in the vicinity; Lodge Hill, R.N. Armament Depôt; Isle of Grain Air Station; Chatham Garrison.

##### II.—PORTSMOUTH N.X.

All Naval, Marine and Dockyard Authorities and Establishments in the vicinity; Priddy's Hard, R.N. Armament Depôt; Rear-Admiral (S); Lee-on-Solent, R.A.F. Headquarters; Fort Grange Air Station; Stokes Bay Experimental Station.

##### III.—PLYMOUTH N.X.

All Naval, Marine and Dockyard Authorities and Establishments in the vicinity of Plymouth and Devonport.

##### IV.—SHEERNESS N.X.

Local Naval Authorities.

All the above N.Xs. are connected by direct lines to the A.T.X.

*Phonograms* can be sent to the above, also to the A.T.X. for all Departments of the Admiralty, Admiral Commanding Reserves, West India Docks (R.N. Store Depôt), Deptford (R.N. Victualling Yard), and Greenwich College.

Phonograms are also accepted by the A.T.X. for the Air Ministry.

## 159.—Postagrams.

(M. 374/26.—11.1.1929.)

In order to reduce the number of messages sent over inland telegraph lines, a system of special postal messages between Naval Authorities in Home Waters is in operation. Messages so sent are known as Postagrams (abbreviation P/G). Except as regards methods of transmission, they are to be treated in all respects as telegrams, i.e., entered in the L/T log and circulated as L/T messages, etc.

2. Postagrams should be used in preference to L/T messages whenever it is not urgently necessary for the recipient to take action on the same day as the message is despatched, and they will be specially suitable in the case of messages "repeated" to various Officers for information only. They are not intended to replace ordinary postal correspondence, but only such messages as are normally sent by L/T (including phonograms) and which, by means of expeditious handling both in despatch and receipt, will reach the recipient by post in time for any necessary action.

3. Officers using a series of originators' numbers will number the postagrams in the same series. Admiralty postagrams will also be numbered with the same series as for L/T and W/T messages. It should be borne in mind that owing to the longer time taken in transmission of postagrams, cases may occur in which there is an apparent break in the continuity of originators' numbers. In order to call attention to this and to prevent the miscarriage of an important telegram being overlooked, the next L/T or W/T message in the series, following the despatch of one or more postagrams, should contain a reference to the number of intervening postagrams prefixed by the letter "P," thus—273/P.1 (or P.2, P.3, etc.). A time of origin, with the day of the month, should be given to postagrams sent to more than one address or without originator's number.

4. Form S.575C and D, amended as necessary, should be used for these messages, except in Civil Establishments, where the telegram pad D.288 is to be used for phonograms and postagrams. Messages from the Admiralty will be sent on an Admiralty form headed "Postagram."

5. The authority for despatch of the postagram will be the same as for a telegram, and messages must be signed by the Officer authorising the message. Postagrams despatched from the Admiralty will not be signed if they are "Admiralty" messages but will bear in lieu a special stamp of authenticity. Departmental messages, i.e., messages emanating from the Head of a particular Department or Branch (Director of Stores, Director of Dockyards, etc.) despatched from the Admiralty will be signed.

6. Postagrams sent *from* the Admiralty will be enclosed in two envelopes, the inner one being a telegram envelope and the outer one an ordinary O.H.M.S. envelope addressed as a letter, but having "P/G" in block letters in a conspicuous position both on the front and back. Arrangements should be made to ensure that postagrams are not dealt with on receipt as ordinary postal correspondence, and for the inner envelope to be passed unopened to the Officer who would have received the message had it come as an ordinary telegram. Non-confidential postagrams sent *to* the Admiralty need only be enclosed in one envelope, addressed to the Secretary of the Admiralty, London, S.W.1, but the envelope should be marked "P/G" in block letters both on the front and the back.

7. Messages which would be despatched in cypher or confidential code as L/T or W/T messages may be sent in plain language as postagrams. They should be clearly marked "secret" or "confidential" (as appropriate). Messages so marked are to be enclosed in two envelopes, the inner one being marked "secret" or "confidential," and the outer one "P/G" in block letters both on the front and the back. They are to be sent by registered post.

8. In the case of multiple-address messages the notation "Addressed to .....Repeated to....." is to precede the text, as explained in the Coding Instructions. This notation will apply whether the messages are repeated as L/T or W/T messages or as postagrams.

**163.—Temporary Clerks—Gratuities on Discharge.**

(C.E. 7020/28.—11.1.1929.)

The accompanying copy of Treasury Circular of the 18th December, 1928, No. P. 69745/4, is promulgated for information.

P. 69745/4

TREASURY CHAMBERS.

*18th December, 1928.***GRATUITIES TO UNESTABLISHED EMPLOYEES.**

SIR,

I am directed by the Lords Commissioners of His Majesty's Treasury to inform you that They have had under consideration various questions relative to the award of gratuities under Section 4 of the Superannuation Act, 1887, to temporary unestablished employees engaged upon clerical or other non-industrial duties, who have given not less than seven years' reckonable service since the 1st September, 1921, and whose employment it may be found necessary to terminate, owing to work no longer being available for them.

2. It is laid down in the Section that (subject to whole-time employment paid entirely out of moneys provided by Parliament) a gratuity may be awarded to an unestablished employee who has given not less than seven years' service, and who is removed in consequence of the abolition of his employment, or for the purpose of facilitating improvements in the organisation of the Department by which economy can be effected.

3. When such employees are discharged owing to the cessation of their work without replacement, it is sufficiently clear that they are eligible for the award of gratuity. Enquiries have, however, been addressed to their Lordships as to the position of temporary clerks, etc., if they are displaced by P. Class clerks or other officers, either serving in the same Department or transferred from other Departments, whose re-allocation has been necessitated by reason of their own work having come to an end.

Their Lordships are of opinion that in such circumstances the conditions of the Section are satisfied, and if it is certified that the cause of discharge is as stated above They will be prepared, subject to what is stated below, to award gratuities accordingly.

4. Temporary ex-service employees who are discharged in circumstances which, as regards length of reckonable service since the 1st September, 1921, and in other respects satisfy the requirements of Section 4 of the Superannuation Act, 1887, may, nevertheless, be given further employment, if available, through the machinery of the Joint Substitution Board, and My Lords do not propose to award a gratuity if at the time of discharge there is a clear indication that the employee is likely to be immediately re-employed.

If, therefore, in individual cases it is within your knowledge that further employment in Government service is immediately available, a recommendation for the award of a gratuity should not be submitted. Otherwise it should be submitted without an enquiry upon this point, being addressed to the Joint Substitution Board. Upon receipt of the recommendation, My Lords will themselves cause such enquiry to be made, and you will be notified whether or not an award of gratuity has been made.

5. In the event of an employee refusing to accept a reasonable offer of employment in an equivalent grade, My Lords will not normally withhold payment of the gratuity by reason of such refusal, but the employee will cease to be eligible for the Clearing Register of the Joint Substitution Board.

6. Employees to whom a gratuity has been awarded upon discharge may, in the event of their being subsequently re-employed within a period of not more than three years, refund the gratuity, if they so desire, with a view to aggregating their previous reckonable service with subsequent service for the purpose of a future award based upon total reckonable service. Such option must be exercised within twelve months of the first re-employment, and the refund must be made in one sum at the date of option. The existence of this option should be made known to the recipient of a gratuity at the time when Their Lordships' award is communicated to him, but it should be made clear to him that, if he refunds, no claim to payment



of the original gratuity can be entertained in the event of his final discharge in circumstances which do not enable a gratuity to be awarded under the provisions of Section 4 of the Superannuation Act, 1887 (*e.g.*, for infirmity after less than 15 years' service).

Amounts refunded under the foregoing arrangement should be accounted for as extra receipts and surrendered to the Exchequer.

7. It will be convenient if the Superannuation Form submitting a recommendation for the award of a gratuity to an ex-service employee who is entitled to register with the Joint Substitution Board for further employment is marked "J.S.B."

I am,

Your obedient Servant,

R. R. SCOTT.

### 172.—Merchant Vessels—Saluting Men-of-War—REPORT.

There are no written regulations stating that merchant ships shall dip ensign to men-of-war, and this practice must be considered an act of custom and courtesy rather than of rule.

2. It is desired, however, that Flag and Senior Officers shall report to the Admiralty any flagrant or repeated cases of disregard of this practice, particularly by British merchant ships.

3. This Order does not apply to Royal Fleet Auxiliaries, for whom the correct procedure is to hoist their distinguishing pendants when entering a Naval port, joining the fleet, or passing H.M. ships at sea.

### \*180.—Advancement—Recommendations on History Sheets.

(N. 671/28.—18.1.1929.)

It has been decided that the use of the portions of the following History Sheets which relate to recommendations for advancement shall be discontinued :—

Signal ... ..	S.1246	... Section IX.
W/T ... ..	S.1246H	... Section VIII.
Electrical Artificer ... ..	S.1246B	... The whole of page 4.
Ordnance Artificer ... ..	S.1246C	... The whole of page 4.
Writer (for men entered after 4th October, 1925, only).	S.1246D	... Column 7.
Supply Branch ... ..	S.1246F	... Column 7.
Cook ... ..	S.1246K	... Column 8.
Officers' Steward and Cook ... ..	S.1246E	... Column 8.

2. Form S.1246B (Electrical Artificers' History Sheet) is to be altered as follows :—

Page 2. (i) Heading to be amended to read :—

#### *Ship Record.*

To be filled up when a man is discharged from ship or establishment.

(ii) The term "Efficiency" is to be *substituted* for "Ability" in the heading of the columns 4-8 and of column 11.

(iii) The columns at present numbered 12, 13 and 14, are to be re-numbered 13, 14 and 15 respectively, and a new column 12, headed "Efficiency as an Instructor" *inserted*.

(iv) Footnote.

1st line. *For* "10 and 11" *substitute* "10, 11 and 12."

2nd line. *For* "12" *substitute* "13."

- (v) *Cancel* asterisk over columns 4-8 and also the references to the asterisk at bottom of page.
- (vi) *Add* additional footnote :—"Efficiency wherever it occurs to be noted as Superior, Satisfactory, Moderate, or Inferior."

Page 4. *Cancel.*

Certificates for (a) confirmation as E.A., 4th Class, and (b) advancement to E.A., 3rd Class, made out in the form as shown below, are to be pasted on to page 4 of History Sheets of Acting Electrical Artificers, 4th Class, and/or Electrical Artificers, 4th Class, now at sea, who have not obtained, respectively, the certificates as laid down in Appendix XVII, Part I, Nos. 46 and 47, King's Regulations and Admiralty Instructions.

The above alterations will be embodied in the revised Form S.1246B shortly to be issued. These revised forms will be issued to Torpedo Schools for Acting E.As., 4th Class and below, under training.

3. Form S.1246C (Ordnance Artificers' History Sheet) is to be *altered* as follows :—

Page 1. *Delete* asterisk and "Ability in" in heading of columns 5-9 and *substitute* "Examination record in."

*Delete* footnote "Exceptional, Superior, Satisfactory or Fail" and *substitute* :—

"N.B.—Column for "Ability to take charge" need only be filled up in the case of O.As. III or higher ratings."

Page 2. *Amend* heading to read :—

*Ship Record.*

To be filled up when a man is discharged from ship or establishment.

- (ii) The term "Efficiency" is to be *substituted* for "Ability" in the heading of columns 4-8 and of column 11.
- (iii) The columns at present headed "Remarks" and "Initials of" to be re-numbered 13, 14 and 15, and a new column 12 *inserted* with the heading "Efficiency as an Instructor."
- (iv) Footnote.  
1st line. *For* "10 and 11" *substitute* "10, 11 and 12."  
2nd line. *For* "12" *substitute* "13."
- (v) *Cancel* asterisk over columns 4-8 and references to asterisk at bottom of page.
- (vi) *Add* a new footnote :—  
"Efficiency wherever it occurs is to be noted as Superior, Satisfactory, Moderate or Inferior."

Page 4. *Cancel.*

Certificates for (a) confirmation as O.A., 4th Class, and (b) advancement to O.A., 3rd Class, made out in the form as shown below, are to be pasted on to page 4 of History Sheets of Acting Ordnance Artificers, 4th Class, and/or Ordnance Artificers, 4th Class, now at sea, who have not obtained, respectively, the certificates as laid down in Appendix XVII, Part I, Nos. 55 and 56, King's Regulations and Admiralty Instructions.

The above alterations will be embodied in the revised Form S.1246C shortly to be issued. These revised forms will be issued to Gunnery Schools for Acting O.As., 4th Class and below, under training.

4. The use of column 7 on the Writers' History Sheet will be continued for Writers entered before 5th October, 1925.

5. In ordinary circumstances the Captain's signature or initials will no longer be required in the columns indicated of the following History Sheets, and existing forms are to be amended as stated :—

S.1246 (Signal) :—

In the right hand column of Section VIII, for "Initials of Captain" substitute "Initials of Signal Officer or Officer of Signal School if of Lieutenant's rank or above; otherwise Captain."

S.1246A (Stokers) :—

Delete right hand column, and in heading of second column from right, for "Signature of Engineer Officer" substitute "Signature of Engineer Officer if of Engineer-Lieutenant's rank or above; otherwise Captain."

S.1246B (Electrical Artificer) :—

In the right hand column of page 1, for "Captain's initials" substitute "Initials of Officer of Torpedo School if of Lieutenant's rank or above; otherwise Captain."

On page 2, delete column 14 and in column 13 for "Initials of Torpedo Officer" substitute "Initials of Torpedo Officer if of Lieutenant's rank or above; otherwise Captain."

S.1246C (Ordnance Artificer) :—

In the right hand column of page 1, for "Captain's initials" substitute "Initials of Officer of Gunnery School if of Lieutenant's rank or above; otherwise Captain."

On page 2, delete column 14. In column 13, for "Initials of Gunnery Officer" substitute "Initials of Gunnery Officer if of Lieutenant's rank or above; otherwise Captain."

In the columns at the foot of the page, for "Captain's signature" substitute "Signature of Gunnery Officer if of Lieutenant's rank or above; otherwise Captain."

S.1246D (Writer)

S.1246F (Supply)

{ Delete column 9, and in column 8 for "Signature of Accountant Officer" substitute "Signature of Accountant Officer if of Paymaster-Lieutenant's rank or above; otherwise Captain."

S.1246K (Cook)

... Delete column 10 and alter heading of column 9 as for Writers and Supply Branch.

S.1246E (Officers' Stewards and Cooks) :—

In column 9 for "Signature of Commanding Officer" substitute "Signature of responsible officer of Lieutenant's rank or above."

S.1246H (W/T) :—

In the right hand column of Section VII, for "Initials of Captain, substitute "Initials of W/T Officer or Officer of Signal School if of Lieutenant's rank or above; otherwise Captain."

S.1246J (Submarine Detector) :—

In the right hand columns of page 1, for "Captain's initials" substitute "Initials of responsible officer of Lieutenant's rank or above."

Delete right hand columns on page 2, and in the columns immediately to the left for "Initials of A/S Officer" substitute "Initials of A/S Officer if of Lieutenant's rank or above; otherwise Captain."

6. In future the History Sheets of Writer, Supply, Cook, and Officers' Steward and Cook ratings should not normally be completed for periods of less than three months. Heads of Departments may use their discretion if they have particular reasons for making an entry for a shorter period.

7. These alterations will be embodied in the forms on next reprint. All current History Sheets, when amended as directed in this Order, are to be endorsed "Form amended by A.F.O. 180/29," and the endorsement is to be signed by a responsible officer.

CERTIFICATE FOR CONFIRMATION AS E.A., 4TH CLASS.

Date Recommended.	Ship.	Is he a good workman and deserving of confirmation ?	Signature of Torpedo Officer if of Lieutenant's rank or above ; otherwise Captain.

CERTIFICATE FOR ADVANCEMENT TO E.A., 3RD CLASS.

Date Recommended.	Ship.	If competent to perform duties of E.A., 3rd Class.	Signature of Torpedo Officer if of Lieutenant's rank or above ; otherwise Captain.

(Form S.1246c.)

CERTIFICATE FOR CONFIRMATION AS O.A., 4TH CLASS.

Date Recommended.	Ship.	Is he a good workman and deserving of confirmation ?	Signature of Gunnery Officer if of Lieutenant's rank or above ; otherwise Captain.

CERTIFICATE FOR ADVANCEMENT TO O.A., 3RD CLASS.

Date Recommended.	Ship.	If competent to perform duties of O.A., 3rd Class.	Signature of Gunnery Officer if of Lieutenant's rank or above ; otherwise Captain.

**184.—Infectious Diseases—Control.**

(M. 1324/28.—18.1.1929.)

With a view to the effective control of infectious diseases in auxiliary vessels of the Royal Navy, the Admiralty have agreed to arrangements whereby officers of Port Sanitary Authorities shall visit and deal with such vessels belonging to the Admiralty, or chartered to the Admiralty, in all respects as if they were ordinary merchant vessels. Officers of Port Sanitary Authorities are to be given the necessary facilities for entry into H.M. dockyards for the purpose of access to such vessels, as well as to privately owned ships, which might be lying in the dockyard.

2. The following ships do not come within the scope of this arrangement, viz. :—

- (a) H.M. ships in commission.
- (b) H.M. ships with nucleus crews.
- (c) H.M. ships laid up with caretakers.
- (d) Yard craft in dockyards.

3. At present the authorities at the following ports have applied for, and been granted, authority to act under the arrangements outlined above :—

Falmouth and Truro.	Port of London.	Southampton.
Harwich.	Plymouth.	Swansea.
Hull and Goole.	River Tees.	Tyne.
Milford.	Rochester.	Weymouth.

**187.—Issued Confidentially.****190.—Fire Control and Director Instruments—Window Glasses for Diffused Light System of Illumination—Quality and Supply.**

(T. 100/29.—18.1.1929.)

To reduce the cost of spare cover glasses for instruments fitted with diffused illumination, commercial plate glass (as supplied in circles for illuminators) may be employed, but for this purpose only the best of the stock available should be made use of.

2. Specific instructions have been issued to Home Dockyards accordingly, and arrangements have been made for the supply of standard glasses to the yards for purposes of visual comparison. Similar arrangements have been made with the principal manufacturers.

3. Foreign Yards, and ships when replacing such glasses should select the best of the commercial plate glass available, special attention being paid to freedom from air bubbles. It should be noted that no plate glass is wholly free from minute air bubbles. These show as points of light when viewed by diffused illumination, but unless they are very numerous they give rise to no inconvenience or inefficiency in using instruments.

4. No glass showing *surface* scratches or other surface defects should be utilised for purposes of diffused illumination.

**193.—Cartridge Cases, Q.F. 4 in., IV Gun, K.N. make, 1914, 1916 and 1918, R.L. make, 1913, and B. 1918—Withdrawal.**

(G. 4976/28.—18.1.1929.)

Cartridges, 4 in., Q.F., IV gun, made up in cases of the following makes :—

K.N. 1914  
 1916  
 1918  
 R.L. 1913  
 B. 1918

will be withdrawn from H.M. ships in commission and replaced by cartridges in other cases as favourable opportunities offer.

2. Armament Supply Officers will carry out exchanges accordingly, as supplies are available and convenient opportunities occur. Intermediate demands are to be forwarded as necessary to replenish Naval Armament Depôt stocks.

## 198.—H.C.D. Searchlight Lamps, Marks IV and V—Re-allocation.

*All Ships Fitted.*

(G. 20146/28.—18.1.1929.)

Consequent on the issue of the Mark VI, H.C.D. searchlight lamps, the Marks IV and V lamps at present allocated to H.M. ships and establishments are to be re-allocated as shown in the accompanying Appendices I and II.

### APPENDIX I.

#### *Allocation, Mark V Lamps.*

<i>Present.</i>	<i>Proposed.</i>
1. "Vernon," Stokes Bay ...	"Vernon," Stokes Bay.
2. "Vernon," Special, Mark III ...	"Vernon," Special, Mark III.
3. Army... ..	"Vernon." A.R.L. when required.
4. Army (G.E.C.) ... ..	G.E.C.
5. "Vindictive." ... ..	"Vindictive."
6. "Hood" ... ..	"Vindictive."
7. "Nelson" ... ..	"Revenge."
8. "Warspite" ... ..	"Warspite."
9. "Defiance," instructional ...	"Defiance," instructional.
10. "Queen Elizabeth" ... ..	"Queen Elizabeth."
11. "Vernon," instructional ...	"Malaya."
12. "Vernon" (G.E.C.) ... ..	"Vernon," for special carbon trials.
13. "Rodney" ... ..	"Revenge."
14. "Vernon" ... ..	"Vernon."

*Note 1.*—Lamps from "Hood," "Nelson" and "Rodney" to be transferred to "Vindictive" and "Revenge" at end of Spring Cruise, 1929.

*Note 2.*—Instructional lamp from "Vernon" to be transferred to "Malaya" after delivery of "Vernon's" second Mark VI instructional lamps.

### APPENDIX II.

#### *Allocation, Mark IV Lamps.*

<i>Present.</i>	<i>Proposed.</i>
1. Stokes Bay ... ..	} No alteration in allocation.
2. "Vernon," instructional ... ..	
3. "Vernon," experimental ... ..	
4. "Defiance" ... ..	
5. "Vernon," instructional ... ..	
6. "Vernon," experimental ... ..	
7. "Eagle" ... ..	
8. } "Eagle's" lighthouse ... ..	
9. }	
10. "Royal Sovereign" ... ..	
11. "Resolution" ... ..	
12. "Ramillies" ... ..	
13. "Barham" ... ..	
14. "Royal Oak" ... ..	
15. "Queen Elizabeth" ... ..	
16. "Cairo" ... ..	} "Renown,"
17. "Hood" ... ..	
18. "Nelson" ... ..	
19. "Vindictive" ... ..	
20. "Valiant" ... ..	"Revenge."
	"Revenge."
	"Malaya."

*Note 1.*—"Valiant" to transfer her lamp to "Malaya" before returning to England for D.2 refit.

*Note 2.*—Lamps from "Hood," "Nelson" and "Vindictive" to be transferred to "Renown" and "Revenge" on completion of Spring Cruise, 1929.

## 200.—Micanite Bases in Lighting Fittings.

(G. 10785/28.—18.1.1929.)

A report has been received to the effect that the trouble which occasionally occurs in the bases of Pattern 3801 fittings due to the micanite absorbing moisture has been overcome by fitting paxolin bases in lieu.

2. Any ships in which this trouble has been experienced should remark on this in the next Form S.316 and also state if paxolin has proved satisfactory as a permanent remedy.

## 201.—Fires—Prevention during Fuelling Operations.

*Motor Boats.*

(N.S. Fuel 8704/28.—18.1.1929.)

With reference to the instructions contained in A.F.O. 2064/27, with regard to the precautions to be adopted when filling the petrol tanks of aircraft, it is pointed out that high voltages may also be developed when pumping paraffin (M.V.O.). Owing to the lower volatility of this fuel, the risk of fire occurring during fuelling operations is not so great as in the case of petrol, but in all cases where boats are fuelled through hoses, the precautions laid down in A.F.O. 2064/27, paragraph 3 (a), and (b), are to be observed.

(A.F.O. 2064/27.)

## 202.—Establishment of Naval Stores for Gunnery Purposes— Revised Edition.

(N.S. 13661/27.—18.1.1929.)

The revised Establishment of Naval Stores for Gunnery Purposes referred to in A.F.O. 1494/28, has been approved, and copies will be forwarded to the various distributing authorities and to the Captain Superintendent, contract-built ships, principal (ship) overseers concerned, etc. Two copies have been allowed to each battleship, battle cruiser, cruiser, aircraft carrier, repair ship and depot ship, and one copy to each sloop and minesweeper affected.

2. This establishment supersedes the allowances for gunnery purposes included in the "Establishment of Naval Stores for Gunnery and Torpedo Purposes," 1921 Edition. The latter establishment will continue to be effective in so far as the allowances for electrical and torpedo purposes only are concerned, until the revised "Establishment of Naval Stores for Electrical and Torpedo Purposes" is issued.

3. Where ships are being built by contract, the revised establishment is to be worked to in lieu of the gunnery allowances included in the 1921 establishment, or in the lists of stores for gunnery and torpedo purposes, which in some cases are embodied (in lieu of the complete establishment) in the contracts for ships. If the Overseer considers that this procedure will involve extras or rebates, he should report the details to Admiralty for decision. To distinguish between the gunnery and the torpedo and electrical items in the lists referred to above, those ship overseers who are not in possession of complete copies of the 1921 establishment should refer to the copies in the possession of the Warship Production Superintendents of the respective districts.

4. The principal changes made in the new establishment are as follows:—

(a) *Fire Control Gear.*—All fire control gear classed as sea stores (gunnery), in accordance with A.F.O. 1372/27, has been included in the new establishment, allowances being laid down for each class of ship. Provision of range-taker testers has, however, been withdrawn. It should be noted that allowances of electrical fire control gear (sea stores) will be included in the revised "Establishment of Naval Stores for Electrical and Torpedo Purposes," which will be issued in due course.



(b) *Heliographs and Tripods; Navigational Rangefinders.*—These items are not included in the revised establishment, but are shown in the revised "Establishment of Naval Stores for Executive Purposes" to be issued shortly.

(c) *Trolleys, Transporting.*—Trolleys for transporting diving pumps and trolleys for transporting heavy gear, shown on page 352 of the 1921 Establishment, have been included in the new establishment as sea stores, and should be deleted from the fixture list (gunners) and taken on charge as permanent stores in the Central Store Accounts. Returns in respect of these items are to be rendered in accordance with Article 710 (24) King's Regulations and Admiralty Instructions.

*Portsmouth only.*—Proposals for the addition of these trolleys to the Rate Book should be forwarded. The trolleys have been shown, tentatively, under B.10 in the establishment, pages 20–21, items 10 and 11.

(d) *Spare Parts for Dismounting Bogies.*—Allowances of spare parts of permanent store items have been withdrawn, and in future, spares of consumable items only will be carried.

(e) *Apparatus, Electric, for Illuminating Bores of Guns.*—The allowance of this apparatus has been withdrawn, and in future, any necessary supplies of this apparatus will be made from Vote 9 stocks (Ordnance Stores).

(f) *New Tools.*—To modernise the equipment for the gunnery department of the ship, as was done recently for the engineering department in accordance with the revised "Establishment of Naval Stores for Engineering Purposes" (Part I), allowances of a number of new tools have been included in the new establishment, the items being:—

*Patt.*

- 4265 Square, steel, 12 in. blade, 6 in. stock, similar to C.A.V. No. 301, in lieu of Pattern 612.
- 4266 Micrometer callipers, 0 in.—1 in., Brown and Sharpes, No. 21.
- 4268 Sliding calliper gauge, 4 in., Starrett, No. 25.
- 3605 Pliers, long, flat nose, 6 in.
- 4269 Rules, steel, 2 ft. in one piece, graduated in 16ths, 32nds, 64ths, 10ths, 20ths, 50ths, and 100ths of an inch.
- 3874 Universal surface gauge, Starrett, No. 57B.
- 3846 } Morse, taper pin reamers, sizes 00 to 6.
- to }
- 3853 }
- 4270 } Morse, taper pin reamers, additional sizes 7 to 10.
- to }
- 4273 }
- 3854 Morse, taper pin reamers, wrenches for.
- 3882 Morse, taper pins, No. 1,  $\frac{3}{4}$  in. diam., 2 in. length.
- 3883 Morse, taper pins, No. 6,  $\frac{3}{8}$  in. diam., 3 in. length.
- 4274 Morse, taper pins, No. 9,  $\frac{3}{8}$  in. diam., 4 in. length.
- 4275 Surface plates, 6 in. by 4 in.
- 4276 Surface plates, 15 in. by 10 in.
- 2 Drills, hand, in lieu of archimedean braces, Pattern 1636.
- 4279 "Apollo-Ferret" ratchet box spanners, No. 2 set.
- 4267 Micrometer callipers, inside, Starrett, No. B.124, 2 in. to 12 in.
- 4277 Trammel heads, iron.
- 4280 } Lancashire broaches.
- to }
- 4288 }
- Portable electric drilling machine to drill up to  $\frac{3}{8}$  in. hole.
- 701 } Electric soldering bits.
- or }
- 2014 }

Where the new tools are in lieu of Service patterns already carried, they will be issued only when the tools held at present become defective.

(A.F.Os. 1372/27 and 1494/28.)

## 203.—Light Shale Oil for use in Torpedoes—Cleanliness— REPORTS.

(N.S. Fuel 8068/28.—18.1.1929.)

Several complaints of sediment being found in light shale oil have recently been received from sea, and torpedoes are suspected of having run cold from this cause.

2. It is already laid down that fuel must be carefully strained before filling the bottles of torpedoes, but it is apparent that the means of filtering employed varies. Fuel should invariably be strained through clean chamois leather.

3. When this straining indicates undue sediment in the fuel, or otherwise lays it open to suspicion, the cans concerned are to be re-stoppered and landed at the nearest dockyard for despatch to the Admiralty Chemist, Portsmouth, for test, a report being forwarded to the Admiralty through the usual channels, at the same time. This report is always to include the following information, if practicable :—

Place of filling as indicated by seals.\*

Name of dockyard from which supplied.

Date received on board.

\**Note.*—The cans filled by the Scottish Oil Agency, Ltd., Glasgow, are sealed by means of a hollow lead seal with “wavy” wire, and those filled at Sheerness have “N.S.O., Sheerness” stamped on the lead seal.

Shale oil is sometimes found to be quite brown in colour when supplied, but this colouration has no adverse effect on its calorific value as a fuel.

4. The necessary amendments to the Handbooks concerned will be made in due course.

## 206.—W/T—Type 30A, Portable W/T Sets—Allocation of 1928 Purchase—REPORT.

(N.S. 5724/28.—18.1.1929.)

Five Type 30A (Army type “C,” Mark II) portable W/T sets (less carts) have been purchased for delivery to Portsmouth during the financial year 1928–9, and the following allocation has been approved :—

1 set to Atlantic Fleet for an aircraft carrier, to be selected by Commander-in-Chief.

1 set to H.M.S. “Hermes.”

1 set to Rear-Admiral, 1st Cruiser Squadron, for 1st Cruiser Squadron.

1 set to Mediterranean Fleet, for allocation as desired by Commander-in-Chief.

1 set to H.M. Signal School, to replace the Type 30 set released for H.M.S. “Endeavour.”

2. It is not anticipated that the purchase specification and drawings of the new Type 30A cart will be available before August, 1929, and when the carts become available the complete sets will be supplied direct to the services mentioned by Portsmouth Dockyard, without demand.

3. Reports should be forwarded by the respective Commanders-in-Chief, indicating the vessels selected.

4. The supply of two R.A.F. portable sets to H.M.S. "Courageous" is *not* approved.

(A.F.O. 716/29.)

## 208.—Wa/T—Warning Telephone Outfits—REPORT.

(N.S. 14646/28.—18.1.1929.)

It has been decided that from 1st April, 1929, warning telephone outfits will be purchased as a charge to Vote 8/II and dealt with under Subhead F, item 1.A, as follows :—

	<i>Outfit.</i>	<i>Spares.</i>
(a) Sets already fitted in—		
"Royal Oak," "Eagle," "Nelson,"	Fixtures.	Sea Stores.
"Rodney," "Hermes," "Furious,"		
"Courageous," "Kent" class cruisers,		
"Australia" and "Canberra."		
(b) Sets fitted or to be fitted in other ships ...	Sea Stores.	Sea Stores.

2. Warning telephone outfits will be dealt with, as regards allowances of stores, in a manner similar to that adopted for wireless telegraphy sets. Type numbers have accordingly been allocated as follows :—

Outfits supplied by Messrs. Standard Telephones and Cables, Ltd. (fitted in ships shown at (a) above).	Type 401.
Outfits supplied by Messrs. Alfred Graham ...	Type 402.

3. The necessary transfers of equipment and spares from the Torpedo Warrant Officer's Fixture List to the Central Store Account should be made on 1st April, 1929, replacements required in the meantime being dealt with on defect list. The transfers are to be reported in accordance with King's Regulations and Admiralty Instructions, Article 710 (24).

4. When the system is sufficiently standardised, allowances of stores will be included in the W/T Establishment. For the present, hektographed lists are being issued, showing the articles comprising Type 402 and the spares allowed as sea stores to Type 401.

5. Warning telephone outfits purchased under Vote 8/II and classified as sea stores, will not be included in the "first cost" of ships under construction.

## 212.—Central Storekeeping—Revised and Additional Valuation Allowances.

(N.S. 309/29.—18.1.1929.)

The following revised and additional quarterly valuation allowances for Consumable Naval Stores based on the rates shown in the Alphabetical List of Naval Stores (Form S.1098) are promulgated for the information of all concerned. In those ships and establishments where new ledgers have not been opened the rates

shown in the Form S.1098 are to be brought into force on the dates indicated below, from which dates also the new allowances are to become operative.

Home Establishments, ships of the Atlantic and Mediterranean Fleets, H.M.S. "Egmont," and ships at home ports in which the central storekeeping system is operative. 1st January, 1929.

Ships on China, America and West Indies, Africa and East Indies stations. 1st April, 1929.

	<i>Execu- tive.</i>	<i>Engineer- ing.</i>	<i>Tor- pedo.</i>	<i>Gunnery.</i>	<i>Total.</i>
	£	£	£	£	£
"Nelson" and "Rodney" ... ..	960	500	500	120	2,080
"Royal Sovereign," "Revenge" and "Ramillies."	850	470	390	85	1,795
"Royal Oak" and "Resolution" ...	850	430	390	85	1,755
"Queen Elizabeth," "Valiant" and "Malaya."	850	510	390	85	1,835
"Barham" and "Warspite" ... ..	850	470	390	85	1,795
"Iron Duke" class ... ..	770	470	390	105	1,735
"Hood" ... ..	925	700	480	85	2,190
"Repulse," "Renown," and "Tiger"	850	580	440	85	1,955

(£40 additional is allowed to the Executive and Torpedo Departments of Fleet Flagships.)

"Furious," "Courageous" and "Glorious."	1,000	425	300	55	1,780
"Eagle" ... ..	925	380	300	55	1,660
"Hermes" ... ..	650	250	200	35	1,135
"Argus" ... ..	800	200	160	20	1,180
"Kent," and "London" class cruisers.	650	350	300	70	1,370
"Frobisher," "Hawkins," "Victorious" and "Effingham."	600	300	260	55	1,215
"D" class cruisers ... ..	400	150	110	20	680
"C" class cruisers except "Champion."	320	150	110	20	600
"Champion" ... ..	240	110	70	20	440
"Birmingham" and "Lowestoft" ...	440	300	110	30	880
"Enterprise" ... ..	480	275	210	40	1,005
"Emerald" ... ..	480	275	210	35	1,000
"Adventure" ... ..	420	200	200	20	840
"Cyclops" ... ..	600	300	140	10	1,050
"Lucia" ... ..	450	250	125	10	835
"Titania" ... ..	450	250	125	10	835
Fort Blockhouse (including Horsea Island and all tenders other than submarines).	730	275	200	10	1,215

(Note.—Particulars of expenditure in respect of tenders and Horsea Island should continue to be reported separately.)

"L" class submarines in full commission.	—	—	—	—	140
"H" class submarines in full commission.	—	—	—	—	80
"Assistance" ... ..	500	250	40	5	795
"Sandhurst" ... ..	550	225	55	10	840
"Greenwich" ... ..	400	75	60	10	545
"Defiance" ... ..	750	120	300	—	1,170
R.N. Barracks, Chatham ... ..	950	140	—	340	1,430
R.N. Barracks, Devonport ... ..	1,000	140	—	340	1,480

	<i>Execu- tive. £</i>	<i>Engineer- ing. £</i>	<i>Tor- pedo. £</i>	<i>Gunnery. £</i>	<i>Total. £</i>
" St. Vincent " ... ..	350	40	—	25	415
" Ganges " ... ..	770	160	—	50	980
(including Sick Quarters)					
Dartmouth College ... ..	400	190	60	10	660
" Fisgard " ... ..	600	1,500	170	—	2,270
M.T.E., Chatham ... ..	275	(Main- tenance)	200	(Instruc- tional)	475
M.T.E., Devonport ... ..	—	200	—	—	200
R.F.A., " Perthshire " ... ..	100	175	—	—	275
(including W/T Stores)					
H.M. Navigation School, Portsmouth	25	(for Executive and Engineering)			25

	<i>Execu- tive.</i>	<i>Engin- eering.</i>	<i>Gun- nery.</i>	<i>"Vic- tory."</i>	<i>Signal School.</i>	<i>Anti- Gas School.</i>	<i>Sub Sta- tions.</i>	<i>Total.</i>
R.N. Barracks, Portsmouth.	1,100	140	60	50	30	10	25	1,415

	<i>Execu- tive.</i>	<i>Engin- eering.</i>	<i>Gun- nery.</i>	<i>Tar- gets.</i>	<i>"Excel- lent."</i>	<i>Tug "St. Fagan."</i>	<i>Rifle Range.</i>	<i>Photo- graphic School.</i>
" Excellent " ... ..	760	70	200	300	40	60	25	5
Total 1,460								

	<i>Execu- tive. £</i>	<i>Engineer- ing. £</i>	<i>Tor- pedo. £</i>	<i>Gun- nery. £</i>	<i>Total. £</i>
H.M.S. " Egmont " ... ..	240*	60	—	5	305

(\* including sub-stations, the expenditure for which should continue to be reported separately)

Tug " St. Issey " ... ..	100	18	—	—	118
Trawler " Ouse " ... ..	60†	15	—	—	75
Trawler " Moy " ... ..	60†	15	—	—	75

(† including W/T stores)

Targets ... ..	100	—	—	—	100
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### 214.—Electric Cable—Instructions in regard to Issue.

(N.S. 12269/28.—18.1.1929.)

Care is to be taken to ensure that the oldest stocks of electric cable (if in good condition) are issued before those of more recent manufacture, so as to ensure that cable is not retained in store for an unduly long period, with increased probability of deterioration.

2. It is important that no cable other than those in good condition shall be installed in H.M. ships. With this in view, before issuing for ship work electric cable which has been in stock for more than 12 months, a piece not exceeding 1 ft. in length is to be cut from one end of the cable. This is to be taken apart, examined and subjected to such tests as may be considered necessary. The insulation resistance of the cable should also be measured if as a result of examination, it is considered necessary.

3. Similar tests should be carried out in the case of electric cable which has been in stock for more than 12 months and which is required to be transferred between yards—home and abroad. Copies of tests should be forwarded to the receiving yard.

4. Any electric cable considered to be unsatisfactory for the purposes stated above should be reported from time to time on special forms D.68, this order being quoted as the authority for the action taken.

## 231.—Fuze Release Switches—Examination.

*Dockyards and District Electrical Engineers.*

(D. 0921/28.—18.1.1929.)

During the testing of a service fuze release switch for vacuum-tightness on one of H.M. ships of recent construction it was found that parts of opposite polarity had come into contact.

2. The matter was investigated and it was found that in tightenting up the gland nut of the positive ring main cable in order to obtain the specified vacuum test, sufficient pressure was exerted to force the cable through the gland, with the result that the bus bar to which the cable was attached became deformed to such an extent as to cut through the insulation and make contact with the negative bus bar.

3. In order that it may be definitely ascertained that the bus bars and other current carrying parts are free from distortion or displacement, the whole of the switches before putting on the covers, are to be carefully examined for freedom from such defects, prior to closing and sealing the covers of the cases.

## 240.—Fleet Air Arm Pilots—Conversion Courses.

(C.W. 10736/28.—25.1.1929.)

In future, when a Fleet Air Arm pilot is recommended for a conversion course to a different type of aircraft on account of lack of skill, loss of confidence, or any other disability, the recommendation is to be forwarded to the Admiralty through the usual Service channels, and if approved, arrangements will be made for the pilot to undergo the course at a Royal Air Force base in England under experienced flying instructors.

## 241.—Fleet Air Arm—Deck Landing Afloat—REPORT.

(C.W. 19/29.—25.1.1929.)

As a result of experience to date, the following instructions are issued as a guide to the procedure which should be adopted in an aircraft carrier when pilots are being trained in their initial deck landings :—

- (i) The pilot should be in full flying practice before any attempt to train him in deck landing is made. No difficulty should occur as regards pilots posted to embarked flights from the Royal Air Force Training Base, Leuchars, or the Royal Air Force Base, Gosport. When pilots have been posted to disembarked flights, however, care must be taken that they are given adequate flying practice until the opportunity to train them in deck landing afloat arises.
- (ii) It should first be determined whether the pilot to be trained is conversant with all deck landing signals and their significance.
- (iii) The method of approach, the approximate height and distance at which to approach from before a landing, the necessity of opening his throttle to go round again in plenty of time if he is not straight before landing, and the absolute necessity, once he has landed and finds himself running towards the palisades, of switching off, must be explained.
- (iv) (a) In multi-seaters the pilot should always be given one or two landings as passenger, in order that he may grasp the correct height from which to approach, the amount of rudder and bank necessary to maintain a steady approach, the correct height to come in over the stern, and, finally, the right moment to shut off his throttle before landing.  
(b) In single seaters he should watch one or two demonstration landings by experienced pilots before attempting it himself.
- (v) Before actually landing, a pilot should do two or three dummy runs over the deck, so as to get his eye in. When he waves his hand to signify he is quite confident of landing on, the affirmative can then be put out.

- (vi) The number of landings that a pilot makes at any one time during his training is left entirely to the discretion of the Commanding Officer of the carrier. Six landings, however, in one day is considered sufficient. On the other hand some pilots in only four landings can demonstrate their ability to land on. If the Commanding Officer considers that the pilot is able to land on consistently after four landings, he should have no hesitation in passing him out.
  - (vii) The speed of the relative wind over the deck should be adjusted as far as possible to what is considered the easiest speed for landing on for any particular type of aircraft. If possible, training should not be carried out on days when the wind is gusty.
  - (viii) Training should always be carried out in sight of land and, whenever possible, with an aerodrome at hand.
  - (ix) In the event of a pilot making a series of indifferent dummy runs and wild approaches, he should on no account be allowed to attempt a landing, but be sent back to the nearest base aerodrome for further flying practice.
2. When an officer completes his deck landing training afloat, and qualifies or fails as a deck landing pilot, the fact is to be reported on R.A.F. Form 292.
3. This report is to be rendered *immediately the officer completes his training*, the date of qualification when applicable being clearly stated thereon, direct from and signed by the Commanding Officer of the aircraft carrier as follows :—
- 2 to Secretary of the Admiralty.
  - 1 to Air Officer Commanding concerned.
  - 1 to officer's new unit in the event of his being appointed away from the aircraft carrier in which he qualified as a deck pilot.

## 249.—Wrenches, Breech Mechanism, No. 47—Modification.

(G. 16762/28.—25.1.1929.)

Instances have occurred of injury to the tube chamber end of vents, axial, owing to the length of leg of the above wrenches being less than the distance from the rear face of nut to end of the vent when the nut is screwed hard down.

2. The wrenches, breech mechanism, No. 47, on board H.M. ships should therefore be modified by ship's staff to obviate this in accordance with E.F.O. 5/29. The wrenches in store at R.N. armament depôts should be modified in accordance with Instructional Print N.O.D. 2107/28, copies of which have been issued to the depôts concerned.

## 251.—Gun Mountings—4·7 in. C.P.VI\*.

(G. 11691/28.—25.1.1929.)

When removing the adjusting valve of the run-out control gear in 4·7 in. C.P. VI\* mountings, it will be found that the hexagon head of the valve fouls the elevating arc, and the valve cannot be withdrawn without removing the complete controlling plunger.

2. The difficulty can be overcome by modifying the hexagon head of the spigot adjusting valve to allow this to clear the elevating arc of the mounting as shown in sketch (E.F.O. 143/28).

3. Where not already arranged for, this modification is to be carried out where necessary to the spigot valves of 4·7 in. C.P.VI, VI\* and VI\*\* mountings by depôt or repair ships, and on reserve mountings by dockyards when mountings are brought forward for service.

4. If it is found that there is still insufficient clearance for the valve to be withdrawn, a small amount of metal may be removed from the elevating arc in way of the hexagon head of valve.

## 252.—Cordite in Target Smoke Shell Ammunition Stowed in Ready-use Lockers.

(G. 17708/28.—25.1.1929.)

As target smoke shell ammunition is never stowed in ships' magazines, it will in future be sentenced on the temperatures which it has experienced in its proper stowages, *i.e.*, smoke shell or ready-use lockers.

2. To enable this to be put into operation, the nature and lots or sub-lots of ammunition stowed in ready-use or smoke-shell lockers outside ships' magazines is therefore to be clearly shown in Form S.1147A (Return of Temperatures of Storage of Cordite).

## 253.—Ring Main Switch Boxes.

*H.M. Ships under Construction.*

(S. 0346/29.—25.1.1929.)

In all ships building, where ring main switch boxes of any description are mounted on the plating of compartments allocated for the stowage of oil fuel, the boxes are to be packed off the bulkhead by asbestos sheet of a thickness of  $\frac{3}{8}$  in.

2. If any extra cost is involved by this alteration, the amount is to be reported by the dockyards or overseers concerned, and approval obtained before the work is put in hand.

## 257.—Light Filters for Telescopes.

(N.S. 15546/28.—25.1.1929.)

A number of light filters for stereo telescopes are available at Portsmouth :—

For telescopes, Pattern 873 :—

Neutral.

Red.

Yellow.

For telescopes, Pattern 2634 :—

Neutral.

Red.

Yellow.

2. Any requirements should be demanded by H.M. ships from Portsmouth as consumable stores.

## 258.—Fog Horns—Introduction of New Patterns.

(N.S. 565/28.—25.1.1929.)

In order to comply with Board of Trade specification, it has been decided to introduce two new patterns of fog horns, to which Pattern Nos. 4401 and 4407 have been assigned in lieu of Patterns 1 and 7 respectively.

2. Arrangements should be made for the distribution of sealed patterns from Chatham.

3. *Chatham only.*—Consideration should be given to the desirability of standardizing component parts as in the case of Patterns 1 and 7, and an early report is desired.

4. Stocks of existing patterns until exhausted should continue to be issued to H.M. ships, not including fleet auxiliaries.

5. Any fog horns on board R.F.A. vessels which do not comply with the Board of Trade regulation, *i.e.*, which are not capable of a sustained blast of four seconds duration, should be replaced by horns of the new pattern as soon as these are available.



## 268.—Medical Examination, Inoculation and Vaccination of Civilian Officers and Workmen (and their Families) on Transfer to Naval Establishments Abroad.

(C.E. 147/29.—25.1.1929.)

The following instructions relative to the medical examination, inoculation and vaccination of civilian officers and workmen (and their families) on transfer to naval establishments abroad are supplementary to, and to be read in conjunction with, the general instructions on the subject contained in Home Dockyard Regulations, 1925.

*Medical Examination.*—Attention is called to Articles 436 (3), 437 (3 and 4) and 441 (3 and 4), Home Dockyard Regulations, 1925, which are to be strictly adhered to.

Where a member of an officer's or workman's family is declared unfit for residence at the station to which that official is to be transferred, and the officer or workman nevertheless decides that the member of his family referred to shall proceed to the station, the cost of passage to and from the station in respect of that individual, will usually be defrayed from public funds. If, however, it is necessary for reasons of health, to bring home such a person before the officer or workman is himself re-transferred to England, the latter will be liable for any *extra* expense incurred.

The procedure to be adopted for examining civilian salaried officers who volunteer for appointments abroad is as follows—

- (a) Volunteers are not to be medically examined prior to their names being submitted to the Admiralty.
- (b) Candidates selected to fill vacancies will be appointed subject to medical fitness.
- (c) Selected candidates should be medically examined immediately on receipt of their appointments, and the medical certificate of fitness should be forwarded to the Admiralty.
- (d) If the officer is medically fit, the passage form should be completed and forwarded to the Director of Sea Transport, Mercantile Marine Department, Board of Trade.
- (e) Sufficient time should be allowed to permit of vaccination and inoculation before the date of sailing.

*Vaccination and Inoculation.*—Subordinate appointments (including those of workmen) at naval establishments abroad, which are filled by selection of candidates from volunteers at home establishments, are conditional upon the official and his wife and family being vaccinated against smallpox and inoculated against enteric fevers before taking passage abroad.

A certificate to the effect that vaccination and inoculation have been performed is to be included in all agreements in respect of workmen volunteering and selected for service abroad.

Salaried officers and others who are *selected* for service abroad, are to be advised of the extreme desirability of re-vaccination against smallpox and inoculation against enteric fevers, both for themselves and their wives and families (if any), accompanying them, before leaving England.

In the event of an officer or other employee *selected* for service abroad, or his family contracting smallpox or enteric fevers when abroad, after having omitted to take the appropriate measure of precaution mentioned in the preceding paragraph, the Admiralty may, after consideration of the case, decide to take action on the lines indicated below, as may appear suitable:—

- (a) Homeward passage expenses may be disallowed, if the passage has to be booked before the official's normal period of foreign service is completed.
- (b) Any privilege of free or assisted hospital or medical treatment which is customary may be withdrawn.
- (c) Sick pay may be reduced or disallowed.

Civilian dockyard officers and employees proceeding abroad on agreement or otherwise, may be vaccinated and inoculated by the medical officer of the naval establishment concerned without charge. Inoculation (but not vaccination) of their wives and families may also be performed by the medical officer. Notice of at least four or five days should be given to enable the medical officer to procure the necessary lymph.

The fees of a surgeon and agent or private medical practitioner for the medical examination of an Admiralty employee himself, as distinct from vaccination or inoculation, only can be allowed as a charge to Navy Votes. Surgeons and agents or private medical practitioners should not be given orders to undertake the medical examination of the wives and families of civilian employees or to vaccinate or inoculate the employee himself or his wife and family. If a surgeon and agent, or private medical practitioner does afford such treatment, or undertake such medical examinations it should be understood that he does so in his private capacity, and that his fees are not an Admiralty liability.

Civilian dockyard officers and employees serving at naval establishments abroad, their wives and families, may be vaccinated against smallpox and inoculated against enteric fevers by the medical officer of the naval establishment concerned without charge.

Medical officers are to recommend these forms of protection to all persons who come under their care in whose cases vaccination has not been performed within five years or inoculation within one year.

Vaccination and inoculation of civilian dockyard officers and employees and their wives and families in such circumstances are voluntary, and these services cannot be performed at Admiralty expense by surgeons and agents or by private medical practitioners.

### **\*273.—Medical and Dental Officers—Private Professional Practice.**

(C.W. 11313/28.—1.2.1929.)

The attention of all medical and dental officers is drawn to the Regulations governing Private Professional Practice.

2. The following rules are to be observed:—

- (a) If a plate is displayed, it is to show the officer's rank in the Navy and must bear upon it the words "Royal Navy";
- (b) No hours of attendance are to be shown on the plate;
- (c) No civilian appointment such as on the staff of a civil hospital is to be accepted without prior approval from the Admiralty.

(*K.R. and A.I., Art. 1449a, Instructions for Naval Hospitals, etc. (1927), Art. 99a, Home Dockyard Regulations (1925), Art. 187 (1).*)

### **287.—Guns, Machine, Vickers, .303 in.—Adjustment and Modification.**

(G. 18190/28.—1.2.1929.)

Firing levers of .303 in. Vickers guns may be adjusted where necessary to ensure correct action of trigger bar on trigger by placing the lever, thumbpiece uppermost, on the open jaws of a vice and set from the centre. The adjustment consists in setting the firing lever outwards slightly. To avoid damage, some suitable material should be laid over the vice jaws.

2. In early issues of nuts, slide, tangent, No. 2, the thumb piece blade is liable to foul the crank handle in one position (about 1,200 yards elevation) when the tangent sight is down. Where this occurs, the outer edge of the blade should be reduced by .05 in. to the dimensions shown on Sketch E.F.O. 9/29.

3. This work may be carried out on guns on board H.M. ships by ship's staff or alternatively by Royal Naval Armament Depot staff when required, on requisition. Guns in store will also be adjusted or modified as above by depot staff.

**289.—Issued Confidentially.****294.—Depth Charge Hydraulic Release Gear—Emergency Couplings and Springs.**

(G. 16270/28.—1.2.1929.)

The emergency couplings (Pattern 2510), for insertion in damaged portions of the hydraulic pipe system, are to be of the type shown in the Depth Charge Handbook (O.U. 6148), and as shown in E.F.O. 4/29. The type shown in E.F.O. 104/27 (1) is to be regarded as cancelled, but existing couplings to this cancelled design are to be utilised until supplies are exhausted.

2. Particulars of the leather cups and washer, together with spring, Pattern 2380, are also shown in E.F.O. 4/29.

3. The details of the internal springs (Patterns 2381 and 2382) for the receiver for the Newitt type hydraulic release gear are undergoing revision, and the particulars of these springs will be promulgated in due course. In the meantime, all release gears issued for service are to be tested for the following requirements:—

(a) The initial load to commence movement of the slipper should be from 50–55 lbs.

(b) The final load to release the depth charge should be approximately 120 lbs.

4. When the release cylinder is to be used in connection with the trap for depth charge rails, the two internal springs (Patterns 2381 and 2382) are to be retained, and the travel of the piston is to be not less than  $1\frac{1}{2}$  in., corresponding to a final load of 120 lbs.

5. Twelve copies of drawing of the type of coupling now re-introduced are required for purchase purposes, and Chatham should prepare and forward accordingly a drawing showing the couplings on drawing M.E.D. 10963.

**296.—Spare Main Motor Armatures.***“H” Class Submarines.*

(D. 18217/28.—1.2.1929.)

Spare main motor armatures for “H” class submarines, with the exception of those removed from H.M. Submarine “H.30” during that vessel’s refit at Sheerness in January, 1929, are to be carefully examined, tested and re-insulated before issue for further service, if such re-insulation has not been carried out.

**301.—Small Torpedo Attack Table and Models of British and Foreign War Vessels—Supply.***H.M.S. “London.”*

(N.S. 1500/26.—1.2.1929.)

A small torpedo attack table and one of each set of models, Patterns 210–213 of war vessels, should be issued by Portsmouth to H.M.S. “London.”

2. No further supplies of torpedo attack tables and models for use therewith, should be made without Admiralty approval.

### 303.—Blank Charts for Meteorological Instruments— Method of Demanding.

*Aircraft Carriers.*

(N.S. 792/29.—1.2.1929.)

A communication has been received from the Meteorological Office stating that a demand had been received from an aircraft carrier for supply of a set of charts for distance reading thermograph.

2. Blank charts for meteorological instruments should be demanded on ships' storing ports, and this course should be pursued in future.

3. Charts for distance reading thermographs are Messrs. Negretti & Zambra's No. 1005, and home yards should arrange for local purchase as necessary to meet demands received. The cost of the charts is 7s. 6d. per set (one year's supply for one instrument).

4. To provide a stock to meet immediate requirements on the Mediterranean Station, one set of these charts will be supplied to Malta, and the necessary arrangements should be made by Chatham accordingly. Further requirements at Malta should be included in supplementary demands as necessary.

### 306.—W/T—Pattern 6373C Heterodyne Unit K.5—Modification when fitted with Dull Emitter Valves.

*All Services.*

(N.S. 362/29.—1.2.1929.)

It has been found that though the characteristics of the Pattern 7406 NR14 valve are similar to the Pattern NR7 valve for all normal working, in the case of Pattern 6373C heterodyne unit K5, the change of valves slightly affects its calibration. The alteration to the calibration is small but must be taken into consideration if the instrument is to be employed as an accurate wavemeter. It will, therefore, be necessary for these instruments to be recalibrated when D.E. valves are fitted.

2. All new Pattern 6373C heterodyne units K5 which have been bought to the new specification have a filament rheostat of 2.6 ohms instead of the existing 0.25 ohm, and these instruments will only be suitable for use with dull-emitter valves. The new instruments can be distinguished by the diagram in the lid of the box which will show this rheostat marked 2.6 ohms and the calibrating books will be marked "NR14 valves."

3. In order that all Pattern 6373C heterodyne units K5 should be the same, all ships after completing the change to D.E. valves should rewind the filament rheostat to 2.6 ohms before having the instruments recalibrated. This is necessary because the alteration to the filament rheostat also has a small effect on the calibration results.

4. To rewind the filament rheostat for 2.6 ohms, the existing mica former should be used, and wound with No. 26 S.W.G. Eureka wire, Pattern 879 (35½ in. of wire).

5. When this modification has been carried out, the diagram of connections in the lid of the box should be amended. The calibration book should be marked "NR14 valve" when the recalibration with dull-emitter valves takes place.

6. All Pattern 6373C heterodyne units K5 in stock should be similarly treated.

**310.—Naval Stores and Fixtures—Accounting, etc.***Drifters.*

(N.S. 954/29.—1.2.1929.)

The following instructions relating to the verification of Naval stores and fixtures in drifters and the accounts to be kept by these vessels are promulgated for the guidance of all concerned.

2. All permanent Naval stores supplied to drifters are to be accounted for on Inventory Forms F.A.21 and F.A.23. All vouchers appertaining to the supply or return of these stores are to be noted and retained with the Inventories which are to be checked on the occasion of the annual verification mentioned below. Spare gear and fixtures including electrical apparatus installed are to be accounted for in the same manner on Form D.6.

3. *Permanent stores supplied to drifters from parent ships fitted for central storekeeping should be issued off main ledger charge outright and not treated as "permanent loan" transactions. The value of consumable stores supplied should be charged in the parent ship against the valuation allowance of the department concerned.*

4. The Inventories and Fixture Lists are to be verified *annually, as soon as possible* after 1st January in each year by the officers named below, a certificate to the effect that this has been done being forwarded to the Admiralty (N.S.). Any differences disclosed are to be investigated and the result reported at the time the certificate is forwarded:—

Drifters attached to H.M. ships—By the Commanding Officer of the ship to which the drifter is attached.

Drifters attached to reserve fleet, at bases, or in reserve—By Senior Officer of reserve fleet of the port and officer in charge of base respectively.

They are also to be verified whenever a drifter is transferred from one ship or service to another, placed in reserve, etc., and a certificate that this has been done is to be given in the places provided on the form by the officers giving up and taking over charge.

5. Differences are to be investigated and the result reported to the Admiralty.

6. The Inventories should be closed on the following occasions *only*:—

- (i) When a drifter is to be placed on the disposal list. The closed Inventories and supporting vouchers are to be forwarded to the Naval Store Officer of the dockyard at which the vessel is prepared for sale.
- (ii) When the forms become in an unsatisfactory condition through long usage. In these instances the closed Inventories, together with supporting vouchers should be rendered to the Admiralty (N.S.).

**312.—Insecticides for Extermination of Cockroaches.**

(N.S. 15149/28.—1.2.1929.)

It has been approved to introduce the use of a mixture containing sodium fluoride 3 parts by weight, pyrethrum 1 part, for the extermination of cockroaches, etc., in H.M. ships and establishments, in the place of existing service insecticides.

2. The following are the directions for use of the mixture, viz. :—

**COCKROACH POWDER—POISON—DIRECTIONS FOR USE.**

- (a) This powder should be distributed with a small painting brush, and worked into all corners and crevices.
- (b) Care should be taken not to bring the powder into contact with food.
- (c) The insects are temporarily rendered more lively, and dead ones are usually found some distance from the place where the powder is sprinkled.

(d) The powder should be used for three consecutive days, and again after an interval of ten days to kill any insects which have hatched out in the meantime.

(e) If possible, adjoining spaces should be treated concurrently, as cockroaches tend to migrate from one compartment to another.

3. The small bellows hitherto supplied for use with powder insecticides are unsuitable for use with the above mixture, as they are too violent.

4. The mixture will be made up at Portsmouth Yard and will be supplied in 1 lb. airtight tins. Directions for use will be issued with each tin, which will also bear particulars of the date of filling.

5. The following quantities have been approved for the yards named for the current and ensuing financial years, and manufacture should be regulated in the light of particulars furnished in the latter part of this Order :—

<i>Yard.</i>	<i>Current Financial Year, 1928-9.</i>	<i>Ensuing Financial Years, 1929-30.</i>	
Chatham ...	90 lb.	80 lb.	
Sheerness ...	70 „	680 „	Includes requirements for foreign yards on annual demands.
Portsmouth ...	50 „	160 „	
Devonport ...	30 „	80 „	

6. Demands on D.273 should be forwarded by Portsmouth Yard as soon as possible for the necessary ingredients and tins, a specification for the tins being prepared and forwarded into office for approval and proposals forwarded on Form D.19 for the necessary additions to the Rate Book of Naval Stores of the stores in question.

7. Pyrethrum deteriorates during long storage, and in order that the powder may be as fresh as possible when issued to ships, steps are to be taken to issue first the mixture of earliest make, and action taken to ensure a regular turnover of the oldest stock.

8. A standing contract will be negotiated for the ingredients if suitable terms can be arranged, and in these circumstances no reserve stock of sodium and pyrethrum should be maintained for the present. At home yards a reserve based on a three months' expenditure of filled tins should be maintained as at present.

9. The tins should be treated as "returnable" when emptied of their contents, and all serviceable tins should be returned to Portsmouth Yard for re-filling.

10. In future all requirements of the insecticide should be included in the periodical demands for Subhead E, Items 6 and 7, the manufacturing yard showing requirements of ingredients accordingly.

11. The necessary amendments to the Sea Store Establishments will be made in due course.

### 314.—Lock-up Cupboards, etc., for Valuable Portable Articles of Naval Stores—Access.

(N. S. 15676/28.—1.2.1929.)

Only responsible persons should be allowed access to cupboards or other lock-up accommodation utilised in H.M. ships and fleet establishments for the special stowage of any valuable portable articles which are particularly liable to misappropriation, *e.g.*, binoculars, telescopes, watches, etc. The store accounting officer is personally to decide who shall have access to these cupboards, etc., and to arrange for the safe custody of the keys. He should allow no departure from his instructions without his special permission.

### 319.—O.U. Publications and Books of Reference supplied for Distribution—Accounting.

(N.S. 16182/28.—1.2.1929.)

In connection with the supply of O.U. publications and books of reference in bulk for distribution to squadrons, flotillas, etc., arrangements are to be made by West India Docks for supply vouchers to be clearly endorsed, showing the purpose for which the publications and books have been supplied, *e.g.*, "For distribution to ships of First Battle Squadron." The books supplied for retention by the distributing authority are to be shown on a separate voucher and charged to this authority.

2. On receipt, the publications and books for distribution are not to be taken on charge in bulk in the relative accounts of the distributing authorities, but transfer vouchers (Forms S.549) are to be created in triplicate by these authorities, two copies of which are to be forwarded to each ship, etc. (including the ship in which the authority is resident), to which the books are distributed and ultimately disposed of as follows:—

One copy retained to support the relative debit entry in the account of the receiving ship.

One receipted copy retained by the distribution authority.

Immediately the distribution is made the third copies of the Forms S.549, attached to an abstract showing details of the distribution, are to be forwarded to the Admiralty (N.S.) by the distributing authorities for use in connection with the examination of the respective O.U. and books of reference accounts.

3. Any spare copies of O.U. publications and books of reference remaining after "general issues" have been made should be taken on charge in the accounts of the distributing authorities (Forms O.U. 2A and S.123), the relative debit entries being supported by copies of the distribution lists referred to in paragraph 2 above.

### 355.—Officers Substantively Promoted while holding Acting Appointments—Superannuation.

(C.E. 86/29.—1.2.1929.)

It has been decided that where an established officer, while serving in a higher rank in a full acting capacity, is promoted on a substantive basis, his promotion, for the purposes of an award under the Superannuation Acts, shall be deemed to have had effect on the date from which he has served continuously in a full acting capacity either in the rank to which he is substantively promoted or in any superior rank to which promotion is made in ordinary course from the rank in which the officer is confirmed.

2. The foregoing arrangement, which concerns only those officers who are substantively promoted while holding acting appointments, will be applicable to all such officers who retire or die on or after 22nd November, 1928.

3. In future submissions for awards under the Superannuation Acts, full particulars of any acting appointments held by the officer during the last three years of his service, together with the date of his substantive promotion, should be shown on the superannuation form.

**\*361.—Naval History—Annual Examination.**

(C.W. 368/29.—8.2.1929.)

The regulations governing this examination are laid down in King's Regulations and Admiralty Instructions, Appendix XII, Part 6.

The subjects and authorities for the essays for the years 1930–1933 are as follows:—

For 1930.

Howe.

Life of Howe, by Sir John Barrow.

Article on, in Mahan's Types of Naval Officers.

Article on, in Dictionary of National Biography.

Mahan. Influence of Sea Power on History.

Influence of Sea Power on the French Revolution and Empire.

Corbett. England in the Seven Years' War.

Some Principles of Maritime Strategy.

W. M. James. The British Navy in Adversity.

W. James. Naval History of Great Britain, Vols. I and II.

Castex. Les idées militaires de la Marine du XVIII<sup>e</sup> siècle.

Chevalier. Histoire de la Marine Française pendant la guerre d'indépendance Américaine.

Histoire de la Marine Française sous la première République.

Lacour Gayet. La Marine militaire de la France sous Louis XVI.

Hunt. Political History of England (Longmans). Vol. X.

Beatson. Naval and Military Memoirs.

Signals and Fighting Instructions (Navy Records Society, Vol. XXXV).

The Naval Miscellany, Vol. I (Navy Records Society, Vol. XX).

Logs of the Great Sea Fights, Vol I (Navy Records Society, Vol. XVI).

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**\*362.—Naval Observers—Payment of Observers' Allowance to  
 Officers Lent for Full Flying Duties from Appointments  
 in which such Allowance is not Payable.**

(C. W. 11320/28.—8.2.1929.)

Naval Observers holding appointments which do not entitle them to Observers' Allowance may, if lent for duties involving full flying duties, be credited with Observers' Allowance at the full rate of 6s. or 4s. a day (according to qualifications) under the ordinary conditions during the continuance of such duties. Whilst Observers' Allowance is paid, any other duty allowance is to be discontinued.

2. This Order in no way modifies the rule laid down in Article 35b, King's Regulations and Admiralty Instructions, that no allowance or extra pay will be granted to officers and men who make *casual* flights in aircraft in the course of their duties.

3. The Commander-in-Chief's Order detailing the officer, together with a certificate from the establishment to which he is lent, giving the period of full flying duties, is to be forwarded through the usual channels to the Accountant Officer of the depôt or other establishment on the books of which the officer is borne for pay.

**\*369.—Leave or Relief on Compassionate Grounds—Passages.**

(N./C. (II) 3707/28.—8.2.1929.)

Naval ratings and Royal Marines serving abroad, who may be relieved or granted leave to return to England on compassionate grounds, or for urgent private reasons, are expected to pay any passage expenses which they may incur for both the homeward and outward journeys.

2. Before being granted such leave, the men concerned are to be required to acknowledge in writing that they understand the above conditions, and are in a position to meet the cost involved.

3. Men proceeding on leave are not to be told that they can be spared until the next Government opportunity for a return passage; or that they are to return in any particular ship. They are, however, to be informed that in the event of their requiring assistance or advice as to their return passage, or if, in exceptional or unforeseen circumstances, they are in need of an advance of pay to meet the cost of the return journey they should apply for instructions either personally or in writing to the Commodore, R.N. Barracks, of the Port Division to which they belong.

4. It is only in rare instances that passages are available by Government opportunity (*i.e.*, by H.M. warship). If, however, at the time of granting leave an opportunity for a passage in one of H.M. ships is available, without causing inconvenience to the Service or any expense to public funds, it may be sanctioned by the Commander-in-Chief for the homeward voyage, and by the Admiralty for the return journey.

5. It must be clearly understood that passage by H.M. transport or by freight ship does not constitute a Government opportunity. Full instructions in regard to indulgence passages in transports are given in A.F.O. 228/28, paragraphs 3 and 4.

6. Whenever leave to England is granted, the Commanding Officer of the ship to which the man belongs is to communicate the following particulars to the Commodore of the depôt, and a duplicate copy is to be given to the man for information and guidance, *viz.* :—

- (a) A brief description of the circumstances for which leave is authorised.
- (b) Period of leave granted.
- (c) Route and anticipated date of arrival in England.
- (d) Intended address of the man while on leave. (Any alteration of address is to be communicated immediately by the man concerned to the Commodore of his depôt.)
- (e) The state of the man's ledger account at the date of the commencement of leave, including detailed particulars of any allotments in force.
- (f) An extract from the man's conduct sheet covering the previous six months.
- (g) Any other remarks.

7. All ratings who may be granted leave under the terms of this Order, if taking passage to England or being sent abroad after leave in one of H.M. warships, are to be victualled and employed on their usual duties during the journey. If returning to England, leave is to commence from the date of arrival, and a leave ticket is to be issued by the Commanding Officer of the ship in which the man concerned is borne for the homeward passage.

8. Care is to be observed that any men who may be granted a passage in one of H.M. ships, either to England or returning abroad, provide themselves with one of each of the following articles of uniform, viz. :—

- No. 2 or 3 suit.
- No. 5 suit.
- Spare flannel.
- Blue cap.

(A.F.O. 228/28.)

### **377.—Blowing Heads—Extractor Holes in Valve Seats, Kingston Valves.**

(A.S./T.M. 484.—8.2.1929.)

For the purpose of inspecting or renewing the ring, I.R., St. No. 2664, for Kingston valve of blowing heads, it is frequently necessary to remove the valve seating from the blowing head; in order to facilitate this operation it has been arranged to drill two extractor holes in the valve seating flange.

2. Ships are to return blowing heads to torpedo depôts for this modification to be effected, the local Torpedo Engineer Officer being communicated with in regard to a convenient date for the work to be carried out.

3. The service extractor, St. No. 176, is to be used when removing the valve seating from head.

### **378.—Gun Mountings, 15 in., I and I\*—Central Ammunition Hoist—Interlocking and Telegraph Gear.**

(G. 18/29.—8.2.1929.)

A failure has recently occurred in a 15 in. mounting in which the cordite hopper doors could not be opened, although the main cage was down.

2. This failure was due to general wear in tappet lever 21 (Plate 22.F.—O.U. 6005) in the shaft carrying this lever and in the cage guide rails and slippers. The tappet 20 on the cage passed lever 21 instead of depressing it, and as a consequence, the doors could not be opened.

3. The defect was overcome by putting a slight set in the lever towards the tappet. The lever was also lengthened so that the end projected beyond the tappet. The lever was then reset on its shaft, the keys and keyways being refitted to remove all backlash.

4. Examinations of this gear are to be carried out in all ships so fitted, and where there is any possibility of similar failure, necessary steps as outlined above should be taken, the work being carried out by ship's staff.

### **380.—Rangefinders and Optical Instruments—Desiccators, Motor Driven, Pattern 9678—REPORTS.**

(G. 18627/28.—8.2.1929.)

Motor-driven desiccators will shortly be supplied to ships.

2. A pamphlet containing a description of the instrument and directions for its use is being supplied with each instrument.

3. Particular attention is drawn to these directions as any failure to follow the directions carefully will result in calcium chloride dust being pumped into the instruments.

Care must also be taken to limit the use of the desiccator as it has been found that in spite of the cotton wool, continuous use of the desiccator results in a film of calcium chloride being deposited on the optical surfaces.

4. The cotton wool referred to should be obtained by the dockyards on repayment from the nearest medical establishment, the estimated requirements being 2 lbs. of wool per quarter for each desiccator. The wool will be dealt with as a "consumable" store item, and vessels concerned should forward demands to their respective storing yards for a first supply of 2 lbs. The necessary additions will be made to page 69 of the new Establishment of Naval Stores for Gunnery Purposes and to the Rate Book of Naval Stores in due course, and yards are to arrange for requirements to be demanded in the usual periodical demands under Subhead E, Item 12.

5. The Belmoline grease (grade B) mentioned on page 7 of the pamphlet is the Belmoline (greasy), for gunsighting telescopes and periscopes.

6. It is desired to obtain more exact information as regards the value of the desiccators than is at present available.

Ships are therefore to render reports to reach the Admiralty by 1st January, 1930, giving the following information as regards all instruments fitted with connections for a desiccator:—

	Period of year.	General weather conditions, humidity, etc., during period.	Number of times desiccator used and length of time on each occasion.	Did desiccator effectively clear the instrument	Remarks.
(a) Rangefinder, Periscope or Inclinometer.	1st Qtr.				
.....	2nd Qtr.				
(b) Where fitted ...	3rd Qtr.				
.....	4th Qtr.				
Rangefinder, etc. ...	1st Qtr.				

7. Reports are also to state whether the allowance of cotton wool is sufficient, and if not what allowance is recommended, and are to include any remarks on the maintenance of optical instruments fitted in the ship.

8. Yards are also to report by 1st January, 1930:—

- (a) Whether the provision of this desiccator has resulted in a diminution of the number of instruments sent in for cleaning.
- (b) Whether the general use of desiccators has any deleterious effect on the optical instruments.
- (c) Any remarks or suggestions as regards the maintenance of rangefinders or optical instruments, fitted afloat.

**383.**—*Issued Confidentially.*

**388.—Electrically-Welded Steel Chain.**

(N.S. 12598/28.—8.2.1929.)

Satisfactory trials on electrically-welded steel chain having been carried out, this type of chain—for sizes up to, and including  $\frac{1}{2}$  in. diameter, which is the present approximate maximum for the electrical process—is being added to the authorised list of Naval Stores, under Subhead B, Item 4, for use with rigging, cranes, etc., and also for pitched chain for geared blocks.

2. Pattern numbers for the chain for blocks, etc., have been assigned as follows:—

<i>Patt. No.</i>	<i>Diam. Inches.</i>	<i>Safe Working Load on Single Part.</i>
4420	$\frac{7}{8}$	·23 ton.
4421	$\frac{1}{4}$	·30 „
4422	$\frac{3}{8}$	·40 „
4423	$\frac{5}{16}$	·45 „
4424	$\frac{5}{16}$	·45 „ (For Patts. 2166A and 2167A blocks only).
4425	$\frac{11}{16}$	·56 „
4426	$\frac{3}{8}$	·65 „
4427	$\frac{7}{16}$	·90 „
4428	$\frac{1}{2}$	1·2 „

3. This steel chain will probably prove to be cheaper than iron chain, so the latter (for sizes of approximately  $\frac{1}{2}$  in. and less) may become obsolescent. For use with geared blocks the electrically-welded steel chain is preferred, as the links are of more uniform dimensions.

4. Distribution of a specification which has been prepared at the Admiralty will be made in due course.

5. The new specification (DNC/M/01), is intended to cover steel chain only and not the special articles described on page 6 and lithos. I to IV of Specification DNC/M/SW2.

**391.—Bookstalls.**

(V. 1294/28.—8.2.1929.)

The arrangements for conduct of bookstalls in H.M. ships and fleet establishments have been under review in connection with the recommendation put forward at the 31st meeting of the Headquarters Naval Canteen Committee that bookstalls, when established, in future should be under the management of Navy, Army and Air Force Institutes, whenever the canteen is conducted by that corporation.

2. Although Their Lordships consider that it is preferable that bookstalls generally should be under the management of Navy, Army and Air Force Institutes, They do not propose, at present, to disturb the arrangements under which, in certain ships and establishment, bookstalls are conducted otherwise, *i.e.*, either by a contracting firm or by the ship's personnel.

3. Where the bookstall is conducted by ship's personnel, the Commanding Officer is responsible that adequate precautions are taken to prevent

irregularities, and that the bookstall and the keeping of accounts are conducted on businesslike lines. The following rules are to be observed:—

- (a) The following articles only may be sold at bookstalls:—
- |                           |                  |
|---------------------------|------------------|
| Papers, daily and weekly, | Blotting paper,  |
| Magazines,                | Fountain pens,   |
| Books,                    | Penholders,      |
| Writing paper, envelopes, | Nibs,            |
| and postcards,            | Pencils,         |
| Picture postcards,        | Labels,          |
| Photographs of ships,     | Indoor games,    |
|                           | Ships' brooches. |
- (b) A price list of all articles sold at the bookstall is to be prominently displayed.
- (c) A "Sales Book" is to be kept in which all articles sold in the bookstall and their selling price are to be recorded. The money realised from sales is to be handed over daily to the officer in charge of the bookstall; the amount so received is to be compared with that shown in the Sales Book, which is to be signed daily by the officer in acknowledgment of the receipt of the money.
- The accumulation of large sums of money is not to be permitted. Cash should be placed with the Accountant Officer for safe custody pending an opportunity of remitting it.
- (d) A "Stock Book" is to be used and an accurate account kept of all goods received, together with cost prices. Stocktaking should be held at least once a month.
- (e) A "Cash Book" is to be kept by the officer in charge of the bookstall, containing a daily record of monies received for sales and all other cash transactions; it is to be balanced at least once a week to check possible errors or irregularities, and is then to be initialled by the Captain.
- (f) The accounts are to be audited quarterly by officers appointed by the Captain, and a copy of the audited statement is, subsequently, to be placed on the notice board for the information of the ship's company.

### 405.—Naval Observers—Duties, Syllabus, Course, etc.

(C.W. 977/29.—15.2.1929.)

All air observation duties for the Fleet, including gunnery-spotting and air reconnaissance, are to be carried out by Naval Observers.

2. Naval Observers will not be "attached" to the Royal Air Force, and their pay and conditions of service will continue on the same lines as at present.

There will be only one type of observer, qualified to perform all the duties which may be directed.

#### 3. SYLLABUS OF COURSE.

*General Object.*—The object of the Course is to train Naval Observers to carry out reconnaissance and spotting duties for the Fleet.

*General Arrangement.*—The Course is divided into two parts:—

**PART 1.**—At Naval Instructional Establishments and consists of preliminary instruction in Signals at the Signal School, Portsmouth, in Gunnery in H.M.S. "Excellent" and at the Senior Officers' Technical Course—Total time 11 weeks.

*Note.*—At Senior Officers' Technical Course a short course of one week's duration is arranged separately for each course, with a view to fitting the Senior Officers' Technical Course II programme. Arrangements are to be made by Commander-in-Chief, Portsmouth, after discussion with Commanding Officers, "Excellent," Signal School, Senior Officers' Technical Course and School of Naval Co-operation.

PART 2.—At the School of Naval Co-operation, R.A.F., Lee-on-Solent, under the direction of the Air Ministry, and consists of specialised instruction, both on the ground and in the air, in the duties of an observer.—Total time 21 weeks.

*Marks and Standards required :—*

(a) Marks will be awarded as follows :—

PART 1.—Signal Course	..	..	..	..	500
Gunnery Course	..	..	..	..	200
S.O.T.C.	..	..	..	..	100
PART 2.—Course at S. of N.C.	..	..	..	..	1,200
Total	..	..	..	..	2,000 Marks.

(b) Officers who obtain less than 70 per cent. will be failed.

(c) Officers who satisfactorily complete the course and attain the full standard required in W/T (*see (d)*) will be regarded as Acting Observers qualified in Air W/T (*see K.R. & A.I., Article 334*), and will serve as such for six months. At the end of this period, if recommended and qualified in Air W/T, they will be confirmed as Observers.

(d) Officers will not be considered as having qualified in Air W/T unless they obtain 95 per cent. in buzzer. Those who obtain 85 per cent. or more, but less than 95 per cent., will undergo a further buzzer test, to be arranged by the Commander-in-Chief, and confirmation as Observers will depend upon obtaining 95 per cent. therein.

(e) All Officers should study the following books before going to the course :—  
Naval War Manual. Battle Instruction and Manœuvring Orders.  
Flying Training Manual, Parts i, ii, iii and iv. Manual of Air Pilotage.

PART I.—COURSE AT SIGNAL SCHOOL.

*Object.*—To give preliminary instruction in Signals.

*Arrangements.*—The course is divided into two parts :—

- (a) "Signals."  
(b) "W/T."

*Duration.*—The duration (including examination periods) will be as follows :—

"Signals "	..	..	..	..	..	..	..	3 weeks.
"W/T "	..	..	..	..	..	..	..	4 "
Total	..	..	..	..	..	..	..	7 weeks

*Syllabus.*

(a) "Signals" period :—

*First Week.*

Policy and general arrangement of Signal books.  
Principal definitions.  
Colours and principal significations of flags and pendants.  
V/S Instructions, Articles 46, 47 and 48.  
Principal distinguishing signals and their uses.  
Manœuvring Signals.  
Cruising Orders.

*Second Week.*

Cruising Dispositions.  
Signal Manual, Articles 182–185.  
Drafting and despatch of messages.  
V/S Instructions, Articles 45 and 174.  
Instructions for signalling by Morse (V/S Instructions, Chapters V to IX).  
Aircraft Appendix.  
Signal Manual, Articles 322 and 324.  
Directional and Emergency flashing procedures and their practical application.

*Third Week.*

Instructions for distribution of gunfire signals.  
 Enemy reports.  
 Message forms.  
 Deck Landing Signals.  
 V/S Communication between the Navy, Army and Air Force.  
 Bombardment Code.  
 Use of P/L.  
 Practical coding and decoding.  
 Revision.  
 Examination.

(b) *W/T period* :—

*Theory.*—Theoretical instruction to enable an observer to operate any of the long or short wave W/T sets used in Fleet Air Arm aircraft. Outline of radio telephony.

*Practical.*—Demonstration of the substance of the theoretical syllabus of the W/T sets (and briefly the R/T sets) fitted in F.A.A. aircraft. Practical manipulation of these aircraft sets in a ground station.

*W/T Organisation.*—Outline of Fleet W/T organisation including that governing reconnaissance and spotting aircraft.

*W/T Procedure.*—Instruction in W/T procedure, including fire control, and bombardment procedures, with practical training on the key.

*Buzzer.*—Transmitting and receiving.

## NOTES.

(i) The semaphore and flashing instruction will continue throughout the Signal School Course, tests being held at the end thereof.

(ii) The buzzer instruction will continue throughout the whole of Part I of the Course, a test being held at the end thereof.

(iii) Details of standard flashing and buzzer exercises will be found in A.F.O. (S. series). The semaphore test consists of a message of 50 words, two marks being deducted for each mistake.

*Examinations and Tests.*—Examinations will be held as follows :—

(i) At end of Signal period : Two papers—

<i>Subject.</i>	<i>Marks Allowed.</i>	<i>Percentage Required to Pass.</i>
Signal paper ... ..	170	60
Coding paper ... ..	80	60

(ii) At end of W/T period : Two papers—

W/T papers—

(a) Theoretical and technical	100	60
(b) Procedure and organisation	100	60

W/T practical—

(a) Technical at aircraft sets...	25	60
(b) Practical procedure ...	25	60

Total ... 250

Seventy per cent. of total marks required to pass.

In addition, tests will be held as follows :—

(i) At end of Signal School course :—

	<i>Required to Pass. Per cent.</i>
Semaphore, transmitting at 15 w.p.m. ... ..	80
Semaphore, receiving at 15 w.p.m.... ..	80
Flashing, transmitting (Aldis) at 10 w.p.m. ... ..	80
Flashing, receiving at 10 w.p.m. ... ..	80
Practical directional flashing procedure ... ..	80

(ii) At end of course, Part I :—

Buzzer, transmitting at 15 w.p.m. ... ..	85
Buzzer, receiving at 15 w.p.m. ... ..	85

Marks will not be awarded for the tests in practical signalling or practical procedure, but officers who do not attain the standards specified will be failed.



## COURSE IN H.M.S. "EXCELLENT."

*Object* :—To give preliminary instruction in gunnery.

*Arrangements* :—The course is divided into two parts :—

- (a) "Fire control."  
(b) "Lewis guns."

*Duration* :—The duration (including examination periods) will be as follows :—

"Fire control"	...	...	...	...	...	...	2 weeks.
"Lewis guns"	...	...	...	...	...	...	1 week.
Total	...	...	...	...	...	...	3 weeks.

*Syllabus.*(a) *Fire Control Period* :—

*Theory*.—Outline of "fire control system" in capital ships and cruisers. Details of "control procedure" and "spotting rules" for capital ships and cruisers, both when spotting aircraft are available and when they are not, both in individual ship firing and in "concentrations." Principles and methods of distribution of gunfire at sea, of indirect fire at sea, and of bombardment; duties of spotting aircraft in connection with these. Causes affecting the accuracy of fire. Relative value of spotting aircraft, reports of range, bearing, course (or inclination), and speed of target and fall of shot, in different circumstances. Present state of development of H.A. gunfire at sea, and probable future progress.

*Practical*.—(To be taught on spotting table, combined with buzzer communication representing W/T). Observing and reporting fall of shot and inclinations of target; changing targets in accordance with fire discipline signals received.

(b) *Lewis Gun period* :—

*Lectures and Practical*.—Lewis gun mechanism, care and maintenance.

*Fire*.—Firing Lewis gun on the range. Stoppages.

*Examinations*.—Examinations will be held as follows :—

- "Fire control."  
"Lewis gun."

Seventy per cent. of total marks are required to pass, with not less than 60 per cent. in each subject.

PART II.—COURSE AT SCHOOL OF NAVAL CO-OPERATION, R.A.F.,  
LEE-ON-SOLENT.

*Object*.—To give practical air training and specialised ground instruction in the subjects shown in the Syllabus.

*Arrangements*.—

*Duration*.—The total duration for Part II of the Course will be 21 weeks.

As long a time as possible will be devoted to training in the air, a minimum of 100 flying hours being the aim.

## SYLLABUS.

- |                     |                    |
|---------------------|--------------------|
| (a) Air pilotage.   | (f) Meteorology.   |
| (b) Reconnaissance. | (g) Airmanship.    |
| (c) Spotting.       | (h) Photography.   |
| (d) Communications. | (i) Miscellaneous. |
| (e) Armament.       |                    |

## (a) AIR PILOTAGE.

*Object*.—To train Naval Observers in the air pilotage necessary for Fleet air reconnaissance and all associated duties.

*Syllabus*—

- (i) *Ground Instruction*.—Compasses and other aircraft instruments. Maps and charts used in the R.A.F. Wind-finding. Fixing and reckoning position. D/F—W/T. All air pilotage problems incidental to operating from a carrier, or a shore base. All technical operations embraced by the above. Air navigation regulations.

- (ii) *Air Instruction*.—Checking compass deviations in the air by following methods :—Transits. Reciprocal bearings. Solar azimuths.

Wind-finding by following methods :—Two fix. Course-setting bomb-sight. Double drift (from stationary or moving objects); single drift and range (from stationary or moving objects) and other methods which may develop in future. Coastal navigation exercises. Navigation exercises out of sight of land with use of D/F position lines. Navigation—reconnaissance exercises with H.M. ships. Map reading and cross-country flights.

#### (b) RECONNAISSANCE.

*Object*.—To train observers to carry out air reconnaissance duties for the Fleet (including reconnaissance for combined operations).

##### *Syllabus*—

- (i) *Ground Instruction*.—Principles. Uses, duties and organisation of Fleet reconnaissance aircraft. Systems for directing reconnaissance aircraft. Instruments and their uses. Technical operations involved (including rangetaking). W/T organisation : signalling and coding. Tactics and methods of reconnaissance aircraft. Elements of Fleet tactics affecting reconnaissance aircraft. Relative value of items of information. Fleet Orders and Instructions. Ground exercises with models.
- (ii) *Air Instruction*.—Rangetaking and bearing finding exercises. Course and speed observation exercises. Close and extended reconnaissance exercises with H.M. ships. Shadowing, action-observation and look-out exercises with H.M. ships. Coastal and land reconnaissance.

#### (c) SPOTTING.

*Object*.—To train observers to carry out aircraft spotting duties for the Fleet (including spotting for bombardment).

- (i) *Ground Instruction*.—Principles. Uses, duties and organisation of Fleet spotting aircraft. Systems for directing spotting aircraft. Instruments and their uses. Technical operations involved (including rangetaking). W/T organisation : signalling and coding. Tactics and methods of spotting aircraft. Elements of Fleet tactics affecting spotting aircraft. Relative value of items of information. Fleet Orders and Instructions. Ground exercises with models. Spotting Table.
- (ii) *Air Instruction*.—Range taking and bearing finding exercises. Course (or inclination) and speed observation exercises. Puff target exercises (representing sea and bombardment shoots). Exercises in spotting fall of shot on sea targets and in bombardments. Target location or selection exercises (sea and bombardment).

#### (d) COMMUNICATIONS.

*Object*.—To train observers to make correct use of the various means of communication at their disposal in carrying out reconnaissance and spotting duties.

##### *Syllabus*—

- (i) *Ground Instruction*.—*Air W/T*.—General knowledge of fitting long and short-wave W/T sets used in Fleet Air Arm aircraft. Testing, tuning and remedying of faults in above. Practical radio-telephony. Buzzer (transmitting and receiving). W/T procedure. Operating aircraft sets in ground station.
- V/S.—Semaphore (transmitting and receiving). Flashing by Aldis lamp (transmitting and receiving).
- (ii) *Air Instruction*.—Supervised W/T operating exercises. Exercises as qualified W/T operator in an aircraft. V/S (flashing) exercises in the air. Popham panel exercises.

**(e) ARMAMENT.**

*Object.*—To train observers to operate the armament under their control in Fleet reconnaissance and spotting aircraft.

*Syllabus*—

- (i) *Ground Instruction.*—Lewis gun, gunsights and gun mountings, mechanism, care and maintenance. S.A.A. used in aircraft, stowage and loading. Bombs and bombsights. Bomb-racks: loading, releasing and unloading. Practice in A.M.L. teacher. Pyrotechnics.
- (ii) *Air Instruction.*—Camera gun exercises. Air firing at sleeve and sea targets, and shadow firing; clearing stoppages in the air. Batchelor mirror exercises. Bombing sea target.

**(f) METEOROLOGY.**

*Object.*—To teach observers the elements of meteorology and weather forecasting, with special reference to the “weather map.”

*Syllabus.*—Observations made at a meteorological station. The weather map. Special weather features considered in relation to the weather map. Predicting wind speeds and direction for various heights.

**(g) AIRMANSHIP.**

*Object.*—To teach the observer the airmanship necessary to enable him to assist and direct the pilot, under various conditions; and to carry out his duties with minimum risk to personnel and material.

*Syllabus*—

- (i) Care of aircraft and equipment; refuelling; starting engines; taking off from a deck, turret, catapult, cruiser platform, slipway, beach, carrier's crane, open sea, buoy, open anchorage; forced landings; prevention and extinction of fire; destruction of aircraft and codes liable to capture by enemy; towing; boarding seaplanes; laying out anchors and drogues from seaplanes; pegging down landplanes; assisting aircraft in distress.
- (ii) *Airmanship in the air.*—Assisting the pilot to maintain control after an aeroplane has been damaged in the air; conservation of altitude and fuel endurance on long flights; stowage and security of loose equipment used in the air; objects and effects of various air manœuvres.

**(h) PHOTOGRAPHY.**

*Object.*—To train observers in the use of cameras supplied to the Fleet Air Arm.

*Syllabus*—

- (i) *Ground Instruction.*—Types of cameras and auxiliary apparatus; mechanism and use. Oblique and vertical photographs (including “overlaps” and “stereographs”).
- (ii) *Air Instruction.*—Oblique photographs. Vertical photographs (including “overlaps” and “stereographs”). Requirements governing air photography for the Fleet, including recording of gunnery and torpedo practices.

**(i) MISCELLANEOUS.**

*Object.*—To introduce various subjects not dealt with above.

*Syllabus.*—Air fighting tactics; formation tactics. R.A.F. and foreign aircraft. Sleeve target manipulation.

*Examinations and Tests.*—Examinations and practical tests will be given at intervals during the course. All air exercises will be marked also. Buzzer semaphore and flashing are not marked.

Seventy per cent. of the total marks are required to pass, with not less than 60 per cent. in each subject.

In addition, tests will be held as follows :—

		Rate w.p.m.	Standard to Pass. Per cent.
Semaphore : transmitting on ground	... ..	15	90
Semaphore : receiving on ground	... ..	15	90
Flashing : transmitting in air	... ..	10	90
Flashing : receiving in air	... ..	10	90
Directional flashing procedure	... ..	—	90
Buzzer : transmitting	... ..	20	85
Buzzer : receiving	... ..	20	85

Marks counting in the total for the course will not be awarded for tests in practical signalling, but officers who do not attain the standards specified will be regarded as having failed.

### 413.—Joint Orders under Section 90A of Naval Discipline Act.

(N.L. 17/29,—15.2.1929.)

#### JOINT ORDER BY ADMIRALTY AND ARMY COUNCIL.

##### NAVAL OFFENDERS IN MILITARY PRISONS OR DETENTION BARRACKS.

*Order by the Admiralty and Army Council under Clause 1 of the Regulations (K.R. and A.I., Art. 196, Clause 42), defining the conditions prescribed by the Admiralty and the Army Council under the powers granted to them by Section 90a of the Naval Discipline Act and Section 184a of the Army Act.*

Whenever any naval prisoners or naval ratings sentenced to detention are committed to any prison or detention barrack, the governor, commandant, officers or staff of which are officers, warrant officers or non-commissioned officers of a body of H.M. military forces, then for the purposes of command and discipline and for the purposes of the provisions of the Naval Discipline Act relating to superior officers, such officers, warrant officers or non-commissioned officers of His Majesty's military forces shall, in relation to such naval prisoners or naval ratings undergoing detention as aforesaid be treated, and have all such powers (other than powers of punishment) as if they were naval officers, warrant officers or petty officers, provided that nothing herein contained shall derogate from any powers of punishment which such officers, warrant officers or non-commissioned officers may have under or by virtue of any rules made pursuant to Section 132 of the Army Act.

By command of The Lords Commissioners of the Admiralty.

(Signed) O. MURRAY.

By command of the Army Council.

(Signed) H. J. CREEDY.

Dated 22nd December, 1928.

*Note.*—Earlier Joint Orders made by the Admiralty and Army Council under Clause 1 of the Regulations embodied in Article 196, Clause 2 of the King's Regulations and Admiralty Instructions are no longer in force.

#### JOINT ORDERS BY ADMIRALTY AND AIR COUNCIL.

*Orders made by the Admiralty and the Air Council under Clause 1 of the Regulations (K.R. and A.I., Art. 196, Clause 2), defining the conditions prescribed by the Admiralty and Air Council under the powers granted to them by Section 90a of the Naval Discipline Act, and Section 184a of the Air Force Act.*

##### NAVAL PICKETS AND AIR FORCE POLICE.

Section 90A of the Naval Discipline Act and Section 184A of the Air Force Act shall apply to any Naval Picket which may be acting with any body of

His Majesty's Air Force and to any body of the Air Force Police which may be acting with any body of His Majesty's Naval Forces and to the bodies of His Majesty's Air Force and Naval Forces respectively, with whom such Naval Picket or body of the Air Force Police is acting.

By command of the Lords Commissioners of the Admiralty.

(Signed) O. MURRAY,  
Secretary.

By command of the Air Council.

(Signed) W. A. ROBINSON,  
Secretary.

GENERAL.

1. The joint Order dated the 6th day of June, 1918, is hereby cancelled.

2. Section 90A of the Naval Discipline Act and Section 184A of the Air Force Act shall apply to British Naval and Air Forces operating outside the British Isles.

The said Sections shall also apply in the British Isles or elsewhere to members of the Naval Service to whom the said Sections are capable of application, and who not being subject to the Air Force Act are attached or lent to the Air Force, and to members of the Air Force, to whom the said Sections are capable of application, and who not being subject to the Naval Discipline Act are attached or lent to the Naval Service and to the bodies of the Naval Service and Air Force to which the members of the Air Force or the Naval Service above mentioned are respectively attached or lent.

By command of the Lords Commissioners of the Admiralty.

(Signed) O. MURRAY,  
Secretary.

By command of the Air Council.

(Signed) W. A. ROBINSON,  
Secretary.

25th September, 1919.

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R.A.F. PRISONS AND DETENTION BARRACKS AND NAVAL OFFENDERS.

Whenever any Naval Prisoners or Naval Ratings sentenced to detention are committed to any prison or detention barrack, the governor, commandant, officers or staff of which are officers, warrant officers or non-commissioned officers of a body of His Majesty's air forces, then for the purposes of command and discipline and for the purposes of the provisions of the Naval Discipline Act relating to superior officers, such officers, warrant officers or non-commissioned officers of His Majesty's air forces, shall in relation to such naval prisoners or naval ratings, undergoing detention as aforesaid during the period that they are so committed as aforesaid, be treated, and have all such powers (other than powers of punishment), as if they were naval officers, warrant officers or petty officers, provided that nothing herein contained shall derogate from any powers of punishment which such officers, warrant officers or non-commissioned officers may have under or by virtue of any rules made pursuant to Section 133 of the Air Force Act.

Signed on behalf of the Admiralty this thirty-first day of March, 1923.

(Signed) A. D. BOYLE.  
(Signed) H. F. OLIVER.

Signed on behalf of the Air Council this twenty-eighth day of March, 1923.

(Signed) OLIVER SWANN.  
(Signed) W. F. NICHOLSON.

(K.R. and A.I. Art. 196.)

## 415.—Medical Stores and First Aid Outfit.

*Reserve Fleet.*

(M.D.G. 11745/27.—15.2.1929.)

Certain medical stores kept packed on board vessels of the Reserve Fleet, in accordance with Article 1366 of the King's Regulations and Admiralty Instructions, have been found to deteriorate soon and become unreliable. Their Lordships have therefore decided that all medicine chests and accompanying medical stores belonging to these vessels (except when a Medical Officer is borne on board) are to be kept in store at the R.N. Hospital of the port ready for immediate issue, and all perishable stores are to be replaced at frequent intervals, and issued to avoid loss through deterioration. Article 1366 of the King's Regulations and Admiralty Instructions will be amended accordingly.

2. In order to provide these vessels with an immediate supply of dressings, etc., in case of accident or other emergency, a first-aid outfit, as detailed below, is to be provided for each vessel, and kept in the cupboard in the sick bay on charge of the Medical Officer of the parent ship, who is to demand these stores from the R.N. Hospital, and see that they are maintained:—

Tinct. iodi mitis	...	...	...	...	...	6 oz.
Liquid cresol sap.	...	...	...	...	...	16 "
Plaster, adhesive, 2 in.	...	...	...	...	...	10 yds.
Bandages, webbing, 1 in.	...	...	...	...	...	12 No.
"    "    2 "	...	...	...	...	...	12 "
"    "    3 "	...	...	...	...	...	12 "
Triangular bandages, illustrated	...	...	...	...	...	3 "
Bandages, flannelette	...	...	...	...	...	12 "
Brushes, camel hair, goose	...	...	...	...	...	2 "
Wool, absorbent, $\frac{1}{4}$ lb. packets	...	...	...	...	...	3 lbs.
Lint, plain, $\frac{1}{4}$ lb. packets	...	...	...	...	...	2 "
Boric lint, $\frac{1}{4}$ lb. packets	...	...	...	...	...	2 "
Picric dressings	...	...	...	...	...	6 No.
Pins, safety	...	...	...	...	...	36 "
Scissors, victualling pattern	...	...	...	...	...	1 pair
Splints, wood, lined	...	...	...	...	...	1 set
Straps and buckles	...	...	...	...	...	6 No.
Spt. ammon. aromat.	...	...	...	...	...	6 oz.
Book of First Aid	...	...	...	...	...	1 No.
Medical and Surgical Guide Book	...	...	...	...	...	1 "
Thermometer, clinical	...	...	...	...	...	1 "
Sterilised dressings, No. 2	...	...	...	...	...	12 "
"    "    No. 4	...	...	...	...	...	12 "
"    "    No. 6	...	...	...	...	...	12 "
"    "    No. 8	...	...	...	...	...	12 "
Ung. zinci antiseptic	...	...	...	...	...	4 oz.
Tourniquet, field	...	...	...	...	...	2 No.
"    St. John	...	...	...	...	...	2 "
Measure, glass, 2 oz.	...	...	...	...	...	1 "
First aid field dressings	...	...	...	...	...	12 "
Mostig battiste	...	...	...	...	...	2 yds.
Vaseline, in tubes	...	...	...	...	...	4 oz.
Ol. Ricini (for use as eye drops)	...	...	...	...	...	4 "

3. A number of smaller sets of first-aid necessaries are to be maintained in H.M.S. "Greenwich" on charge of the Medical Officer for issue, when necessary, to reserve destroyers at Rosyth, whose medical stores are kept at their home ports.

(K.R. and A.I., Art. 1366.)

### 419.—Fire Control Communications—Standardisation of Transmitting Stations.

*Leaders and Destroyers of "V," "W," and Repeat "W" Classes.*

(G. 03205/28.—15.2.1929.)

The standardisation of the transmitting stations in "V" and "W" classes has been under consideration, and the alternative arrangements now approved, according to the position of the Type 83 W/T set, are shown in diagrams 1 and 2 of E.F.O. 13/29.

2. The alterations are as follows:—

- (i) The rate and spotting pipes are to be joined together high up on the fore bulkhead, and a length of flexible voicepipe permanently connected thereto. The flexible voicepipe to be led aft overhead and fitted with an officer's headpiece for use of the voicepipe number.
- (ii) The existing stools for the clock and transmitter are to be replaced by one long sloping stool, having a raised wooden desk between the clock and the transmitter for the use of a telegraphist.
- (iii) The range and deflection transmitters are to be modified as ordered in A.F.O. 2672/28.
- (iv) In those ships where the communication from the T.S. to the guns and director is not good, the voicepipes are to be modified in the T.S. by replacing the three individual mouthpieces by one common mouthpiece. If this modification is carried out it must be realised that the communication from the out-stations to the T.S. will probably not be so good as at present. The modification should not therefore be carried out unless present arrangements are definitely ineffective.

3. Dockyard assistance should be obtained if necessary.

4. A separate A.F.O. is being issued dealing with the additional stores required for, and the alterations to, the W/T arrangements.

(A.F.Os. 2672/28, 128/29 and 1545/29.)

### 420.—Ordnance, Q.F. 4·7 in., Mark VIII, Gun—Precautions when using Drill Cartridges.

(G. 221/28.—15.2.1929.)

Complaints have been received that when exercising drill at the 4·7 in. H.A. guns, the ejection of the round has forced the brass base plate of the drill cartridge into the woodwork, causing the wood to splay outwards, thus preventing the round being rammed home satisfactorily.

2. As a result of the above, the design of cartridge has been amended for future manufacture, but it is not considered necessary to carry out this modification to existing stocks, as the defect can be remedied by shaving off the splintered wood whenever this develops. Moreover, it is considered that if the splayed-out wood is shaved off, the interior will ultimately reach such a state of compression that the trouble will cease.

3. When using these drill cartridges of either existing or modified designs, care is to be exercised that the iron bed plate of the mounting and surrounding deck is adequately covered by shot mats before commencing drill.

**421.—4 in. S. I and 4 in. H.A., III, Mountings—Recuperator  
Cylinders—Charging with Air—Use of Oil, Mineral,  
Pattern 924.**

(G. 11009/28.—15.2.1929.)

Extensive pitting has occurred in the recuperator cylinders of 4 in. S.I. and 4 in. H.A., III, mountings, resulting in unsatisfactory working, and the following method of repair and adjustment is to be carried out when pitting affecting the efficiency of the packings is found in cylinders of these mountings.

2. The cylinders are to be skimmed up, and in each case of re-boring, faint witness marks of the pitting are to be left.

3. The cylinders after being skimmed up may, owing to their enlarged diameter, require to have the piston head fittings renewed, and, where necessary, this should be done to suit new bore of cylinder.

4. The thickness of metal after re-boring must not be less than .3 in. in the case of 4 in. S.I. mountings, and .33 in. in the case of 4 in. H.A., III, mountings. In the case of the 4 in. H.A., III, mounting, care should be taken to measure the thickness at the recess for the spigot.

Should it be found necessary further to reduce the thicknesses quoted to eliminate pitting, Admiralty sanction should be obtained before the work is carried out, and particulars of thickness throughout the cylinder should be forwarded with the report.

5. Each recuperator cylinder after being re-bored is to be subjected to, and is to withstand, a water pressure test of 3,000 lb. per square inch in the case of the 4 in S.I. mounting, and 2,240 lb. per square inch in that of the 4 in. H.A., III, mounting.

6. In vessels not fitted with a recuperator charging lead, great care is to be taken when charging recuperators from the H.P. air main that excessive pressure is not admitted.

7. In E.F.O. 16/29 (1), a design of nozzle is shown for use in draining the recuperator of 4 in. H.A., III, mountings. This nozzle would ship in the filling plug hole and would carry the liquid clear of the mounting when the recuperator is drained in accordance with the instructions which will be issued as an amendment to O.U. 5220, Handbook for 4 in. Q.F., Mark V, Gun, on H.A., Mark III, mounting.

8. If considered desirable, the work of making one nozzle per ship should be undertaken by ships' staffs concerned.

9. Firing trials, carried out with "All's Well" oil and "Oil, mineral, Pattern 924" to test their suitability as a buffer liquid for recuperators in place of the usual glycerine and water mixture where pitting has taken place, have shown that "Oil, mineral, Pattern 924," is suitable for this purpose. "All's Well" oil has been found to be unsuitable on account of its poor sealing qualities.

10. "Oil, mineral, Pattern 924," is to be substituted for the mixture previously used in the recuperators of all mountings of the above-mentioned types. It is essential, before this is done, to clean the recuperator cylinder and air chamber thoroughly. This necessitates the removal of the air



chamber cover. This work is to be carried out by the dockyards, and all ships concerned are to include an item in Pink Defect List to cover this work on the next occasion of refitting.

11. Where the pitting in the recuperator cylinder is marked and affects the efficiency of the packings, the cylinders should be skimmed out as indicated above before using this oil.

12. When mountings of the above types have been dealt with, no liquid except "Oil, mineral, Pattern 924," is to be used in the recuperator cylinders except in cases of utmost urgency.

13. To assist in the prevention of pitting of recuperator rods and cylinders in the vicinity of the leathers, all guns are to be pulled back a few inches and slipped once a week.

14. In mountings in which "Oil, mineral, Pattern 924," has not yet been substituted for the usual mixture of glycerine and lime water, lime from a new tin is always to be used when refilling the recuperator cylinder.

15. This is to ensure that the lime is as dry and, therefore, as effective as possible.

16. *Dockyards only.*—When new mountings are being fitted on board it should be unnecessary to open out the air chamber as specified above, but if for any reason yard officers should consider this procedure to be advisable before filling the recuperators, this should be done and action reported to the Admiralty.

17. A recent examination of a recuperator in a 4 in. H.A., III, mounting, in which the substitution of "Oil, mineral, Pattern 924," for water and glycerine had been carried out, showed that it contained a large percentage of water.

18. To obviate similar occurrences in future, attention is drawn to the necessity for clearing the charging system of water by blowing through the hoses before commencing the operation of charging.

19. In this connection it is to be observed that the presence of even a small percentage of water tends to set up corrosion.

20. The plunger and gland packings of the above mountings are to be modified, in accordance with the drawings (E.F.O. 16/29 (2-4)), when the substitution of "Oil, mineral, Pattern 924," for water and glycerine has been carried out. Drawing No. 1 shows modifications to be carried out in 4 in. H.A., III, mountings, Nos. 1-49; Drawing No. 2 in 4 in. H.A., III, mountings, Nos. 50 and above; and Drawing No. 3 in 4 in. S.I. mountings.

21. In mountings in which the substitution of "Oil, mineral, Pattern 924," has already been carried out, the requisite modifications are to be carried out by ship's staff on the next occasion that recuperator gear is dismantled for examination.

22. *Dockyards only.*—When carrying out the alteration specified in paragraph 10, the plunger and gland packings are to be modified at the same time.

## 423.—Cartridges, S.A., Aiming Rifle, Signal—Revised Nomenclature and Marking.

(G. 16227/28.—15.2.1929.)

A revised system of nomenclature, base marking, and means of identification after packing of small arm ammunition and kindred stores has been approved for land, Naval and air services.

I.—The nomenclature will in future consist of the following:—

- (a) The word "cartridge".
- (b) The letters "S.A." (denoting "small arm"), or phrase "aiming rifle", etc.
- (c) The characteristic name of the cartridge, *e.g.*, "drill".
- (d) The calibre, *e.g.*, ".303 in."
- (e) A distinctive letter indicating the type of the cartridge, except in the case of ordinary ball cartridges and signal cartridges, which are regarded as the parent cartridge of their respective calibre, and which will have no distinctive letter.
- (f) The mark numeral, followed by a small letter (where appropriate) indicating the nature of the propellant, *e.g.*, "VII\*".

With regard to I (e), the following letters will be used to indicate the various types of cartridge:—

D—	to indicate	drill.
H—	„	rifle grenade.
J—	„	illuminating.
L—	„	blank.
U—	„	dummy.
W—	„	armour piercing.

The letters following the mark numeral (*see* I (f)) to indicate the nature of the propellant will be:—

T—	to indicate	black powder.
Z—	„	nitro-cellulose.

Where the propellant is cordite no letter will be used.

### II.—BASE MARKING.

The marking stamped on the base of the cartridge case will, in future, consist of I (e) and (f) of the nomenclature, that is to say, the distinctive letter indicating the type of the cartridge, the mark numeral of the cartridge, and (where applicable) the letter indicating the nature of the propellant.

(*N.B.*—In the base marks the letters and mark numerals will be all the same size.)

In addition to the above, the contractors' initials or trade mark, and date of manufacture will also be stamped on the base. The date will be the last two figures of the year of manufacture, except in the case of ammunition special to the Royal Air Force, on which the full year of manufacture will be stamped. The date of manufacture has not hitherto been shown on pistol and revolver ammunition, with the exception of .455 in. revolver drill ammunition.

*Note.*—In the case of obsolescent cartridges, the nomenclature has been amended, but the marking will not be altered. The packages containing the cartridges will, however, if repacked in the future, be labelled and marked as shown below.

### III.—IDENTIFICATION OF AMMUNITION AFTER PACKING.

#### A.—*Identification of method of packing* :—

- (1) Charger packed ammunition will be in brown boxes.
- (2) Ammunition packed in bundles, cartons, or belts will be in green boxes.

When any of these boxes are packed with ammunition which is to be carried as "deck cargo," this fact will be indicated by a red band, 4 in. wide, painted round one end of the box, the words "DECK CARGO" being stencilled on the red band.

B.—*Identification of ammunition by labels*.—A definite indication of the mark and type of ammunition packed can only be obtained by consulting the information on the labels, but for rapid classification the labels will be printed in colours, as follows :—

Ammunition classified in Magazine Regulations in groups as shown below :—

Group VI.—The descriptive and distinguishing labels will be printed in green on a white ground. The internal strip bands and wrappers will be printed in green on various wrapping papers.

The following is an exception to the above rule :—

All labels, strip bands and wrappers for blank ammunition will be printed in red on a blue ground.

Group IX.—The descriptive and distinguishing labels will be printed in blue on a white ground. The internal wrappers will be printed in blue on various wrapping papers.

Group XII.—The descriptive and distinguishing labels will be printed in brown on a white ground. The internal strip bands will be printed in brown on various wrapping papers.

Ammunition which contains no explosive or incendiary matter :—

All labels and wrappers will be printed in black on a cerise ground.

The following is an exception :—

In the case of ammunition special to the Royal Air Force, the distinguishing labels will be in the appropriate group colouring, all other labels and wrappers being printed in red. The words "SPECIAL FOR R.A.F." will be used on all labels, wrappers and strip bands used with this ammunition.

C.—*Identification by symbols*.—A symbol will be allocated to each mark of cartridge. It will consist of a characteristic device printed in the correct group colouring, and over-printed in black with the distinctive letter (I (e) of nomenclature), followed by the mark numeral, and, where necessary, by the letter indicating the nature of the propellant (I (f) of nomenclature).

*Note*.—Where the symbol is printed in black, the over-printing will be silhouetted.

### IV.—METHOD OF LABELLING.

The labelling will be carried out as follows :—

*Distinguishing labels*.—(a) There will be two large distinguishing labels, one on each side of the box, except in the case of the H.15 box, where one large distinguishing label only will be used.

(b) There will be two small distinguishing labels, one on each end of the box.

*Descriptive labels*.—(c) On boxes of the old type, viz. :—H.1, H.3, H.4, H.9, H.13, and H.15, there will be two descriptive labels, one in a recess on the top of the box, and one on the tinned-plate lining, as heretofore.

*Government explosive and classification label.*—(d) There will be one Government explosive and classification label placed on one side of the box.

*Miscellaneous labels.*—(e) The following miscellaneous labels will be used:—

On boxes of the old type:—

On the box.—Instructions for opening box. Station label.  
On the lining.—Box number label.

On boxes of the new type:—

On the lining.—Box number label.

In the case of the new type boxes, no station label is used, but the seal is impressed with a stamp indicating where the box was packed.

*Ammunition special to the R.A.F.*—(f) There will be a Royal Air Force red cross label on one side of the box, both old and new type boxes.

#### V.—DESCRIPTION OF LABELS.

The large distinguishing labels will contain the following information:—

The number of rounds.  
Nomenclature.  
Method of packing.  
Symbol.

The small distinguishing labels will contain the symbol, and for all cartridges, except ball and signal, the characteristic name (I (c) of nomenclature), *i.e.*, “tracer”, “armour piercing”, “drill”, etc.

In the case of signal and illuminating cartridges, particulars of calibre and colour will be given in addition, *e.g.*, “1½-in. red”, “1-in. illuminating”, etc.

The descriptive labels will contain the same information as heretofore, but the symbol will be omitted.

#### VI.—STENCILLING.

*Boxes.*—The box serial number will be stencilled on the top of each box, the make and date of the ammunition on one end, and the gross weight on the other end.

*Barrels.*—Barrels containing blank ammunition will be labelled on the top with a large distinguishing label, and the Government explosive and classification label, and stencilled on the other end with the make and date of the ammunition, the gross weight and the serial number of the barrel.

The appended table gives the present nomenclature of the ammunition affected, and the future nomenclature allocated in accordance with the above rules, also particulars of the symbols which will be used.

The revised system of labelling packages, etc., will come into force only as new manufacture of the stores affected proceeds, or as existing stocks are repacked. With regard to the revised nomenclature, the details at present shown in the Priced Vocabulary of Naval Armament Stores, Part II (O.U. 5365B), will be amended by errata in due course, but the existing ledger headings are to be amended forthwith under this authority, and the revised nomenclature is to be used in all future stock statements, demands, etc. If there are any stores of the nature concerned at present on charge, which are not included in these instructions, and which cannot by examination be identified as coming under the new nomenclature, they should be reported, with full particulars, including quantities and condition, to the C.S.A.S., Admiralty, for further instructions.

Present Nomenclature.	Future Nomenclature.	Symbol on Labels.
Cartridge, S.A., ball, .303 in.— Mark VI ... ..	Cartridge, S.A., ball, .303 in.— Mark VI ... ..	C.
Cordite, Mark VII ... ..	Mark VII ... ..	C.A.
N.C.(Z), Mark VIIz ... ..	Mark VIIz ... ..	L.A.
N.C.(Z), Mark VIIwz ... ..	Cartridge, S.A., armour piercing, .303 in. W., Mark Iz.	L.A.
Cartridge, S.A., blank, .303 in., without bullet, Mark V.	Cartridge, S.A., blank, .303 in. L., Mark V.	C.A.
Cartridge, S.A., drill, .303 in. rifles, carbines or machine guns, Mark VI.	Cartridge, S.A., drill, .303 in., D., Mark VI.	C.A.
Cartridge, S.A., dummy, .303 in., In- spectors, Mark V.	Cartridge, S.A., dummy, .303 in., U., Mark V.	C.A.
Cartridge, S.A., .303-in., rifle grenades, 30 grains, ballistite, Mark I.	Cartridge, S.A., rifle grenade, .303 in., ballistite, H., Mark Iz.	L.
Cartridge, S.A., .303 in., rifle grenades, 43 grains, cordite M.D., Mark II.	Cartridge, S.A., rifle grenade, .303 in., cordite, H., Mark II.	L.
Cartridge, S.A., tracer, S.P.G., .303 in., cordite (VIIc), Mark I.	Cartridge, S.A., tracer, .303 in., G., Mark I.	A.
Cartridge, S.A., tracer, S.P.G., .303 in., N.C.(Z) (VIIg), Mark Iz.	Cartridge, S.A., tracer, .303 in., G., Mark Iz.	A.
Cartridge, S.A., ball, revolver, .455 in.— Mark I ... ..	Cartridge, S.A., ball, revolver, .455 in.— Mark I ... ..	C.
Mark II ... ..	Mark II ... ..	C.A.
Mark III ... ..	Mark III ... ..	C.
Mark IV ... ..	Mark IV ... ..	C.
Mark V ... ..	Mark V ... ..	C.



Cartridge, S.A., drill, revolver, .455 in.— Mark I ... .. Cartridge, S.A., ball, pistol, self-loading, Webley and Scott, .455 in., Mark I ... Cartridge, aiming rifle, 1 in., percussion, cordite, lead bullet—	L. N. C.A.	Cartridge, S.A., drill, revolver, .455 in., D., Mark I ... .. Mark I ... .. Cartridge, S.A., ball, pistol, self-loading .455 in., Mark I ... .. Cartridge, aiming rifle, 1 in., percus- sion— Mark I ... .. Mark II ... .. Mark III ... .. Mark IV ... .. Cartridge, aiming rifle, 1 in., electric— Mark I ... .. Mark I ... .. Cartridge, rim-fire, .23 in.— Mark I ... ..	L. N. C.A. L. C. N. N. L. N. N.	A black revolver chamber on cerise ground overprinted "DI" in black, silhouetted. Do. do. A green plimssoll mark on white ground overprinted "I" in black. A green diamond on white ground over- printed "I" in black. A green diamond on white ground over- printed "II" in black. A green diamond on white ground over- printed "III" in black. A green diamond on white ground over- printed "IV" in black. A green heart on white ground overprinted "I" in black. A green heart on white ground overprinted "I" in black. (a) (Cordite). A green target on white ground overprinted "I" in black. (b) (Smokeless). A green target on white ground overprinted "IS" in black. (c) (Semi-smokeless). A green target on white ground overprinted "ISS" in black. (See footnote *).
Cartridge, signal, 1 1/4 in.— Red, without smoke, Mark I ... ..	N.A.	Cartridge, signal— Red, 1 1/4 in., Mark Ir... ..	N.A.	A blue square ended dumb-bell on white ground containing the word (in white) "Red" at each end and overprinted "Ir" in black.

\* *Note*.—This ammunition may be loaded with cordite, rim neonite or other propellant, either smokeless or semi-smokeless. Where cordite is used the labels are marked as at (a), but where smokeless or semi-smokeless propellants are used the labels will be marked as at (b) and (c) respectively. There are no stampings on the base of .22 in. R.F. cartridges.

Present Nomenclature.		Future Nomenclature.		Symbol on Labels.
Cartridge, signal, 1½ in.— <i>contd.</i> Green, without smoke, Mark I ...	N.A.	Cartridge, signal— <i>contd.</i> Green, 1½ in., Mark Ir ...	N.A.	
Green, Mark III ...	N.	Green, 1½ in., Mark IIIr ...	N.	A blue square ended dumb-bell on white ground containing the word (in white) "Green" at each end, and overprinted "IIIr" in black.
Green, Mark IV ...	N.	Green, 1½ in., Mark IVr ...	N.	A blue square ended dumb-bell on white ground containing the word (in white) "Green" at each end and overprinted "IVr" in black.
Red, Mark III ...	N.	Red, 1½ in., Mark IIIr ...	N.	A blue square ended dumb-bell on white ground containing the word (in white) "Red" at each end and overprinted "IIIr" in black.
Red, Mark IV ...	N.	Red, 1½ in., Mark IVr ...	N.	A blue square ended dumb-bell on white ground containing the word (in white) "Red" at each end and overprinted "IVr" in black.
White, Mark II ...	N.A.	White, 1½ in., Mark IIr ...	N.A.	A blue square ended dumb-bell on white ground containing the word (in white) "White" at each end and overprinted "IIr" in black.
White, Mark III ...	N.	White, 1½ in., Mark IIIr ...	N.	A blue square ended dumb-bell on white ground containing the word (in white) "White" at each end and overprinted "IIIr" in black.
White, Mark IV ...	N.	White, 1½ in., Mark IVr ...	N.	A blue square ended dumb-bell on white ground containing the word (in white) "White" at each end and overprinted "IVr" in black.

Green, Mark IV	...	...	...	Green, 1 in., Mark IVT	...	...	C.	A blue hexagon ended dumb-bell with the word "Green" on the ends (in white) and overprinted "IVT" in black.
Green, Mark V	...	...	...	Green, 1 in., Mark Vt	...	...	C.	A blue hexagon ended dumb-bell with the word "Green" on the ends (in white) and overprinted "Vt" in black.
Green, Mark VI	...	...	...	Green, 1 in., Mark VIr	...	...	N.	A blue hexagon ended dumb-bell with the word "Green" on the ends (in white) and overprinted "VIr" in black.
Green, Mark VII	...	...	...	Green, 1 in., Mark VIIr	...	...	N.	A blue hexagon ended dumb-bell with the word "Green" on the ends (in white) and overprinted "VIIr" in black.
Red, Mark IV	...	...	...	Red, 1 in., Mark IVT	...	...	C.	A blue hexagon ended dumb-bell with the word "Red" on the ends (in white) and overprinted "IVT" in black.
Red, Mark V	...	...	...	Red, 1 in., Mark Vt ...	...	...	C.	A blue hexagon ended dumb-bell with the word "Red" on the ends (in white) and overprinted "Vt" in black.
Red, Mark VI	...	...	...	Red, 1 in., Mark VIr	...	...	N.	A blue hexagon ended dumb-bell with the word "Red" on the ends (in white) and overprinted "VIr" in black.
Red, Mark VII	...	...	...	Red, 1 in., Mark VIIr	...	...	N.	A blue hexagon ended dumb-bell with the word "Red" on the ends (in white) and overprinted "VIIr" in black.
White, Mark VI	...	...	...	White, 1 in., Mark VIr	...	...	N.	A blue hexagon ended dumb-bell with the word "White" on the ends (in white) and overprinted "VIr" in black.
White, Mark VII	...	...	...	White, 1 in., Mark VIIr	...	...	N.	A blue hexagon ended dumb-bell with the word "White" on the ends (in white) and overprinted "VIIr" in black.
Yellow, Mark IV	...	...	...	Yellow, 1 in., Mark IVT	...	...	L.	A blue hexagon ended dumb-bell with the word "Yellow" on the ends (in white) and overprinted "IVT" in black.
Yellow, Mark V	...	...	...	Yellow, 1 in., Mark Vt	...	...	L.	A blue hexagon ended dumb-bell with the word "Yellow" on the ends (in white) and overprinted "Vt" in black.

Note.—The letters N.L.L.A., etc., in columns 2 and 4 indicate the Service in which the cartridges are used.



### 428.—W/T—Standardisation of Transmitting Rooms—Allowance of Additional W/T Stores.

*All Flotilla Leaders and Destroyers Fitted with Type 88.*

(S.D./G. 03205/28.—15.2.1929.)

As a result of sea experience it has been found that two operators are required for working the fire control W/T set in destroyers. One operator is required for attending to the set, shifting wavelength, etc., and the other for transmitting and receiving, his position being in the transmitting room between the range and deflection operator and the rate clock worker. The use of this extra position necessitates the provision of a transmitting key, telephones, etc.

2. Vessels concerned are to demand the following stores, quoting this Order as authority:—

<i>Pattern No.</i>	<i>Description.</i>	<i>No.</i>	<i>Remarks.</i>
7466.	Brackets for telephones ...	1	—
7681.	Key, morse ... ..	1	Except "Amazon" and "Ambuscade."
2328.	Switch, telephone ... ..	1	—
4406.	Telephones and headgear complete ... ..	1	—
1304.	Telephone leads... ..	1	—
2546.	C.T.S. cable ... ..	As required.	—

3. On receipt these stores are to be mounted and wired up for use by the operator in the transmitting room in the position described in paragraph 1 of this Order. The morse key is to be wired in parallel with the existing morse key. "Amazon" and "Ambuscade" are to use the second morse key already provided, shifting it to the required position.

The Pattern 2328 telephone switch is to be wired in parallel with the existing telephone switch. C.T.S. cable is to be used for running the wiring to the second morse key and telephone switch.

4. It should be noted that no increase of personnel is proposed for the purpose of providing the second telegraphist rating for fire control purposes. Requirements must be met out of the existing complement.

5. The necessary amendments to the establishment of W/T stores and fitting-out specifications will be promulgated in due course.

(A.F.O. 419/29.)

### 429.—Harwich—E. and F. Moorings.

(D. 752/29 —15.2.1929.)

The pendants of "E" and "F" moorings at Harwich were recently found, on examination, to be below the condemning standard for 3rd class moorings, and it has been decided to temporarily de-class them to 4th class.

### 438.—Freighting Oilers Managed by the Admiralty—Maintenance.

(N.S. 274/29.—15.2.1929.)

The following procedure is applicable to R.F.As. "Appleleaf," "Cherryleaf," "Orangeleaf," "Pearleaf," "Petroleum," "Plumleaf," "War Pathan,"† and "War Hindoo"ø. In regard to these vessels the Naval Store Officer as representative of the Director of Stores is to be responsible for the duties devolving locally on Managers under the commercial management system.

† Withdrawn from commercial management on 4th February, 1929.

ø Will shortly be withdrawn from commercial management.

2. It is of the utmost importance that the financial effect of all transactions should be communicated promptly to the Admiralty, and such information should be included by dockyards in relevant returns, *e.g.*, D.22A, at the earliest possible date. Particular attention is to be given by Masters to the instructions regarding letters of advice (S.133), which are to be forwarded in respect of all transactions, *other than supplies made, or work done by the dockyard.*

*Accounts—Cash.*—Cash accounts are to be rendered in accordance with the Regulations and Instructions for R.F.As. Each transaction recorded in cash account, except payment of wages, to be reported to the Admiralty on Form S.133, immediately after payment.

*Accounts—Stores.—Naval.*—To be kept on Forms F.A.12 and 13.

*Medical.*—To be kept on Form S.463c.

*Victualling.*—To be kept on Form R.F.A.2. Forms R.F.A.5 and 6 are to be completed quarterly and forwarded to Director of Victualling.

*Mess traps* to be kept on Form F.A.14.

*Advances of Cash.*—The sum of money carried on board is to be the minimum necessary to meet small accounts. When an advance of cash is obtained from the Accountant Officer of one of H.M. ships or an Admiralty shore establishment, the matter will be reported by telegram to the Admiralty by the ship or establishment.

When cash is obtained from an agent, or by negotiation of a Bill of Exchange, the Master is to report the advance by telegram to the Admiralty.

*Agents.*—(a) At ordinary commercial ports the usual agents should continue to be employed for the present.

(b) At all dockyards the Naval Store Officers will act as agents.

Agents should only be allowed to make disbursements, and collect commission on such disbursements, in cases of emergency, *e.g.*, to prevent serious delay to the ship, etc. Payments for agency work and for any disbursements should, as far as possible, be settled by the Master by the issue of a Bill of Exchange, and the total amount, whether paid by agent or Master, should be communicated to the Director of Stores by telegram, and by letter of advice (S.133). Exceptions to this procedure may be made at Abadan and Trinidad, where the Anglo-Persian Oil Co., Ltd., and the Trinidad Leaseholds, Ltd., may claim on the Admiralty as hitherto, if they prefer this course, but in these instances a letter of advice, giving approximate total liability, should be forwarded.

*Alterations and additions.*—Proposals are to be forwarded to the Admiralty, either by yard officers or by Master, well in advance of docking. No work is to be undertaken pending Admiralty approval.

*Bill Book.*—Books of Bills of Exchange (both home and foreign) will be supplied to each vessel on application. The Naval established forms only are to be used.

*Charter.*—All instructions will be communicated from the Admiralty. These will cover any necessary alterations as regards storing, agency, etc.

*Code.*—The Government Code will be supplied, and should be used whenever economy will result.

*Contracts.*—At home ports, advantage is to be taken of all Admiralty contracts for meat, vegetables and bread, particulars of which will be furnished direct to the Master (*see also* under Victualling). A receipt (one only) is to be given to the contractor on Form S.92, and no payment is to be made by ship or yard officers.

In the event of a contractor applying for a duplicate receipt on Form S.92, the application is to be forwarded to the Accountant-General of the Navy for directions with an indication whether the supply in question was duly received.

At ports abroad, the Naval Store Officer—or Senior Naval Officer, if there be no Naval Store Officer—should be consulted regarding local contracts, and payment should be made, whenever possible, by local Admiralty officers. Supplies may be obtained from other sources abroad, if resort to local contractor is likely to lead to any delay, or to any considerable inconvenience, particularly at Hong Kong or Suez Canal ports.

*Crews.*—Crews (other than Asiatic) will continue to be obtained through the joint supply system, *i.e.*, the Shipping Federation and the National Union of Seamen, except for “Petroleum.”

*Demands.*—All stores, except fresh provisions, not covered by Admiralty and/or local contracts, are to be demanded from the Naval Store Officers when the vessel is at a dockyard. Forms S.134D and other appropriate forms indicated in R.F.A. Regulations are to be used, and for the present, assistance as necessary should be given by the dockyard in the preparation of demands. The Naval Store Officer will take any necessary steps to obtain armament (fireworks), medical and victualling stores, and will deliver all stores, if necessary, on board the vessels. If the vessel is not proceeding to a dockyard, the demands, other than for casual requirements, which can be met by local purchase, should be sent direct to the Director of Stores, Admiralty, as soon as the vessel reaches port, and supply will be arranged by the Admiralty. This procedure will also apply at Pembroke Dock and Rosyth, where stocks of stores are no longer maintained.

*Defects.*—Brief details of defects outstanding should be communicated by the Master by letter to the Director of Stores after each boiler cleaning. Complete lists are to be forwarded to the Naval Store Officer when vessel is ordered to a dockyard for repairs. In the latter case, Forms S.340 and S.340B are to be used, and the Naval Store Officer will afford assistance in preparation if necessary.

*Established Allowance of Stores.*—No establishment of stores for “War Hindoo” and “War Pathan” will be issued pending further experience. Generally, these vessels should be maintained with permanent stores on existing scale. Consumable stores should be supplied as demanded, unless considered excessive, in which case Naval Store Officers should scrutinise ships’ store accounts for past expenditure.

*Fixture Lists.*—Admiralty fixture lists will be prepared in due course for “War” class vessels. Any alterations may for the present be recorded in the store accounts.

*Letters of Advice (S.133).*—All transactions (other than payment of wages) in which payment is made or liability incurred by ship are to be reported to Director of Stores, on Form S.133, immediately. This form is primarily intended to indicate the financial position, *and the utmost importance is attached to its prompt rendering.* It is to be rendered in respect of every transaction, including repairs, as indicated herein, but *not* in respect of supplies made, or work undertaken, by dockyards. Details are not required, but the form should indicate the general nature of the transaction and the total amount, *e.g.*, provisions—£50. Duplicate accounts in respect of transactions should be attached, if readily obtainable. The notes for the preparation of S.133, as shown on the form, should be considered as amended by these instructions so far as oilers only are concerned.

*Lloyds’ Classification and Surveys.*—Lloyds’ present classification of the vessels should be maintained, and all requisite surveys carried out. Lloyds’ surveyor should be communicated with when necessary.

*Logs.*—Deck logs are to be kept on Form F.A.15, and forwarded to the Director of Stores. Engine-room logs are to be kept on commercial forms, which are to be purchased by the Master as required. Admiralty engine-room registers are not required, and the commercial engine-room logs are to be forwarded direct to the Admiralty (Director of Stores) for inspection.

*Master’s Expenses.*—All expenses incurred by the Master in connection with ship’s business are to be supported by vouchers. Vouchers for expenses incurred while the vessel is in a dockyard, port, or at a Naval depôt, are to be endorsed by the Naval Store Officer to the effect that no service transport facilities were available, or a certificate by the Naval Store Officer, to this effect, included with the vouchers.

*Movements.*—To be telegraphed to the Admiralty. Telegraphic address:—"Naval Stores, London."

*Payments by Ship.*—All payments by the ship (except wages of officers and crew) are to be advised on Form S.133, and included in the cash account.

*Purchases.*—Local purchases by Master may be made when necessary. At yards and depôts, the Naval Store Officer should be consulted, and will assist as far as possible. Generally, payment should be made by the dockyard (*see* procedure under victualling).

*Repairs* will be undertaken as at present in H.M. dockyards whenever practicable.

*Returns of Stores.*—All old and unserviceable stores are to be returned to dockyards. Form S.331 should be used. Destruction on board should only be in exceptional circumstances, and should be recorded in detail in the log.

*Stores—General.*—Supplies sufficient to bring the total quantities on board to four months' expenditure, except perishable provisions, should be drawn prior to sailing on each outward voyage, except in circumstances detailed under Demands.

*Stores—Naval.*—Authorised patterns are to be supplied, when practicable, except as regards W/T gear for ships in which Marconi gear is already fitted. (Certain articles such as packings, will necessarily require to be purchased, as these are not of authorised patterns).

*Naval Armament (Fireworks).*—Board of Trade fireworks now carried may be replaced by Admiralty patterns when replacement becomes necessary.

*Stores—Medical.*—Stores to complete to Board of Trade scale will be supplied from Naval hospitals on requisition from Naval Store Officer. Local purchase may be made if necessary to save delay, or on account of other sufficient reason.

*Victualling and Mess Traps.*—Victualling is to be conducted in accordance with the general arrangements laid down in Articles 36-41 of the R.F.A. Instructions, as supplemented by the instructions printed on Form R.F.A.6.

Particular attention is drawn to the following:—

(a) Provisions obtainable from the victualling yards, including fresh provisions are to be drawn from that source whenever practicable. Supplies will be made on requisition from Naval Store Officer. Monthly returns are to be forwarded by the victualling yards to the Director of Victualling, showing the value of supplies made to each oiler.

(b) Contracts exist for the supply of fresh provisions at certain ports where there is no victualling yard, and supplies are to be obtained under such contracts when practicable (*see also* under Contracts).

(c) Provisions not obtainable under the arrangements at (a) and (b) above are to be obtained by direct purchase. A list of requirements of such provisions will be prepared by the Master, and Naval Store Officers will co-operate as far as practicable in obtaining these and, if necessary, in delivery to the ship. Generally, however, orders should provide for delivery direct to the ship. Receipt on board should be checked whenever possible by Naval Store Officer's representative in conjunction with the Master. The Master should furnish a certificate as regards quality, price, and quantity, which should be countersigned by Naval Store Officer's representative whenever he has been associated with the Master in verification of quantities. Payment is to be made by the dockyard on these certificates, and in all instances the Master is to certify that no payment has been, or will be, made by the ship.

Careful note is to be taken by the Master of all charges incurred, and steps are to be taken by yard officers to ensure that the necessary information is communicated without delay when payment is made by the dockyard.

At ports where there is no Naval Store Officer, purchase and payment will be carried out by the Master.

(d) It is anticipated that the cost of victualling calculated in the manner prescribed on Form R.F.A.6 will approximate closely to the rates authorised by the Director of Victualling. In the event of these rates being exceeded, a full explanation should be furnished by the Master when forwarding the victualling account.

*Telegrams.*—To be sent in Government code whenever economy will result from its use. On all occasions when approaching a home yard, a telegram should be sent to Director of Stores and repeated to the Senior Naval Officer of the port of destination, stating briefly the expected date and time of arrival, all requirements of cash, insurance stamps, changes in personnel, immediate small supplies of provisions, and also brief details of any essential repairs. The same information should be sent when approaching a yard or depôt abroad, but the telegram should be sent to the Senior Naval Officer only, and should not be repeated to the Admiralty. Payments for telegrams should be supported by a copy of each message sent, which should be attached to the cash account voucher.

*W/T Gear and Operators.*—For the present no change is to be made in existing W/T equipment of "War Hindoo" and "War Pathan." These vessels will continue to have Marconi gear, and operators supplied by the Marconi Company.

(A.F.Os. 1175/29 and 2710/29.)

### 461.—Fleet Exercises—Area off Portland to be avoided.

(T.D. 2506/29.—22.2.1929.)

Owing to the existence of cables, H.M. vessels should not carry out exercises of the following nature in the area defined as under:—

- (i) Sweeping.
- (ii) Creeping.
- (iii) Anchoring (except in cases of urgent necessity).
- (iv) Target towing (if there is any possibility of the tow fouling the bottom).
- (v) Explosive exercises.

2. The area referred to is enclosed by lines joining the following positions:—

- A. Lat. 50° 34' 30" N. Long. 2° 24' 52" W. (on the breakwater).
- B. Lat. 50° 35' 30" N. Long. 2° 20' 00" W,
- C. Lat. 50° 32' 00" N. Long. 2° 11' 00" W,
- D. Lat. 50° 27' 03" N. Long. 2° 15' 00" W,

and thence to Grove Point and following the line of shore and breakwater back to A.

### \*463.—Cook Branch—Advancement.

(N. 2864/28.—22.2.1929.)

As the present system of ante-dating cooks for advancement to petty officer cook and leading cook has given rise to difficulty, it has been decided, as a temporary measure, to suspend the regulations contained in the King's Regulations and Admiralty Instructions, Appendix XVII, Part I, Nos. 124 (D) and (F) and 125 (D) and (F).

2. While this Order remains in force:—

- (a) Professional examinations for petty officer cook and leading cook may be held either at a home port by the officer-in-charge of the cookery school, or elsewhere by two experienced accountant officers not below the rank of paymaster lieutenant, or by one such officer and a warrant instructor of cookery. This examination will be final, and there will be no provisional examination in any circumstances. Men who fail in the examination are to be put back by the examining officers for periods not exceeding 12 months.
- (b) Cook ratings are not to be recommended for advancement (other than accelerated advancement) to petty officer cook or leading cook unless, in addition to being qualified by service, conduct, etc., they have passed professionally for the higher rating. The reference to cook ratings in Article 414, Clause 4, is to be regarded as cancelled temporarily.

3. Cook ratings who have already been passed over for advancement by reason of their not having passed professionally are to be examined forthwith. If they pass they are to be advanced at once, and are to be ante-dated to the dates on which they would have been advanced in their turn if they had passed previously. Such advancements are to be absorbed in subsequent vacancies. If they fail in the professional examination, they will lose the right to be ante-dated when ultimately advanced. The names of the ratings who fail are to be notified to the depôts.

4. In order to enable the instructions in para. 3 to be carried out, the depôts are to notify immediately to the ships concerned, the names of cook ratings who have been so passed over for advancement, and the dates to which they should be ante-dated if they should succeed in passing at the first attempt.

5. All cook ratings undergo a 24 weeks' course on entry, and are employed throughout their service on cooking duty and are under continuous observation and report. They should by the time they take these examinations have attained a definitely high standard of professional efficiency. The professional examination, therefore, whether held in a cookery school or elsewhere, must be of such a searching nature as to ensure that this standard is reached by all successful candidates.

(*K.R. & A.I., Art. 414 and App. XVII., Pt. 1, Nos. 124 and 125.*)

#### **471.—Gun Mountings and Director Towers—Machining of Seatings.**

(G. 12169/28.—22.2.1929.)

In view of the degree of accuracy now required in the levels of gun mounting seatings and the seatings of the corresponding director towers, and the small relative tilt permissible in the completed ship between the planes of these several seatings, attention is called to the necessity for taking very great care in erecting standard levels while the ship is on the slip, and in accurately machining the seatings to these levels when the ship is afloat.

2. To secure this object, these standard levels (both athwartship and longitudinally) are to be erected in the vicinity of the seatings and are to be obtained by using as long a base as practicable.

3. When the seatings are machined, readings are to be taken both in a fore and aft direction and athwartships, in comparison with the standard levels, and the results reported to the Admiralty.

#### **474.—8 in., Mark I\*B, Practice and Practice Target Ship Projectiles—Modification to prevent damage to Shell Transporters and Hoists.**

(G. 18194/28.—22.2.1929.)

To prevent damage to the shell transporters and hoists by the projecting ridge at the front end of the body of 8 in., practice and practice target ship projectiles, Mark I\*, B, the Commander-in-Chief, China, was notified that the junction of the head and body was to be blended by chamfering off this projection at an angle of 30° and that this could be done by filing. In the case of depôts at home and abroad, where lathes are available, the sketch (E.F.O. 10/29) has been prepared to govern the necessary rectification.

476. } *Issued Confidentially.*  
477. }

**478.—Depth Charge Pistols, Mark IV\*\*—Issue—REPORTS.**

(G. 15118/28.—22.2.1929.)

In order to prevent premature firing by inertia when a depth charge fired from a depth charge thrower strikes the water it has been decided to issue to vessels concerned a modified Mark IV depth charge pistol which will be known as Mark IV\*\*.

2. Details of the modifications are being included in the relevant hand-books for information of the Fleet.

3. The Mark IV\*\* depth charge pistol will be supplied only to destroyers and to vessels of the A/S flotilla fitted with depth charge throwers.

4. A small shallow error will probably occur on all depth settings owing to the space occupied in the dome of the pistol by the inertia weight. This reduces the quantity of water required to flow through the depth adjuster to cause the pistol to fire, thus producing early firing.

5. A gauge for checking clearance between inertia weight and spindle will be supplied to all vessels carrying Mark IV\*\* pistols. This gauge is to form part of the contents of the depth charge tools and spare parts box (vessels) supplied to destroyers, etc., carrying throwers also of the tools and spare parts box (depôts) and is to be stowed in the box when not in use.

6. Primers, depth charge, C.E., 3½ lb., Mark V, are to be used with Mark IV\*\* pistols when fitted to depth charges to be fired from throwers.

7. Destroyers in full commission and vessels of A/S flotilla fitted with throwers are to forward demands for Mark IV\*\* pistols and one clearance gauge to the nearest Naval Armament Depôt under the following nomenclatures:—

*Depth Charge Stores.*

Boxes, complete, Mark IV\*\* pistol.

Gauges, checking clearance between inertia weight and spindle, Mark IV\*\* pistols.

Stamp No. 6072.

8. On receipt of boxes, complete, Mark IV\*\* pistols on board, a similar quantity of boxes, complete, Mark IV pistol, but without primer gear (at present supplied for use from throwers) is to be returned to store.

9. Arrangements have already been made to despatch to Naval Armament Depôts, Malta (by first opportunity of free freight) and Hong Kong sufficient Mark IV\*\* depth charge pistols and gauges, St. No. 6072, to meet the requirements of vessels on the Mediterranean and China stations respectively.

10. All ships, which are supplied with Mark IV\*\* pistols, are to report, in the form of a note added to Form S.320, the depth set and the firing times of all charges fired for exercise with this pistol for the first year after issue.

11. Labels of depth charge boxes, tools and spare parts on board ships and in depôts are to be amended as necessary.

12. The Naval Proportion Book will be amended as necessary by Errata in due course.

(A.F.O. 2138/29.)

**481.—Threaded Parts of Aluminium Alloy Fittings—Protection from Corrosion—REPORTS.**

“Nelson,” “Kent,” “Berwick,” “Adventure” and “Ambuscade.”

(D. 19614/28.—22.2.1929.)

It has been decided to carry out trials with (a) a compound of finely divided zinc and petroleum jelly, and (b) Commercial acid-free petroleum jelly, in order to ascertain their comparative efficiency for protecting from seizing the threaded parts of aluminium alloy fittings exposed to salt water, or salt atmosphere.

2. Arrangements have been made for two 2 lb. tins of the zinc compound, and two 2 lb. tins of the petroleum jelly to be forwarded from Portsmouth to each of the vessels referred to.

3. Of the fittings selected for trial, one half should have their threaded parts coated with the compound, the remainder with the plain jelly, and the fittings should be selected so as to comprise the several varieties of aluminium alloy.

4. Reports through the Administrative Authority on the results obtained in comparison with untreated fittings should be forwarded in 6, and in 12 months from the date of applying the preservatives. The nature and position of the fittings, also particulars of the aluminium alloy coated should be indicated in the reports.

### **483.—24 in. Rod Controlled Searchlights fitted with Remote Control of Iris Shutters.**

(G. 19376/28.—22.2.1929.)

It has been found that, as originally fitted, unless the Iris shutter hand operating handle is unclutched when in fore bridge control, this handle will foul the horizontal elevating rod when the projector is elevated above 50°.

2. Ships concerned are to insert an item in their next list of alterations and additions to modify their projectors to overcome this difficulty.

3. The modification is to be carried out by inserting a 3 in. distance piece in the joint at the upper end of the channel arm, Item 19, Plate 26 of O.U. 6145, as shown on the drawing (E.F.O. 15/29). This necessitates raising the worm box casting, Item 12, and lengthening the shaft, Item 63.

4. This modification gives about 1 in. clearance between the handle and the parts which were previously fouled and does not interfere with the balance of the projector in any way.

### **\*514.—Flying Kit—Retention during Periods of General Service or Corps Duty.**

(C.W. 1320/29.—1.3.1929.)

Royal Naval and Royal Marine Pilots may retain their fur-lined caps and mask goggles during their periods of general service or corps duty. Other items of flying clothing are to be surrendered. Under the terms of Air Ministry Weekly Order 378/28, flying clothing will be available for use during casual or occasional flights.

### **517.—Signalmen and Telegraphists—Shortening of Revisional Courses.**

(N. 233/29.—1.3.1929.)

It has been found that with the present small drafting margin at the depôts, it is not possible for more than a small number of Signalmen and Telegraphists to complete the revision course in Signal School, Portsmouth, as authorised in O.U. 5298.

2. As a temporary measure, therefore, a shortening of the Signal School Revision Course for Signalmen and for Telegraphists from 12 weeks to 8 weeks has been approved. This should result in a considerable increase in the numbers of these ratings taking the course.

3. These courses are not qualifying courses for leading rate, but are intended to provide for periodical revision with a view to maintaining the necessary standard of knowledge among Signalmen and Telegraphists.

4. It is very desirable, therefore, that as large a number as possible, if not all, of these ratings may be given the course, and ratings eligible at the depôts should not be withheld from a course unless it is certain that they will not be able to complete it before being required for draft.



**\*519.—Royal Marine Canteens—Transfer to Navy, Army and Air Force Institutes—Corps Representation.**

(N. 102/29.—1.3.1929.)

Consequent upon the decision to transfer the Royal Marine Canteens, etc., to the Navy, Army and Air Force Institutes on 1st July next, the following arrangements have been approved :—

- (i) Royal Marine Officers will be eligible for appointment to represent the Admiralty on the Council of the Navy, Army and Air Force Institutes.
- (ii) One non-commissioned officer or Marine will be elected annually by Royal Marine Divisions and the Depôt, Royal Marines, in turn as Corps representative. This Corps representative will be on the same footing as the Lower Deck representatives who are attached to the London headquarters of the Navy, Army and Air Force Institutes, except that he will continue to serve at the establishment electing him and will visit the Naval section of the Navy, Army and Air Force Institutes and Royal Marine Canteens when and if required.
- (iii) The Adjutant-General, Royal Marines, will be represented at meetings of the Headquarters Naval Canteen Committee by an officer nominated by him. The Corps representative will attend as representing the Royal Marine Divisions and Depôt.
- (iv) Each of the three Royal Marine Divisions will elect a representative to serve on the Port Canteen Committee. The Corps representative will act as local representative for his particular division.

**522.—Colonial and Subsistence Allowances for Naval and Royal Marine Officers.**

(C. (II) 5765.—1.3.1929.)

Colonial allowance should not be credited to Naval or Royal Marine officers in receipt of lodging allowance at the daily rate. At places where payment of Colonial allowances is authorised, officers serving ashore and unprovided with service accommodation and victualling, for periods not exceeding one month, should not be paid lodging, provision and Colonial allowances, but should receive the subsistence allowance authorised by A.F.O. 512/30 paragraphs 67 to 70.

**529.—Issued Confidentially.**

**531.—Director Sights, Repeat “ W ” Type—Defects.**

*Leaders and Destroyers concerned.*

(G. 547/29.—1.3.1929.)

In two ships fitted with “ W ” type director sights, instances have been reported of the slackening back of split nuts fitted at vital positions in the mechanism.

2. In one instance, the split nut and locking device securing the worm operating the elevating quadrant had slacked back, causing lateral play in the gear and thus allowing the overhanging weight of the Henderson gear to pull the telescope holders out of position.

3. In the second case, it was found that the split nut securing the worm of the training differential gear had slacked back, and allowed the worm longitudinal play thus causing cross-levelling errors.

4. All ships fitted with the repeat “ W ” type director sight should examine the parts of the gear referred to at paragraphs 2 and 3 above, as opportunity offers, and arrangements should be made to fit nuts and check nuts in lieu of the existing split nuts.

### 541.—W/T—Pattern 1307 Aerial Wire—Supply in lieu of Pattern 519.

*Royal Fleet Auxiliaries fitted with 1½ kW. Marconi Sets.*

(N.S. 1417/29.—1.3.1929.)

It has been approved to supply Pattern 1307 aerial wire for aerial-outfit group B to each R.F.A. fitted with a 1½ kW. Marconi set, in lieu of the Pattern 519 wire at present allowed. Further, it has been decided that the allowance of aerial wire to these ships shall be reduced to 1,000 yards.

2. Ships concerned are, on the next occasion of demanding aerial wire, to demand Pattern 1307 in lieu of Pattern 519, the amount demanded being regulated so as to conform to the new allowance of 1,000 yards. Existing stocks of Pattern 519 wire on board are, however, to be used, and not returned to store.

3. The necessary amendments to the W/T Establishment will be promulgated in due course.

### 542.—Magnetic Compass—Trials—REPORTS.

*H.M. Ships "London," "Devonshire" and "Sussex."*

(N.S. 2251/29.—1.3.1929.)

It has been approved for H.M. Ships "London" and "Devonshire" to retain the additional magnetic compass, Pattern 184, and binnacle, Pattern 185, in the position in which they were installed for trials, and for H.M.S. "Sussex" to retain her spare standard compass and binnacle in the upper steering position, for the period of one year. At the end of this period reports are to be forwarded by all three vessels as to the utility of the compasses.

### 585.—Superannuation Act, 1876—Unhealthy places.

(C.E. 7078/28.—1.3.1929.)

The following places where Admiralty Establishments exist have been declared by the Treasury to be unhealthy for the purposes of the provisions of the Superannuation Act of 1876, and are promulgated for general guidance:—

Shanghai.	Singapore.
Rangoon.	Ceylon.
Hong Kong.	Bombay.
Sierra Leone.	Calcutta.

2. The section of the Act in question governing the counting of service in such places for superannuation purposes is as follows:—

Section 2.—“ For the purpose of reckoning the amount of any superannuation, compensation, gratuity or other allowance to be granted under the Superannuation Act, 1859, to a person who has served in an established capacity in the permanent Civil Service of the State, two years' service in an unhealthy place shall be reckoned as service for three years, and service in an unhealthy place for any greater or less period than two years shall be reckoned in the like proportion.

“ Provided that nothing in this section—

“ (1) Shall alter so much of section two of the Superannuation Act, 1859, as requires a service of ten years before an annual superannuation allowance can be granted; or

“ (2) Shall, without the consent of the Treasury, apply to a person who was residing in an unhealthy place when he entered the permanent Civil Service of the State.”

(NOTE.—Bombay and Calcutta were declared unhealthy for the purposes of the Act of 1876 by Treasury Minute dated 14th October, 1925, and Rangoon by Treasury Minute dated 15th October, 1925.)

**587.—Stores—Shipment from South Wales by Collier.**

(N.S. 2187/29.—1.3.1929.)

Bills of lading prepared for miscellaneous stores shipped in Admiralty Freight Colliers from South Wales should not in future bear the clause:—

“ To be discharged at the usual mercantile anchorage, delivered into craft and landed at the Government wharf at ship's expense, Government being liable for marine risk of lighterage only ”,

or any special clause as to delivery.

The clause in Cardiff/Foreign Freight Charters which at present reads:—

“ The Charterer to have the option of shipping about 50 tons of Government Stores at the coal rate, all extra cost whatever being for shipowner's account ”

will in future read:—

“ The Charterer shall have the option of shipping about 50 tons of Government Stores (*i.e.*, other than coal, coke or patent fuel) at the coal rate, but any excess charges incurred through the loading and discharging of such stores, instead of coal, will be refunded to the owner by the Charterer on receipt of signed vouchers relating to such charges.”

**589.—Correction Disc for Conversion of True to Mercatorial Bearings.**

(D. of N./G. 19907/28.—8.3.1929.)

The correction disc, designed by Instructor Lieut.-Commander H. A. McDonald, R.N. (*see* E.F.O. 20/29), provides a simple and speedy method of obtaining the correction to apply to W/T D/F bearings to convert them to mercatorial bearings, and can easily be constructed in cardboard.

*Explanation and Construction.*—The disc is a mechanical solver of the formula:—

$$\text{Correction} = \frac{\text{D. long.} \times \sin \text{ mean lat.}}{2}$$

the actual formula used being:—

$$\text{Tan correction} = \frac{\text{Tan D. long.} \times \sin \text{ mean lat.}}{2}$$

which, in its logarithmic form is:—

$$\text{Log tan correction} + \log 2 = \log \tan \text{ D. long.} + \log \sin \text{ mean lat.}$$

(a) The fixed scale is graduated (clockwise) to read mean latitude IN DEGREES. The graduations are obtained by constructing angles proportional to the values of the log sines.

(b) The outer movable disc is graduated (clockwise) to read D. long. in degrees. The graduations are obtained by constructing angles proportional to the values of the log tangents.

(c) The centre disc is graduated (anti-clockwise) to give the correction in degrees. In this case the graduations are obtained as in (b), but the angles are constructed in an anti-clockwise direction. As  $\log 2$  is a constant for every value of the correction, the whole of the graduations are displaced an equal amount, and this is allowed for automatically in the setting of the disc.

*Setting of Disc.*—Having graduated the fixed scale and the two movable discs, draw an arrow at some convenient place on the outer edge of the outer movable disc. Set the arrow to  $30^\circ$  on the mean lat. scale. (The sine of  $30^\circ$  being  $\frac{1}{2}$  makes it convenient for the setting of the instrument). Then set  $1^\circ$  on the correction scale

under the correction arrow and draw an arrow on the centre disc opposite  $4^\circ$  on the D. long. scale on the outer movable disc. The instrument is then set for all values of mean lat., D. long., and the correction.

$$\left( \text{Correction} = \frac{\text{D. long.} \times \sin \text{mean lat.}}{2} \right.$$

$$\left. 1^\circ = \frac{4^\circ \times \frac{1}{2}}{2} \right).$$

All the necessary information regarding the method of obtaining and applying the correction is given on the face of the disc.

*Example.*—A ship in D.R.  $46^\circ \text{ N.}$ ,  $9^\circ 40' \text{ W.}$ , takes a W/T D/F bearing of the Lizard ( $49^\circ 58' \text{ N.}$ ,  $5^\circ 12' \text{ W.}$ ).

Bearing is  $038^\circ$ .

Mean lat. of ship and station =  $48^\circ \text{ N.}$

D. long. =  $4\frac{1}{2}^\circ$ .

Set arrow on outer disc to  $48^\circ$  on the mean lat. scale. Set arrow on centre disc to  $4\frac{1}{2}^\circ$  on the D. long. scale. Under the correction arrow we read  $1.7^\circ$ .

According to the instructions on the disc, as the ship is in north latitude and west of the station, and as the ship herself takes the bearing, this correction is—

$$+ \text{ve, i.e., mercatorial or chart bearing is} \\ 038^\circ + 1.7^\circ = 039^\circ.7,$$

which can be laid down on the chart.

### 596.—21 in., Mark IV\* (S.) and Mark IV\* (S.O.) Torpedoes— Re-graduation of Depth Indices.

(T. 248/29.—8.3.1929.)

It has been decided to re-graduate the depth indices of all Mark IV\* (S) and Mark IV\* (S.O.) torpedoes to read 2 ft. more than the true static depth. When so graduated, torpedoes at shallow depth settings may run shallower than the depth set on the index scale.

2. This must be borne in mind by the Commanding Officers of submarines, with due regard to the condition of the sea when torpedoes are set to run shallow for the purpose of hitting shallow draught vessels such as destroyers and submarines.

### 597.—Torpedoes—Stores and Tools—Strainers, Air and Fuel.

(A.S. 906/29.—8.3.1929.)

It has been decided to standardize as far as possible the gauze in all strainers for filtering air and fuel in torpedoes, and 200-mesh gauze will in future be used for new manufacture air and fuel strainers, except fuel strainers for 21 in., VII, and  $24\frac{1}{2}$  in. torpedoes, which, on account of the larger diameter fuel nozzles will be fitted with 40-mesh gauze. Existing strainers will be modified in depôts as opportunity offers.

2. This alteration does not apply to strainers for filtering water and oil (lubricating), which will remain as at present.

3. A further modification has been approved for the strainers fitted between air charge bottle and blowing valves in all blowing heads 18 in., 21 in. and  $24\frac{1}{2}$  in., the gauze being fitted inside the strainer cage instead of outside as at present. This modification will be carried out at depôts.

(C18807)

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4. Strainers modified in accordance with paragraph 3 will be known as—

*Section IV.*

Strainers, air, for K8 K9 blowing heads, 18in., 21 in.

and 24½ in. ... .. St. No. 1064A

and the fitting to blowing heads on board ships is to be carried out by ships' staffs. When fitting the modified strainer the inlet and outlet pipes as at present existing are to be inter-changed.

5. The valve and strainer should be removed occasionally and the bottle blown through from the charging valve in order to dislodge any small pieces of dirt or solder which may be in the system.

6. Strainers, St. No. 1064A, will be allowed in the proportion of one to each chest where strainers, St. No. 1064, are at present carried, except chests, tools and spare gear for destroyers, 21 in., II-IV\*, and 21 in., V.

7. In chests to be provided with one strainer, St. No. 1064A, the present allowance of two per chest of strainers, St. No. 1064, will be reduced to one per chest.

8. One Strainer, St. No. 1064, should therefore be returned by ships and vessels concerned to the nearest torpedo depôt, at first opportunity for conversion and re-issue as St. No. 1064A.

9. The nomenclature of strainers remaining as St. No. 1064 should be amended to read—

Strainers, air, to disc reducer, St. No. 1064.

10. Labels in chests and Torpedo Store Accounts should be amended accordingly.

11. No change in St. No. on account of fitting 200-mesh gauze will be made except in strainers modified in accordance with paragraph 3.

12. Care and Maintenance Handbooks will be amended in due course.

### 598.—Mark III Focuscopes—REPORTS.

(T. 54/29.—8.3.1929.)

Experience has shown that the projectors in various ships differ in the height they are fitted from the deck, run of cables, etc., on barrels.

2. It is therefore desirable that ships should fit the focuscopes in the most suitable position for their projectors.

3. Remarks on the following points in Forms S.316 should be forwarded as soon as sufficient experience has been gained:—

(a) Position on barrel, where focuscope has been fitted.

(b) Any difficulties in fitting.

(c) Opinion as to whether the Mark III focuscope is more or less efficient than previous types.

(d) Whether focuscopes would be more efficient and easier to fit if a silvered glass reflector were fitted so as to shine the image of arc downwards, i.e., if focuscope were fitted to the upper half of barrel and direct vision by an average man was not possible.

4. There are certain 24 in. lamps in use which have not had their arc beaters modified.

It is not possible to use a Mark III focuscope with an unmodified lamp.

The arc beater of all 24 in. lamps should be modified as shown on Drawing (E.F.O. 22/29).

### 599.—Gun Mountings, Transferable—Pressure Gauges for Recuperators.

(G. 13123/28.—8.3.1929.)

Pressure gauges for transferable mountings will not in future be supplied by gun mounting contractors, but are to be supplied from yard stocks when mountings are issued.

2. The type of gauge to be used is Pattern 2004 I, with flange.

3. Before issue, the maximum charging pressure of the recuperator of the mounting concerned should be indicated on the dial face by a red line; the type and mark of mounting also being shown.

4. The mountings at present affected are:—

4 in. S.I	4.7 in. C.P.XIV
4 in. H.A. III	5.5 in. C.P.II, with pneumatic recuperator.
4 in H.A.IV	6 in. C.P.XIV.
	3.7 in. Howitzer.

601. }  
611. } *Issued Confidentially.*

### 622.—D. and D.R. Quality Materials in lieu of H.T. and H.H.T. Qualities.

(N.S. 396/29.—8.3.1929.)

It has been decided that no more materials of H.T. (cruiser) or H.H.T. (destroyer) quality, viz., plates, sheets, sections and rivets (sometimes known as 2-rib, 3-rib and 4-rib rivets) will be purchased either for stock or issue.

2. The existing stocks of these materials are, however, to be used up as opportunity offers for any service for which they may be suitable.

3. H.S.T. plates, sheets and sections will continue to be purchased for submarine work as necessary, and D.R. quality rivets used with them if suitable H.T. rivets are not available.

646.—*Issued Confidentially.*

### 653.—Main Flexible Cables—Lead into Turrets.

*“ Kent ” Class and Yards concerned.*

(G. 17118/28.—15.3.1929.)

Approval has been given to alter the existing arrangements of the lead of main flexible cables into the turrets of H.M. ships of the “ Kent ” class, so that they terminate at a point on the cordite trunk in the cordite handing room, and additional junction boxes are to be fitted as necessary at that point.

2. Lead cased cables are to be run from these boxes to the existing boxes and fittings in the working chamber, etc., in lieu of the present **cab tyre** cables.

3. Lead cased cables are to be substituted for cab tyre cables for local wiring to instruments and fittings wherever this is practicable.

4. The work is to be carried out as and when the cables of the above ships become defective and re-wiring is necessary.

5. It is under consideration to fit new centre pivots in these ships during 1929, in connection with the oil cooling arrangements, and the two modifications should be carried out at the same time, if possible, to avoid unnecessary dismantling of the cables.

6. Drawings and instructions for guidance in fitting the junction boxes and wiring, together with information regarding the arrangements made for the supply of the junction boxes, will be issued later.

(A.F.O. 2196/29.)

#### 654.—Aeroplane Platforms—Removal of Working Portions.

“*Diomede*,” “*Despatch*,” “*Delhi*,” “*Durban*,” “*Dunedin*.”

(D. 589/29.—15.3.1929.)

It has been decided that the working portion of the aeroplane platforms, also the stump mast and derrick, in H.M. Ships “*Diomede*,” “*Despatch*,” “*Delhi*,” “*Durban*” and “*Dunedin*,” are to be removed. The fixed portion of the structure is to be retained.

2. The work, in the case of H.M.S. “*Delhi*” is to be carried out during the present refit.

#### 658.—Fire Control Tables—Spare Gear.

“*London*” and “*Kent*” Classes, “*Nelson*” and “*Rodney*,” “*Australia*,” “*Canberra*” and “*Excellent*.”

(N.S. 95/29.—15.3.1929.)

Arrangements have been made for the purchase and delivery of the under-mentioned lamps and carbon brushes :—

	<i>W.I.</i> <i>Docks.</i>	<i>Chat-</i> <i>ham.</i>	<i>Ports-</i> <i>mouth.</i>	<i>Devon-</i> <i>port.</i>	<i>Commonwealth</i> <i>of Australia.</i>
Lamps, 220 volts, frosted finger type, 200 20 watts.	200	60	90	60	60
Lamps for rate grid projector, 220 volts, 100 watts, 200 c.p., bayonet cap, Osram Atmos type H, round bulb.	40	12	18	12	12
List I.W. Carbon brushes for main drive motor.	—	—	16	8	—
List 7K	—	56	8	8	16
List 9N. Brushes for unit C.A.	—	—	12	12	—
List 4W. Brushes for clutch brakes....	—	84	36	24	24
List 5W. Brushes for Z type relay ....	—	84	36	24	24
List 6W. Brushes for Y type relay ....	—	84	36	24	24
List 8N. Brushes for clutch brake motor.	—	84	36	24	24

2. The lamps ordered for delivery at West India Docks are for shipment to Hong Kong for “*Kent*” class.

3. The following brushes are to be sent from Chatham to Hong Kong for "Kent" class, viz:—

List 7K.	Carbon brushes for main drive motor	....	....	40
List 4W.	" " " clutch brakes	....	....	60
List 5W.	" " " Z type relay	....	....	60
List 6W.	" " " Y type relay	....	....	60
List 8N.	" " " clutch brake motor	....	....	60

4. The lamps and carbon brushes are to be dealt with as "consumable" stores under Subhead F, Item 2, and storing yards should arrange first supply quantities as indicated below:—

	<i>First Supply Quantity per Ship.</i>				
	<i>"London"</i> <i>Class.</i>	<i>"Nelson"</i> <i>and</i> <i>"Rodney."</i>	<i>"Kent"</i> <i>Class.</i>	<i>"Australia"</i> <i>and</i> <i>"Canberra."</i>	<i>"Excellent"</i>
Lamps, 220 volts, frosted finger type, 20 watts.	10	10	10	10	10
Lamps for rate grid projector, 220 volts, 100 watts, 200 c.p., bayonet cap, Osram Atmos type H, round bulb.	2	2	2	2	2
List 1W. Carbon brushes for main drive motor.	—	4	—	—	4
List 7K	4	—	4	4	—
List 9N. Brushes for unit C.A.	—	6	—	—	—
List 4W. Brushes for clutch brakes.	6	6	6	6	6
List 5W. Brushes for Z type relay.	6	6	6	6	6
List 6W. Brushes for Y type relay.	6	6	6	6	6
List 8N. Brushes for clutch brake motor.	6	6	6	6	6

5. *Yards.*—Further supplies of the lamps should be obtained as required under the standing contract with the General Electric Co.

### 663.—*Issued Confidentially.*

### 664.—Primary and Secondary Cells—Reserves—REPORTS.

*Hong Kong, Trincomali and Simonstown.*

(N.S. 12413/28.—15.3.1929.)

At Hong Kong, Trincomali and Simonstown, primary and secondary cells are, in future, to be regarded as perishable articles. The reserve will, therefore, in accordance with the general scale in Section II of the Foreign Yard Reserve Memorandum, be the equivalent of twelve months', instead of two years', expenditure.

2. In view of this reduction, special attention is to be given to the replenishment of stocks of these stores, and a report is to be forwarded on 1st April, 1930, stating whether the reduced reserve is considered sufficient.

3. Pattern 55, torch battery cells, are excepted from this general decision, and the special instructions already promulgated in regard to the stocks to be maintained are to remain in force.



### 667.—Store Accounting Arrangements.

*"Greenwich," Leaders and Destroyers in "Maintenance Reserve."*

(N.S. 16018/28.—15.3.1929.)

When leaders and destroyers proceed into Maintenance Reserve, the Naval Store Accounts of the vessels concerned are to be closed and rendered to the Admiralty (N.S.) for examination. The closed accounts should be certified as to the correctness of the permanent stores remaining on board when the vessels enter Maintenance Reserve, and particulars of these articles should be included in an inventory which should be prepared by the Engineer Officer before his Naval Store Account is closed.

2. The inventories should also indicate, where articles are fixed in place, the positions in which they are to be found. These inventories, which should bear the certificate of the Engineer Officer of the group of leaders and destroyers concerned that the articles are on board and have been received into his custody, should be kept by the Accountant Officer, H.M.S. "Greenwich," for the vessels berthed at Rosyth, and by the Accounting Officer of the leader allocated as group ship for the Chatham organisation. These latter officers will be responsible that all transactions in connection with the supply and return or transfer of stores are properly recorded and that the inventories are corrected to date.

3. Where permanent stores are drawn by the parent ship for attached Maintenance Reserve vessels, the store account of the former should be relieved of charge and the items recorded in the inventories of the latter.

4. A stocktaking of the stores is to be held every six months by the Group Engineer Officer responsible for the custody of the stores in each vessel, certificates being furnished on the face of the inventories that the verification has been carried out. Any differences disclosed should be investigated and the result reported to the Admiralty (N.S.). In the event of the supersession of the Group Engineer responsible for these duties in a vessel, a verification is to take place and a certificate that this has been done given by the officer relieving him. Any differences are to be investigated, and explanations in respect of deficiencies obtained from the Officer giving up charge, before reporting the details to the Admiralty. Stock of all the items on charge is to be verified.

### 668.—Admiralty Oilers—Agency Duties, etc.

(N.S. Fuel 535/29.—15.3.1929.)

Arrangements have been made to dispense with the services of local Shipping Agents in connection with Admiralty oilers when in dockyard ports, and in future these duties are to be undertaken by the Naval Store Officer both for oilers under direct Admiralty control or under commercial management.

2. Some misapprehension still appears to exist in regard to the status of the Admiralty oilers under commercial management. These vessels are the absolute property of the Admiralty, and the Admiralty is liable for the whole expense of manning and maintaining them, irrespective of whether they are engaged on Admiralty service or are chartered temporarily to commercial firms.

3. The Managers manage these vessels on behalf of the Admiralty, and are responsible for maintaining them in an efficient condition. The services on which the vessels are engaged necessitate the purchase of supplies from various sources, and to enable Managers to keep a proper control on expenditure, it is essential that the value of any supplies of whatsoever nature, which may be made from Naval stocks or for which payment is made by any Admiralty shore establishment, should be communicated to them as early as possible after supply. The method of communicating the value of supplies to the Master for the information of Managers has proved inadequate, and in some instances Managers have failed to realise the purport of the information supplied.

4. In future, in addition to furnishing the Master with this information, the Managers should also be informed. Valued supply notes for both Master and Managers will probably be found the most convenient medium for communicating this information, but in all instances the supply notes sent to the Managers should be accompanied by a communication from the Naval Store Officer indicating that the notes show the quantities and values of articles supplied to the vessel. All vouchers should, therefore, be sent through the Naval Store Officer. Early information in this respect should be given to the Master, particularly as regards the cost of victualling supplies, as he is responsible for regulating the cost of victualling of the vessel.

5. The vessels concerned and the Managers are:—

“ British Beacon.”	} Messrs. The British Tanker Co., Ltd., Britannic House, Finsbury Circus, E.C.2.
“ British Lantern.”	
“ British Light.”	
“ British Star.”	
“ War Bharata.”	
“ War Nawab.”	
“ War Nizam.”	
“ War Sudra.”	} Messrs. C. T. Bowring & Co., Ltd., 52, Leadenhall Street, E.C.3.
“ War Afridi.”	
“ War Brahmin.”	
“ War Bahadur.”	
“ War Diwan.”	
“ War Pindari.”	} Messrs. Davies & Newman, Ltd., 3, Gracechurch Street, E.C.3.
“ War Krishna.”	
“ Oleander.”	
“ Olna.”	} Messrs. Hunting & Son, Ltd., B. Milburn House, Newcastle-on-Tyne.
“ War Mehtar.”	
“ War Sepoy.”	
“ War Sirdar.”	
“ Delphinula.”	} Messrs. The Anglo Saxon Petroleum Co., St. Helens Court, Leadenhall Street, E.C.3.
“ War Hindoo.”	
	} Messrs. Gow, Harrison & Co., 8, Gordon Street, Glasgow.

(N.B.—“ War Hindoo ” will shortly be withdrawn from commercial management.)

6. Establishments which render “ Agency Accounts ” in respect of these oilers, *i.e.*, Trincomali, Rangoon and Singapore, need not communicate with Managers, except in regard to the value of any supplies made from stock.

7. It is not necessary to communicate the cost of repairs, or work done on the vessel.

## 669.—Oil Fuel Hoses—Repair.

(N.S. 16818/28.—15.3.1929.)

The repair of defective bronze oil fuel hoses may be effected by fitting end connections and making shorter hoses in any lengths from 10 ft. upwards. It is unnecessary and uneconomical to shorten hoses to make lengths in multiples of 5 ft. if repair can be effected by a lesser reduction. The use of sleeves for repair should be restricted to one per completed length. Hoses that have been fitted with sleeves should be utilised in the working plant at the oil fuel depôts as much as possible, and an equivalent quantity of serviceable hose released and placed in the oiler outfit reserve.

2. The issue of hoses to which sleeves have been added should not be made to H.M. ships unless such a course is unavoidable.

### 680.—New Canadian Destroyers—Admiralty Services in connection with Construction.

(S. 700/29.—15.3.1929.)

A contract for the construction of two destroyers for the Canadian Government has been placed by the High Commissioner for Canada with Messrs. J. I. Thornycroft & Co., Ltd., of Southampton.

2. The Admiralty have undertaken the work of supervising the construction of the two vessels, and it has been agreed to charge a fixed amount for these services. This amount is intended to cover the pay and pension liability of the Inspecting Officers and their assistants, travelling expenses, the cost of supplying drawings and specifications prepared in Admiralty establishments (but not the cost of drawings and specifications prepared by contractors, the cost of which will be additional), the carrying out of necessary investigations and research, the use of instruments and plant, and the cost of services rendered by Head Office staff and other Head Office and overhead charges.

3. In addition, the Canadian Government will be required to pay:—

- (a) The cost of any special purchases, or other specific items of expenditure specially necessary in connection with the overseeing of the vessels.
- (b) Expenditure incurred in the inspection and proof of 4·7 in. guns and in the transport of the guns for proof. In the event of the guns being supplied direct by the Admiralty, such expenditure would be covered by the transfer price fixed for the guns.

4. The charges for armament and Naval stores supplied by the Admiralty, and for work executed in H.M. dockyards for the Canadian Government, will be at the normal rates applicable to repayment services, which include the cost of inspection and all other overhead charges.

(A.F.O. 1632/29.)

### 682.—Transferable Gun Mountings, Spare Parts, etc.—Entry on Accounts of Receipt.

(D.A. 1573/28.—15.3.1929.)

The following instructions for accounting for supplies by contractors of transferable gun mountings, spare parts, etc., are promulgated for general information, viz. :—

*For deliveries to H.M. Dockyards and Establishments.*

All deliveries are to be dealt with entirely for accounting and record purposes at the yards, etc., to which delivery is made, including entry upon Accounts of Receipt.

*For deliveries to other than H.M. Dockyards, etc.*

Accounts of Receipt for all deliveries to the works of private shipbuilders, etc., are to be rendered by Portsmouth Yard.

For this purpose, the Admiralty Overseers at the shipbuilders' works are to forward the relevant invoices (Forms D.55) to that yard after completion of the necessary certificates of satisfactory completion of the contract conditions and of receipt.

2. In order to facilitate payment, steps should be taken to ensure that full particulars as to the Admiralty Orders (initial letters and numbers) authorising the supply are inserted on the invoices.

**695.—Issued Confidentially.**

**697.—Torpedo Striking-down Davits.***Ships of "Iron Duke" Class.*

(T. 866/29.—22.3.1929.)

The davits fitted to ships of "Iron Duke" class for striking-down or hoisting torpedoes are not strong enough to deal with torpedoes at "all on" weight and it has been decided that new davits, suitable for working loads of 30 cwt., are to be fitted in these ships. An item for this work is to be inserted in the lists of approved alterations and additions for these ships.

2. Pending the fitting of new davits, the working load on the existing davits is not to exceed 19 cwt., and torpedoes are to be emptied of air, fuel and water and the heads are to be removed before the torpedoes are struck down or hoisted.

**698.—21 in. A.W. Torpedo Tubes—Modification to Access Fittings of Interrupted Thread Type—REPORT.***Vessels concerned.*

(G. 18433/28.—22.3.1929.)

To prevent the possibility of a torpedo being fired with the interrupted thread type of access plug not properly engaged in its socket, the plugs and sockets are to be modified as shown in E.F.O. 27/29.

2. The modifications are to be carried out by ships' staffs and reports forwarded through the Administrative Authority when the modifications have been completed.

**699.—21 in., Q.R. II Torpedo Tubes—Modification to Gyro Angling Gear Bracket—REPORTS.***H.M. Ships "Kent" Class and H.M.A. Ships "Australia" and "Canberra."*

(G. 19636/28.—22.3.1929.)

Cases have occurred of the bending of the horizontal gyro angling rocking lever upon firing, due to the failure of the key on the shaft to enter the keyway in the bracket, owing to the angling transmitter not being left at a 2½° setting.

2. To ensure that the key will readily engage the bracket, the latter is to be modified by ships' staffs in accordance with E.F.O. 32/29.

3. Reports should be forwarded through the Administrative Authority when this modification has been carried out.

**701.—Portable Plates in the Torpedo Tubes in Bulges.***"Barham," "Valiant" and Dockyards concerned.*

(G. 07311/28.—22.3.1929.)

Approval has been given for the portable plates in the torpedo tubes in the bulges of "Barham" and "Valiant" to be modified totally to enclose the hard wood packing, and stuffed with red lead for preservation after the plates have been hot-riveted and caulked. Particular attention is to be paid to the provision of the half-inch clearance between the plate and the line of the tube.

2. The work is to be carried out when these ships are taken in hand for bulging.

**704.—Director Rangefinder—Vibration—REPORTS.***“ Suffolk ” and Class.*

(G. 1303/29.—22.3.1929.)

The following is an extract from page 2 of the narrative relating to the 8 in. three-quarter charge throw-off firing carried out by “ Suffolk ” on 1st November, 1928, viz. :—

\* \* \* \* \*

“ Vibration of aloft director rangefinder was excessive, especially under helm.”

“ Rangefinder results in aloft director seriously affected by vibration, image vibrating to the extent of field of view, at times.”

2. These statements do not clearly indicate whether the vibration complained of is due to the director tower as a whole or whether the vibration is due to movement of the rangefinder relative to the director tower itself.

3. A further report on the matter should be forwarded by “ Suffolk.”

4. Reports are also to be forwarded stating whether this trouble exists in other ships of the class.

5. If possible, proposals for reducing the vibration should be included in the reports.

**705.—Issued Confidentially.****706.—Q.F., 3 pdr. Hotchkiss Guns—Care and Preservation.**

(G. 19177/28.—22.3.1929.)

Several instances having recently occurred in which 3 pdr., Hotchkiss Q.F. guns have been condemned at an early stage in life on account of rust, attention is drawn to the necessity for care and preservation of the bores and chambers of guns, as laid down in Instructions for Ordnance Artificers, 1921, Chapter XII, which apply to guns used for saluting purposes as well as to guns for service.

**707.—Breech Mechanisms of Guns—Modifications.**

(G. 18788/28.—22.3.1929.)

It has been decided that all details of modifications carried out to breech mechanisms in H.M. ships shall be omitted from Forms S.1404 (Return of B.L. and Q.F. guns) and Memoranda of Inspection.

2. In order that Gunnery Officers of H.M. ships may be kept informed of all modifications carried out, arrangements should be made for details of all such modifications to be furnished by Armament Supply Officers at home or abroad to Commanding Officers of ships immediately the work is completed.

**710.—Cartridges, Q.F. 3 pdr., Practice, Sub-calibre, made up from Size 5 Cordite—Future supply arrangements.**

(G. 20226/28. A.S. 1173/29.—22.3.1929.)

Cartridges, Q.F., 3 pdr., practice, sub-calibre, have been made up of Mark I cordite, size 5, of lots R.N. 2778, 2781, 2782, 2783, 2784, 2788, 2789, 2790, 2791, 2792, 2793, 2794, 2795, 2796, to a charge weight of 6 oz 2 drams, and are expected to have M.V. about 34 f.s. more than that given by charges of M.C.4½ cordite. The quantity on board any individual ship supplied with the above lots, should therefore be sufficient to prevent the indiscriminate use of cartridges of these lots and normal lots on any practice run, and Armament Supply Officers will adjust issues accordingly.

**711.—Depth Charge Throwers—Re-Assembly of Safety Gear.**

(G. 17323/28.—22.3.1929.)

It has been pointed out, from sea, that the Mark II firing gear of a depth charge thrower can be assembled so that the safety indicating stud shows "unloaded" when a cartridge is in place.

2. On all occasions after re-assembly, a cartridge is to be tried in the Mark II firing gear and the satisfactory operation of the safety indicating stud checked.

**712.—Lifting Appliances on H.M. Ships for General Use, Hoisting Torpedoes, Warheads, Mines, etc.—Periodical Examination and Tests—REPORTS.***Ships, Vessels and Yards concerned.*

(T. 411/29.—22.3.1929.)

All the above-mentioned lifting appliances, including davits, derricks, blocks, winches, chains, and wires in connection therewith, on board H.M. ships and vessels are to be carefully examined by the ships' staffs before and after lifting the maximum working loads.

2. All such appliances are to be tested by the dockyards annually, during the annual refit, except in the case of destroyers and ships of the status of cruisers and above on the Mediterranean station, where the tests for cruisers and above should be carried out during each alternate 6-monthly docking period, and for destroyers each alternate 7½-monthly docking period.

3. In the case of submarines they are to be tested during refit at intervals not exceeding 18 months.

4. This is not intended to apply to main derricks of large ships.

5. The periods given for testing lifting appliances is to apply only to those used in connection with torpedoes, mines, paravanes and gun armament.

The periods for other lifting appliances are to be in accordance with the Regulations in force prior to the issue of this A.F.O.

In the case of these other lifting appliances which are due for annual test and which have not been used since the last test, the request for testing should be accompanied by a statement from the Commanding Officer to that effect, and the dockyard officers should exercise their discretion as to whether re-testing is then considered necessary.

*Tests.*—The term "working load" used in connection with these tests is to be understood to be the *maximum weight which the system, as rigged, is designed to hoist*, and it should be carefully noted that this figure will not in general be the same as the safe lifting load which may be stamped on some of the component parts—leading blocks, etc.—and will invariably be less than the working load marked on the geared block or winch used as the lifting mechanism.

The tests of the gear, when completely rigged, are to consist of:—

(a) A static load of twice the working load.

(b) A running load of 1½ times the working load. The running load should be raised and lowered so as to test all parts of the complete system as rigged throughout its complete range. All parts are to be carefully examined after testing.

In vessels in which training davits are fitted as part of the lifting system, the davit should be slowly trained through the full arc with 1½ times the working load suspended.

The results of these tests and examinations are to be recorded.

Any defects which develop during these tests which indicate some form of weakness not yet brought to light are to be reported to the Admiralty.

(A.F.O. 2795/29.)

## 716.—W/T—Type 30A, Portable W/T Sets—Allocation of 1928 Purchase.

(N.S. 2579/29.—22.3.1929.)

The five Type 30A (Army Type "C," Mark II) portable W/T sets have now been allocated as follows:—

1 set to each, H.M. Ships "Furious," "Hermes," "London" and "Queen Elizabeth."

1 set to H.M. Signal School.

2. Arrangements should be made for supply from Portsmouth when the sets become available.

(A.F.O. 206/29.)

## 717.—Boats, Pulling and Sailing—REPORTS.

(N.S. 10867/28.—22.3.1929.)

It is desired to ascertain details of all pulling and sailing boats on charge in all ships and vessels, including R.F.As., and at all shore establishments, as well as of those in store at dockyards.

2. All ships and services are, therefore, to render reports in the form given in Appendix I hereto, detailing all pulling and sailing boats on charge on 30th April, 1929. These reports are required at the Admiralty as soon as possible after this date.

3. It is important that, in future, when questions are raised or reports rendered with reference to particular pulling and sailing boats, the identification marks cut in on the boat, *i.e.*, number, dockyard, and year, should be quoted in every case. This instruction applies to all returns, etc., rendered by the dockyards, except that in the case of the periodical demands rendered subsequently to the reports called for by the preceding paragraph (including the statements of boats carried by the various vessels attached to the port, which accompany the demands), it will only be necessary to quote the identification numbers of the various boats.

4. In all periodical returns and demands, the rig of each boat is to be stated. The degree of repair, *i.e.*, slight or large, is also to be stated in the case of all sea service repairable boats, and in all cases the condition of the boat as regards outfit is to be reported.

5. The attention of yards is called to the necessity for regularly rendering the quarterly returns of boats returned and condemned without being placed on store charge, called for by paragraph 2 of Article 392, Store Duties Instructions. Nil returns should be forwarded where no transactions have occurred.

6. As non-drop-keel cutters and dinghies are obsolescent, no more boats of these descriptions are to be built, and every effort is to be made to issue any that may be in store. To this end, no ship returning a non-drop-keel boat is, without Admiralty approval, to have this boat replaced by a drop-keel boat if a non-drop-keel boat is available in store.

7. *Foreign Yards only.*—As soon as possible after the end of each quarter, a report of all transactions affecting pulling and sailing boats, which have taken place during that quarter, is to be rendered on the form given in Appendix II.

## APPENDIX I.

Description and Length.	Markings on Boat.		Rig.	Age.	Condition.	Outfit.	If actually under Repair. Condition after Repair.	Allocation.
	Number.	Dockyard. Year.						
1	2	3 4	5	6	7	8	9	10

Columns 1-6 should be completed by all ships and services.

" 7-10 should only be completed by the Superintending Naval Store Officers or Naval Store Officers at the various yards for boats on store charge.

Column 6.—This information is only required in cases where the year marked on the boat (see Col. 4) is thought to be other than that in which the boat was built.

" 7.—To be shown under the following headings :—SSS—SS slight repair—SS large repair—HSS—HSR.

" 8.—To be shown under the following headings :—Complete outfit—part outfit—no outfit.



APPENDIX II.

Description and Length.	Returns and Receipts.				Issues.					
	Number of Boat.	Rig.	Condition.	Outfit.	Ship or Service.	Number of Boat.	Rig.	Condition.	Outfit.	Ship or Service.

Issues to, and returns from, repair, are to be shown in these Issues and Returns Columns.  
 Condition to be shown under the following headings :—SSS—SS slight repair—SS large repair—HSS—HSR.  
 Outfit to be shown under the following headings :—Complete outfit—part outfit—no outfit.

**721.—“Duresco,” White Distemper, etc.—Use.**

(N.S. 4182/28.—22.3.1929.)

As a result of reports received from H.M. ships, etc., regarding the suitability of white distemper, it has been decided that the undermentioned materials are to be restricted to the purposes stated below:—

“Duresco.”—For magazines.

White distemper.—For lagged steam pipes.

Pattern 518, white flattening zinc.—For all other spaces hitherto coated with either white distemper or “Duresco.”

The above materials are not intended for use in lieu of paint or enamel on the upper deck or in any position exposed to the weather.

The use of either white distemper or zinc flattening in shore establishments for surfaces at present coated with white distemper is permissible at the discretion of the dockyard officers.

The necessary amendments to the Establishments of Naval Stores will be made in due course.

**730.—Issued Confidentially.****732.—Stabilised Chloride of Lime—Examination.***Home Yards.*

(N.S. 1752/29.—22.3.1929.)

In the case of deliveries of stabilised chloride of lime under standing contract, samples should be taken from the bulk quantity and forwarded to the Professor of Hygiene, R.N. Medical School, R.N. College, Greenwich, S.E.10, who will report to the officer submitting the sample whether it is fully up to the standard of the sample submitted by the contractors for the purpose of the contract.

2. Deliveries should not be accepted pending receipt of favourable report from the Professor of Hygiene.

**745.—Passages of Families of Naval and Civil Personnel Appointed to or Relieved from Stations Abroad—Deferment.**

(C. (II) 2144/28.—28.3.1929.)

Attention is drawn to the fact that where the passages of the families of Naval or civil personnel appointed to or relieved from stations abroad are deferred under the provisions of Article 840, King's Regulations and Admiralty Instructions or Article 436 of the Home Dockyard Regulations, or under men's agreements, the increased cost thereby arising chargeable against the individual concerned may be considerable. Among other causes there is in some cases loss of family rebate, which is allowed by certain steamship companies and which depends on a certain number of the family travelling together.

(*K.R. and A.I., Art. 840, and Home Dockyard Regulations, Art. 436.*)

**748.—Director Firing Gear—Spares and Replace Parts.***All Ships and Establishments.*

(G. 1403/29.—28.3.1929.)

With reference to the instructions contained in A.F.O. 1558/28, demands are still being received for spare and replace parts of director firing gear through Naval Store Officers.

The attention of ships' officers is drawn to the necessity for sending all demands for director firing gear through the M.E.D., Portsmouth Yard, to avoid unnecessary correspondence at the Admiralty and delay in meeting demands.

(*A.F.O. 1558/28.*)

**749.—Instructional Gear, B.L. Loading Teachers—Improvements.**

(G. 12/29.—28.3.1929.)

The following is a description of some further improvements which have now been in use in certain ships for nearly two years. It is recommended that some such arrangements be fitted in all ships and establishments concerned with a view to obtaining more efficient "loader drill."

2. The necessary work is to be carried out by ship's staffs and the fittings required are to be improvised from ship's resources.

The breech end of the loader should be fitted out in exactly the same manner as that of a 6 in. gun, *i.e.*, a spare 15 in. or 6 in. breech change-over switch should be attached and wired up correctly to the interceptor, and spare 6 in. air blast tripping and valve gear should be fitted to the hinge pin.

A spring contact should be attached to the interceptor to function as the switch for the gun-ready light.

A supply of fired tubes should be prepared as follows:—

The insulated centre contact should be connected electrically to the body of the tube internally, and the tube should be lightly skimmed over to bring it to the dimensions of an unfired tube (this is necessary as tubes expand slightly on firing, and thereafter are a rather tight fit in the tube chamber).

Dummy cartridges should be made on board as replicas of Service charges. The dummy should consist of a one-third and a two-third charge laced together. A suitable method of construction is to make the body of the charge out of lengths of cordage, weighting and stiffening being obtained by the inclusion of lengths of condemned lead-cased electric cable, and the whole enclosed in canvas.

These dummy charges reproduce all the unhandiness due to lack of rigidity of the Service charge. Moreover, loading drill can be carried out satisfactorily with reduced charges.

The loader itself should be wired up to two panels as shown in the diagram and a source of 20 volt supply provided close to where the loader will be used.

Referring to the diagram (E.F.O. 28/29), the following fittings are required:—

R.—Gun-ready lamp	...	...	...	} Mounted on control panel.
X + F.—Tumbler switches	...	...	...	
P.—Bell push	...	...	...	
W.—Clips for stop watch	...	...	...	
G.—Fire gong	...	...	...	} Mounted on hooter panel.
H.—Alarm rattler	...	...	...	

The functioning of the fittings on the panels is as follows:—

Normally switch X is broken, and switch F is made; then, if a tube is inserted in the lock and the circuits are correct and the interceptor made, the gun-ready lamp R will burn, and, on pressing the firing push P, the fire gong G will ring and the rattler H will sound.

*Note.*—The rattler sounding is always to be taken by the gun's crew as representing the firing of the gun.

Supposing now that the gun circuits are faulty, or the breech change-over switch or interceptor not properly made, then on pressing the firing push the fire gong only will ring and not the rattler. This indicates a missfire and is acted on as such by the gun's crew.

An intentional missfire can be produced at will by the panel operator by breaking switch F before pressing the firing push.

The switch X is provided so that, when this switch is made, the rattler will sound every time the firing push is pressed, independently of gun circuits and tube. This allows percussion firing to be exercised.

A convenient form of run is to start with the gun loaded and then to press the firing push 11 times at stated regular timed intervals and to introduce one missfire somewhere in the run. An efficient gun's crew will therefore score a "possible" of 10 rounds.

The efficiency of each crew and the whole battery can thus be gradually increased by carefully grading down the time intervals between salvos.

Further realism is easily introduced if space permits of the loader being placed in, or close to, a casemate. In this case the gunlayer, proper to the crew being drilled, mans the elevating handwheel of the adjacent gun and on hearing the rattler sound he lays the gun to the loading elevation. The interceptor is then only to be made when the gunlayer reports "on" after having relaid the gun to the director pointer.

*Note.*—The director can be moved if desired, or kept stationary at some high elevation, but the procedure should be the same for all crews.

### **751.—Transferable Mountings, 4 in. H.A., III and IV—Supply of New Fuze Curve Dials for Fuze No. 198, and Tests for Fuze Pointers—REPORT.**

(G. 1587/29.—28.3.1929.)

New fuze curve dials of crown metal will shortly be issued for use on 4 in., H.A. III and IV mountings in all ships and establishments. These dials will be graduated on one side for 4 in., Q.F. V, full charge, M.V. 2350 f.s., fuze No. 198, range table No. 245, and on the reverse for 2 pdr., H.A., sub-calibre, M.V. 1000 f.s., fuze No. 124, range table No. 164. On receipt of these crown metal dials, all tin plate dials are to be returned to Portsmouth Dockyard, and the paper dials for fuze No. 192 destroyed.

2. The fuze curve pointers of the sights are liable to become distorted and so introduce errors in tangent elevation. On the new dials a special rectangular notch has been cut on the zero fuze curve to facilitate the test and adjustment of these pointers.

3. The following tests are promulgated for information. These tests should be carried out on receipt of the new dials, and thereafter, periodically as for other gunsight tests. Should it be found that the adjustments described cannot be effected satisfactorily, a report is to be rendered.

4. Tests for accuracy of fuze curve pointers on 4 in., H.A. III and IV mountings:—

- (a) With the gun laid to zero by the quadrant elevation scale on the trunnion arm, confirm, with clinometer, that the gun is parallel to the plane of the ship. The index of the quadrant elevation arc to be bent as necessary. Owing to tilt the arc cannot be correct on all bearings, and therefore the adjustment is to be made with the gun trained on a bearing approximately at the centre of its effective arc of fire.
- (b) See that the fuze curve dial is secured properly to the range dial with the positioning screw on the zero fuze curve in place.
- (c) With the sight close down and the gun laid horizontally by quadrant elevation arc, the index of the fuze pointer should be over the point where the zero fuze curve meets the root of the rectangular notch. This point is at a distance of 8.16 in. from the centre of the dial. If the index of the pointer is not on zero fuze curve, adjust by loosening the screws at the back of the dial and rotate range dial and fuze plate together. If the index of the fuze pointer is not at the base of the notch, adjust by means of the eccentric on the toothed sector actuating the pointer. In some instances, it may be necessary to re-mesh the teeth.

- (d) As the gun is elevated, the pointer should follow the zero fuze curve. The correct distance between the axis and the index of the fuze pointer is 12.2 in. If the pointer is distorted so that this distance is too great, the index will move off the zero curve towards the higher fuzes, and vice versa if too short. Adjustment is to be made by bending the pointer, after which, tests as at (c) and (d) are to be repeated.
- (e) Finally set the range index to read zero with the sight close down. It should be noted that the range parallelism adjustment for the layer's telescope is effected by the vertical deflection dial *vide* O.U. 6066, The Sight Manual, 1921.

5. This Order will be included as an amendment to the Sight Manual.

## **752.—Presses, Obturator, B.L. 8 in., Mark II—Allowance of Tommies.**

(A.S. 1271/29.—28.3.1929.)

The Mark II presses, obturator, B.L. 8 in., which have been supplied to certain of H.M. ships and depôts are complete with two tommies. In future, each of these two articles will be held on separate charge and allowed to ships in the revised proportion of two per turret, supplied with Mark II presses, and two spare per ship with Mark II presses.

2. Any necessary adjustment in the quantities on board H.M. ships should be made and the Naval Proportion Book will be amended in due course.

(A.F.O. 2082/29.)

## **758.—Harbour Service Launches—Use of Glass Screens for Coxswain's Shelter.**

(D. of N./H. 7942/28.—28.3.1929.)

Certain harbour launches have glass screens fitted at the steering position.

Due to moisture and glare the view from these windows is sometimes dangerously obstructed.

Where so fitted, orders are to be issued to Coxswains that sufficient windows are to be kept open to ensure a clear view and no interference to hearing.

## **761.—W/T Receiving and Transmitting Valves—Seals not to be broken till Valves are required for use.**

(N.S. 2714/29.—28.3.1929.)

Reports have been received that in certain ships which are centrally stored, it is the custom, when valves are drawn from a dockyard, to break the seals of the box in order to inspect the valve inside

2. When ships are destored, all valves whose boxes have broken seals have to be sent to Portsmouth for test in Signal School, and the practice referred to in paragraph 1 gives rise to much unnecessary labour. In the case of silica valves, moreover, it is very undesirable that they should be handled by anyone but responsible W/T ratings.

3. In future the seals on the boxes are not to be broken in H.M. ships and establishment until the valves themselves are actually required for use in the W/T office.

### **767.—Kit Lockers for Shore Establishments—REPORTS.**

(N.S. 2829/29.—28.3.1929.)

Reports are to be forwarded from home yards to reach the Admiralty on the 1st of each month showing the numbers of kit lockers in store, including any earmarked for particular services, also particulars of transactions since previous return. The reports are to give particulars of the lockers, whether Type A or B, or old patterns, etc., to enable them to be identified.

2. Kit lockers returned from H.M. ships or services should not be disposed of unless definitely unserviceable and (except for replacements) should not be issued to any service except with specific Admiralty approval.

3. Reports are requested from shore establishments showing particulars of requirements of kit lockers in connection with general request No. 12 of the welfare conference No. 28, and these requirements will be considered in relation to the numbers of lockers now available and those which may become available from time to time.

### **784.—Petroleum Oils—Customs Duty on Quantities Imported from Abroad.**

(N.S. Fuel 1631/29.—28.3.1929.)

The principle that the Admiralty is liable for payment of Customs duty on petroleum oils imported from abroad, imposed under the Finance Bill of 1928, has been accepted.

2. Under this Bill "fuel oil" is liable for duty but is subject to rebate of the full amount provided the oil will be used in the condition in which imported and will not be removed to a refinery for treatment. Customs Entry Form (dutiable goods) should be furnished, if required by the local customs authorities, in respect of each cargo of oil fuel delivered from abroad to H.M. dockyards and Admiralty oil fuel installations in United Kingdom, but a certificate to the effect that the oil will be used in the condition in which imported and not removed to a refinery for treatment should be inserted on the face of the form. The full rebate should be claimed thereon and no payment of duty made.

3. In regard to Admiralty oil fuel installations which are stated by the local Customs Authorities to be "unapproved" for landing of imported oils, a local application should be forwarded to the Collector of the district for the installation to be approved as an authorised landing place for such purpose.

(A.F.O. 2922/29.)

### **803.—Director Installation—Use of Collimator with Gyro Firing Gear and Super Elevation—REPORTS.**

*"Queen Elizabeth" and "Iron Duke" Classes, H.M. Ships "Royal Sovereign" and "Tiger."*

(G. 966/29.—5.4.1929.)

It is understood that the new parts to remedy defects in the above gear have not been received in "Royal Sovereign," "Tiger" and in ships of "Queen Elizabeth" and "Iron Duke" Classes. The defect therefore still exists and the collimator cannot be used with super elevation.

2. When the super elevation prism is shipped, the line of sight through the director layer's telescope is *depressed* through six degrees, but when the sightsetter sets the range by the super elevation scale, he *elevates* the telescope through six degrees so that the layer is brought back to his original point of aim and no change is made in the elevation transmitted to the turrets. At the same time the switch plate of the gyro firing gear is moved through six degrees and is made to bear against stop (120) instead of (121), *vide* plates 59 and 60 of O.U. 6125, The Director Firing Handbook, 1917.

3. The movements indicated in paragraph 2 have not affected the collimator, the horizontal wire of which will now be six degrees above that of the layer's telescope. It is to remedy this defect that the new parts are required. Action is being taken to recall these fittings from the ships to which they were despatched and they will then be re-issued to:—

“Queen Elizabeth” Class.

“Iron Duke” Class.

H.M.S. “Royal Sovereign.”

H.M.S. “Tiger.”

4. On receipt, these parts are to be fitted by ship's staff and a report rendered, through the Administrative Authority, when the work is complete.

## 806.—Fire Control Communications—REPORTS.

*Battleships, Battle Cruisers, Cruisers, Aircraft Carriers.*

(G./G.D. 3690/28.—5.4.1929.)

It has been represented that inclinometer operators experience difficulty in transmitting rapidly the results obtained from their instruments to the rate officers due to the fact that the rate officer is wearing Mark IV telephone head pieces and cannot therefore easily hear verbal reports.

2. To obviate this difficulty, it has been suggested that at each inclinometer, in addition to the present communications, a box with two pushes should be fitted to operate a lamp box near the rate operator to show whether the enemy is getting “fatter” or “thinner,” a buzzer being incorporated to draw the rate officer's attention to each report made.

3. It is claimed that this arrangement should enable the inclinometer operator to give the rate officer instant notice of the enemy altering course.

4. All ships fitted with S.F. VII inclinometers are to render reports through the Administrative Authority to reach the Admiralty by 1st October, 1929, giving the following information:—

- (a) Whether the need for such a communication exists and if so whether the proposed method is the best method of meeting this need and if not what alternative methods are proposed.
- (b) In ships where more than one set of inclinometers is fitted, is this separate line of communication required from all inclinometers to the primary rate officer or will requirements be met if communication is arranged locally in the control position between the inclinometer and the rate officer?

807. }  
809. } *Issued Confidentially.*

**815.—Musical Instruments—Supply in Excess of Establishment.**

(A.S. 832/29.—5.4.1929.)

Demands have frequently been received from H.M. ships for musical instruments in excess of establishment for ceremonial purposes, the formation of volunteer bands, etc., but in view of the urgent need for economy, it has been decided that such demands can only be met when no special purchase is involved.

2. A small surplus of wooden side drums and brass side drums (Vote 9) exists, and these stores have been and will be supplied *on loan* until the surplus is exhausted; no bugles, fifes, or other instruments are, however, available.

3. Arrangements have been made to enable ships wishing to purchase band instruments and accessories, to take advantage of the special prices ruling under the contracts for supply to R.N. School of Music, Eastney.

4. Ships making use of these arrangements should notify the Superintendent, R.N. School of Music, Eastney, of their requirements, when the total cost of the service will be communicated to them.

5. If the cost is agreed to by the ship, an order will be placed by the Superintendent, who will give to the ship particulars of the order including prices to be paid. The instruments will be delivered to R.N. School of Music for examination and then forwarded.

6. The rail and/or freight charges from the school to the ship will be settled by the school and recovered from the ship.

7. Payment for the instruments, etc., supplied will be made direct by the ship to the contractors, on receipt of their claims, which should be supported by a receipt from the Superintendent.

**816.—Potato Stowage Arrangements in H.M. Ships.***H.M. Ships and Home Dockyards.*

(D. 4454/29.—5.4.1929.)

Experience having shown that deterioration of potatoes sometimes occurs, more particularly in hot climates, due to heat or lack of ventilation, the potato stowage arrangements of H.M. ships coming in for refit or repairs at home yards should be looked into as opportunity occurs and any necessary improvements can then be proposed.

2. The arrangement generally desired and as provided in new construction is to stow the potatoes in sacks with portable wood gratings on the deck, and a platform of wood battens about 4 ft. above the deck, portable vertical wood battens being fitted to retain the sacks in place.

The compartment should be adequately ventilated by natural ventilation, but where necessary a branch from an existing fan trunk is to be fitted.

3. It is desirable that the stowage should be sheltered from the sun and from sources of heat such as funnels, engine room and galley exhausts, etc.

4. It is not desired to carry out alterations in existing ships where experience has shown that present arrangements are satisfactory, and bin stowage is not to be replaced by the above-mentioned stowage unless the Commanding Officers of the ships affected so desire.

5. Where alterations in stowage arrangements are necessary, permanent stowage should be provided for at least 14 days' supplies and this should be increased, whenever practicable, to provide for 25 days' for capital ships, so that they can be in a position to issue to small craft in company, and 20 days' for cruisers.



**819.—Portable Magazine Lanterns, Pattern 4690.**

(N.S. 5700/28.—5.4.1929.)

The Oldham Lantern, Pattern 8115, which is the standard lantern for magazines, shellrooms, etc., in H.M. ships, is not suitable for use with apparatus, Pattern 4653, for examination of internal parts of torpedoes. For this purpose the Pattern 4690 lantern should still be issued.

(A.F.O. 1428/27.)

**873.—Micanite for Insulating Segments of Large Commutators.***H.M. Dockyards.*

(D. 10744/28.—5.4.1929.)

It has been decided that for the insulating segments of the larger commutators, only special milled commutator micanite made by a firm of repute should be used, and this should be obtained by "local purchase," in accordance with approved procedure, to the specification for this material included in the Standard Admiralty Specification for quality of Materials, etc.

2. It is the practice of some of the largest manufacturers to use this material covered on both sides with fine Japanese paper not exceeding  $1\frac{1}{2}$  mils thick in order to avoid flaking of the micanite in handling. There appears to be some advantage in this practice and 50 per cent. of the commutator micanite purchased should be thus protected.

3. Records should be kept by the dockyards of the machines in which each type is used in order that a comparison may be made in due course of the relative suitability of the two types.

4. In cutting the micanite to shape, special care should be taken to employ tools of suitable design, which should be kept in good condition to avoid any risk of damaging the segments before use.

5. No further purchases of Pattern 2234 micanite sheet should be made, but existing stock may be utilised if, on examination, it is considered suitable by the dockyard officers.

**\*880.—Seamanship Examination for Executive Warrant Officer—Amendment to Syllabus.**

(C.W. 2546/29.—12.4.1929.)

A practical knowledge of "working paravanes" is to be included in the syllabus for the examination in seamanship for an executive warrant officer.

The following addition is to be made to Section I, "Rigging," on Form S.440:—

(e) Working paravanes.

**883.—Torpedoes, 21 in., Mark IV\* S, 21 in., Mark IV\* S.O., and 21 in., Mark IV\* S.X.—Fitment of Modified Breech Blocks.**

(A.S. 871/29.—12.4.1929.)

It has been approved to fit modified breech blocks to all 21 in., Mark IV\* S, S.O. and S.X. torpedoes.

2. The modified breech blocks will be known as:—

*Section IV.*

Blocks, breech, complete, Stamp No. 700,

and will be issued to vessels concerned as supplies become available in the following order:—

21 in., Mark IV*, S.O. torpedoes	...	...	...	...	Outfits.
21 in., Mark IV*, S. torpedoes:—					
5th Submarine Flotilla	...	...	...	...	Outfits.
2nd Submarine Flotilla	...	...	...	...	”
1st Submarine Flotilla	...	...	...	...	”
6th Submarine Flotilla	...	...	...	...	”
4th Submarine Flotilla	...	...	...	...	”

Reserve torpedoes in same order.

21 in., Mark IV\*, S.O. (future issues) and S.X. torpedoes will be modified before issue.

3. On receipt, the modified blocks should be fitted to torpedoes on board, the old pattern blocks being returned to the nearest torpedo depôt, the T.E.O. being informed of the registered numbers of the torpedoes fitted with Blocks, Stamp No. 700. At the same time Blocks, Stamp No. 924b, in spare gear chests on board the depôt ship are to be returned to store and Stamp No. 700 demanded in lieu.

4. Labels in chests and torpedo store accounts are to be corrected as necessary.

### 893.—Submarine Batteries—Precautions to be observed when Connecting up Cells.

(D. 2308/29.—12.4.1929.)

When the cells of submarine batteries are being connected up in a vessel, particular care is to be taken, where non-flexible connectors are still in use, to ensure that all inter-cell connectors are carefully fitted and properly adjusted, so as to avoid any strain on the cell tops and sealing when the connectors are tightened up in position.

### 895.—W/T—Type 36S, Pattern 6807A, Board 2G, Controlling—Revised Diagram Plate.

*Vessels fitted with or fitting Type 36S W/T Set.*

(N.S. 3617/29.—12.4.1929.)

On conversion of Type 36 to Type 36S, certain alterations are made to the Pattern 6807, Board 2G controlling, the modified board being known as Pattern 6807A. These alterations render incorrect the existing diagram plate, and arrangements have therefore been made to purchase a sufficient number of revised diagram plates for issue to ships concerned.

2. Arrangements will be made for supply, by Superintending Naval Store Officer, Portsmouth, of one revised diagram plate for Pattern 6807A, Board 2G, controlling, to each ship already fitted with Type 36S, without demand, also for supply to ships fitting, when supply of the remainder of the outfit is made. They are to be fitted in the Board 2G, controlling, in place of the old diagram plates, when the board has been rewired and converted to the “A” pattern.

3. No alteration to the W/T establishment is involved.

### 897.—W/T Silica Valves—Pattern 6237b, Valve NT23b, and Pattern 7201c, Valve NU22c—Packing.

(N.S. 2161/29.—12.4.1929.)

As a result of trials which have been carried out on a new method of packing the above-named silica valves, it has been decided that all purchases of new Patterns 6237b and 7201c valves and all repaired valves shall in future be packed by the manufacturers in accordance with the method briefly indicated under paragraph 2 below.

2. The new packing will form part of the transport box and consists of four paper mattresses which are filled with wood-wool. The following extracts from the new packing instructions which will accompany each future new and repaired valve will be self-explanatory and are promulgated for guidance:—

“ (i) This silica valve has been packed carefully in its holder with cotton wool and the holder has been packed in its box by means of special paper mattresses filled with wood-wool (and a small amount of cotton wool at each end of the valve near its seals), to prevent damage in transit through vibration or shock being transmitted to the valve.”

“ (ii) When removing the valve and holder, the top paper mattress should be removed by lifting it carefully at one end first. The holder, complete with valve, should then be very carefully eased out of the side mattresses and care should be taken not to tear the paper, more than can be avoided, by the terminals on the holder; these terminals are situated within 3 in. of each end of the packing.”

“ (iii) Before putting the valve into service the holder must be opened and all the cotton wool removed. Particular care must be paid when removing the cotton wool near the ‘seals’ as these are very fragile. (The ‘seals’ are the projecting tubes at both ends of the valve).”

“ (iv) After the cotton wool has been removed the valve holder must be screwed up securely before being placed in position in the transmitting set. If the valve is found to be defective on receipt, particulars of the damage and of the nature and condition of the packing materials, should be reported through the usual channels. The serial number and type of valve must be mentioned in the report.”

“ (v) All the four mattresses and the cotton wool are to be retained in the transport box until such time as the valve has to be returned to store. Before returning the article to store, the valve and its holder are to be carefully packed in the manner in which they were received. After the valve has been packed in its holder with cotton wool, the bottom and side mattresses should be placed in position in the box. The holder should then be held at each end—*with the wing-nuts uppermost* and the hinges of the holder away from the packer—and carefully pushed in between the side mattresses; whilst lowering the holder slowly rotate it so that eventually the wing-nuts are adjacent to, and just sink below, the top upper edge of the side mattress nearest the packer. The space between each end of the holder and each end of the box should then be carefully packed with the remaining cotton wool after which the top mattress should be pressed into position. This packing of the valve for the return journey must be carried out carefully, whether the valve is damaged or is being returned for any other reason.”

3. Each valve, when defective, is “repairable” and is nearly equal in value to a new one. It must, therefore, always be treated with the greatest care.

### 900.—Defective Electric Lighting Fittings of Pattern 3800 Series—Procedure for Replacement.

(N.S. 15521/28.—12.4.1929.)

When the present stocks of electric lighting fittings of Pattern 3800 series become exhausted, the following procedure is to be adopted in connection with the replacement of defective items:—

*Lamp fittings in exposed positions.*—Both the lamp fittings and looping-in bases are to be replaced by Pattern 8660 series.

*Lamp fittings in sheltered positions.*—Pattern 9000a series to be fitted, if existing looping-in bases, Patterns 3824/5 are fit for further service.

If both lamp fittings and looping-in bases require replacement, the following alternative patterns can be used:—

Pattern 9000 series with Pattern 9021 bases.

Pattern 9000a series with Pattern 3824/5\* bases.

\* In view of the present stocks of non-watertight bases, Pattern 3825, these should be used in lieu of Pattern 3824 whenever possible.

### 903.—Nickel Silver Sheet—Percentage of Nickel.

(N.S./C.P. 4708/29.—12.4.1929.)

Demands having been received at the Admiralty from time to time for nickel silver sheets containing 20 per cent. of nickel for repairing fold-up lavatories, etc., it is notified that 10 per cent. quality of nickel sheet is sufficient for wash-basins, etc., 20 per cent. nickel sheets are necessary only for lamp reflectors where a brilliant polish is required. Future demands and local purchases should be dealt with accordingly.

### 915.—Linen Sheeting, Ticken, Sandfly and Mosquito Netting—Government Department Specifications.

(N.S. 12868/28.—12.4.1929.)

Government Department specifications for linen sheeting, ticken, sandfly and mosquito netting, as detailed below, have now been approved and sealed patterns have been distributed.

2. Copies of the specifications will be distributed in due course.

3. In all future demands provision should be made under the new patterns, existing stocks of patterns replaced being grouped with the new description.

Spec. No.	New Specification.		Admiralty Pattern Replaced.	
	Patt. No.	Description.	Patt. No.	Description.
T.C.114	T.325	Linen sheeting, 38 in. wide	657	Linen for pillow cases bleached, 36 in. wide.
		"    "    54    "    ...	—	
		"    "    60    "    ...	654	Linen for sheets, bleached, 72 in. wide.
T.C.115	T.326	"    "    72    "    ...	—	
		Ticken, blue striped, 31 in. wide.	983	Ticken for mattresses, 31 in. wide.
		Ticken, blue striped, 37 in. wide.	—	
T.C.117	T.328	Ticken, blue striped, 58 in. wide.	984	Ticken for mattresses, 58 in. wide.
		Netting, sandfly, 60 in. wide	—	
		"    "    90    "    "	—	
—	T.329	"    "    108    "    "	—	
		Netting, mosquito, 60 in. wide.	1	Netting, mosquito, 60 in. wide.
		Netting, mosquito, 90 in. wide.	2	Netting, mosquito, 90 in. wide.
		Netting, mosquito, 108 in. wide.	3	Netting, mosquito, 108 in. wide.

**916.—Stores Supplied to the Canadian Government—Vouchers.**

(N.S. 14085/28.—12.4.1929.)

In connection with the supply of Naval and Victualling stores to the Canadian Government, it is important that priced "advice" vouchers, *in duplicate*, be sent to the High Commissioner, Canadian Building, Trafalgar Square, S.W.1., *at the time stores are reported to him for shipment, or on the date of their despatch by mail direct to Canada.* Arrangements should accordingly be made for this procedure to be followed, the High Commissioner being informed in any instance where delay is likely to occur in the forwarding of the vouchers.

2. Attention is called to Article 58 of Expense Accounts Instructions (Repayment Services) respecting the values to be shown in the "advice" vouchers as distinct from the vouchers required in support of Returns D. 72d, etc.

**\*927.—Telegraphist Ratings—Course and Examination for Postmaster-General's Certificate.**

(N. 572/29.—19.4.1929.)

Attention is drawn to the new regulations governing the issue of Certificates of Proficiency in W/T issued by the Postmaster-General, as described in the Postmaster-General's handbook, Article 16 and Appendix V.

2. A first class certificate can only be obtained after examination by the General Post Office authorities. The holding of a second class certificate will, however, render the holder eligible for the majority of posts for which the old first class certificate was necessary.

3. A course of five working days is held at H.M. Signal School, Portsmouth, for ratings in their last two years of service who have not taken a signal school "qualifying course" or telegraphists' course for two years, and who wish to take the examination for the Postmaster-General's certificate, second class.

4. Men in their last two years of service who are undergoing a signal school "qualifying course" or telegraphists' course may have their course extended by two working days, if drafting requirements permit, to enable instruction to be given in certain subjects not covered by the standard courses, and to permit them to take the examination for the Postmaster-General's certificate, second class.

5. Application for the five days' course, and for the extension referred to in paragraph 4, should be made to the Captain, H.M. Signal School, Portsmouth, through the usual channels.

6. It must be clearly understood that the grant or refusal of the certificate rests entirely in the hands of the Postmaster-General.

**\*936.—Aircraft—Salvage Wire and Pendant.**

(N.L. 896/29.—19.4.1929.)

In order to facilitate the salvage of Fleet Air Arm aircraft after the occurrence of a flying accident, arrangements are being made by the Air Ministry for the loops of the pendant on existing aircraft to be painted red, and the fuselage to be marked "Salvage wire" where the loop is attached. A further loop attached to the main pendant will also be provided at the bottom of the fuselage for use in the event of an aircraft being in an inverted position.

The Air Ministry have also given consideration to the strength of the pendant and consider this to be satisfactory in Fairey IID, Fairey IIIF and Ripon II aircraft. The pendant for the Dart and Blackburn aircraft will be increased to 45 cwt.

### 939.—Director Installation—Control Towers—Arrangements for Excluding Water—REPORTS.

*“ Kent ” Class.*

(G. 1428/29.—19.4.1929.)

Approval has been given for the fitting of arrangements for clamping the sighting port covers and lookout windows of the director control towers in “ Kent ” Class, in order to exclude water, and the work will be carried out by Hong Kong Dockyard as convenient.

2. The serial numbers allotted to this alteration are to be reported to the Admiralty and communicated to the Commodore, Hong Kong.

### 941.—Breech Safety Change-over Contacts—Bridging—REPORTS.

*Repeat “ W ” Class Destroyers and Flotilla Leaders.*

(G. 777/29.—19.4.1929.)

Repeat “ W ” Class Destroyers and Flotilla Leaders, armed with 4.7 in. B.L. guns, but which have single interceptors fitted to the mountings, should, if supplied with breech safety change-over contacts, have the two contacts connected by bridging to enable both the contacts in the breech safety change-over contact box to be fed from a single circuit.

2. The necessary work should be carried out by ship's staff, if not already done, and report furnished that the adjustment has been carried out.

3. Double circuit interceptors will not be fitted to C.P. VI and C.P. VI\* mountings.

**943.—***Issued Confidentially.*

### 945.—Gauge, Vent Tube Chamber, Large—Replacement of Tops by Mark III and IV Patterns.

(G. 9809/28.—19.4.1929.)

With a view to the detection of any constriction at the rear end of the tube chamber, a new pattern, “ Top ” gauge, Mark III, has been introduced for B.L. guns, other than 16 in. and 8 in., and a Mark IV gauge for these two guns in replacement of existing types. The new gauge will be a combined “ go ” and “ no go ” gauge, which will carry “ acceptance ” and “ condemnation ” lines.

2. To accommodate these gauges in the case, gauge vent tube chamber, large, Mark I, the well in wood block for the top gauge is to be deepened from 2.55 in. to 3.1 in., and a star is then to be added to the Mark of case. Cases in H.M. ships should be modified by ship's staff, and those in store by R.N. Armament Depot staff.

3. The new gauges are at present under manufacture, and officers in charge of armament depôts should forward intermediate demands for the quantities required.

4. The Mark I and II top gauges on replacement should be returned to store for disposal as scrap.

**947.—***Issued Confidentially.*

### 950.—H.P. Air Compressors—Fitting of Zinc Protective Pieces—REPORT.

*H.M.S. "Cumberland" and Class.*

(G. 16408/28.—19.4.1929.)

Reports have been received that the cast iron casings of the H.P. air compressors of "Cumberland" and Class are becoming corroded, due to the action of the circulating water.

2. Zinc protective pieces are to be fitted by ships' staffs at the positions shown in E.F.O. 37/29, or at any other convenient positions.

3. A report should be forwarded, through the Administrative Authority, when this modification has been carried out, and a further report on the condition of the casings after 6 months' experience.

### 952.—Condenser Doors and Oil Cooler Bodies, Cast Iron—Scaling—REPORT.

*Dockyards and Ships concerned.*

(D. 4833/29.—19.4.1929.)

A case has recently occurred where the graphite layers of corrosion products have broken away and indicated that the existing procedure of taking cores does not afford a sufficiently reliable estimate of the life of the doors to be formed. It has been decided accordingly that condenser doors, oil cooler and similar bodies of cast iron, exposed on service to sea water, are to be thoroughly scaled on each occasion on which a ship is taken in hand by the dockyard for large repair. After scaling, the thickness of sound metal remaining is to be gauged and reported to the Admiralty.

### 954.—Hydrophone Equipments—Revised Procedure for Contract Purchases and Cancellation of Schedule Drawings.

(N.S. 8433/28.—19.4.1929.)

Stores special to hydrophone equipments will in general *not* be included in future contract schedules, except as stated below.

2. In future, all hydrophone equipments will be described in specifications on the same lines as W/T and A/S instruments, and these will embody the latest improvements, tests, etc., and will supersede the existing contract schedules. Rubber parts for these installations will, however, continue to be dealt with in Contract Schedule 578.

3. All existing schedule drawings for hydrophone stores should be forwarded to Captain A/S, H.M.S. "Osprey," Portland, by yards and overseers concerned, and except in respect of rubber parts, the procedure in regard to supply of which will remain as at present, no further purchases are to be made to existing drawings without previous reference to Captain A/S.

### 956.—Optical Instruments—Landing.

*Reserve Fleet and Home Dockyards.*

(N.S. 14686/28.—19.4.1929.)

In order to prevent deterioration setting in, all optical instruments, including rangefinders, inclinometers, spotting officers' binoculars, gun sighting, director and sight testing telescopes and periscopes, officers' look-out periscopes and concentration of fire periscopes, *but not signalling telescopes nor submarine periscopes*, are to be returned to store from ships in reserve, *except emergency destroyers*, provided that no difficulty is anticipated in re-installing the instruments within the 14 day period of notice for sea.

2. Special reserves, covering all the items landed, are to be maintained at the dockyards to ensure that the gear is available to complete the ships when brought forward for service, dormant demands S.134d, for the sea store items, being held by the Naval Store Officer.

3. Dormant demands required to complete are to be lodged for the numbers and types of gun sighting, director and sight testing telescopes and periscopes, officers' look-out periscopes and concentration of fire periscopes.

4. Care should be taken that the demands are made out in accordance with the latest Admiralty instructions as to types to be used.

5. Gun sighting, director and sight testing telescopes and periscopes, officers' look-out periscopes and concentration of fire periscopes, received by the yard in accordance with these instructions, are to be taken on ordinary store charge (Vote 8, III G.) but arrangements are to be made to have available the required quantities of serviceable instruments to meet the demands.

6. These instructions do *not* apply generally to leaders and destroyers in maintenance reserve except so far as gun sighting, director and sight testing telescopes are concerned, and clause (b) of Appendix G., Part I of Admiralty Letter M.02065/27 should be amended accordingly.

## 957.—Oars made from English and American Ash—Trials— REPORTS.

(N.S. 11858/28.—19.4.1929.)

It has been approved to carry out a trial of ash oars manufactured at Devonport Yard from English and American ash, to ascertain the relative merits of the two materials for oar making.

2. At present all ash oars for Naval purposes are of American manufacture, with the exception of those under 14 ft. in length, manufactured at Hong Kong from English ash.

3. The following numbers will be made from both English and American ash, viz. :—

17 ft.	...	...	...	72	} For use in launches and pinnaces.
16 ft.	...	...	...	24	
15 ft.	...	...	...	88	} For use in cutters.
14 ft.	...	...	...	44	

4. Supplies will be made of about one-third the number of oars of each kind to the Atlantic, Mediterranean, and China Fleets. It is requested that reports may be forwarded through Administrative Authorities in due course as to the relative merits of English and American ash oars.

5. The oars will be suitably marked before issue so that the description of the timber from which they are made can be readily determined.

6. The names of the ships to which the oars are to be issued should be communicated to Devonport, Malta and Hong Kong Yards by the Commanders-in-Chief, Atlantic, Mediterranean, and China Fleets respectively.

7. A report is to be forwarded by Devonport stating when the oars have been issued to the Atlantic Fleet ships selected and to Malta and Hong Kong Yards, these yards being specially advised of the shipment of the oars. A report is also required stating the actual cost of making both descriptions of oars.



**972.—Disabled Members of Staff—Absence to Attend Medical Boards, or to undergo Medical Treatment.**

(C.E. 806/29.—19.4.1929.)

Disabled ex-Service members of civilian staffs, other than industrial staffs, who are required by the Ministry of Pensions to attend Medical Boards, for the purpose of examination, are to be allowed special leave with pay for such time as attendance at the Board necessitates their being absent from their official duties.

2. As regards absences for treatment, salaried officers (acting or confirmed), and temporary clerical and drawing staffs who are required to undergo medical treatment under, or on the advice of the Ministry of Pensions, are to be dealt with under the ordinary sick leave regulations. In such cases, however, full pay should be allowed in respect of absences of less than half a day.

**973.—Yard Craft Employees' Uniform.**

(V. 3561/28.—19.4.1929.)

Demands for cap badges, and other items of uniform required from victualling yard stocks, for yard craft employees are always to be signed by the local head of the department to which the vessel belongs. This officer is to ensure that issues are not made at unduly frequent intervals or for purposes other than those authorised, and that the employees for whom cap badges are demanded for gratuitous issue are entitled to them.

2. Demands for cap badges for gratuitous issue are to state the head of charge, and demands for badges and other items for issue on repayment are to state by whom the value of the issues will be recovered, *i.e.*, the officer paying the wages of the employees.

3. Supply of the items demanded will be made direct from the victualling yards to the Masters of the vessels, to whom the supply and receipt notes will also be sent.

4. When the supplies are for issue on repayment, a Form D.94 is to be sent by the victualling yard to the Master informing him of the amount due, and at the same time, a Form D.95 to the officer receiving payment with a request that particulars of the pertinent debit voucher to his cash account may be communicated for insertion in the victualling yard store account.

5. When the supplies are for gratuitous issue a claim is to be raised against the appropriate Vote on Form V.108a, and this claim is to be countersigned by the local head of the department concerned. In the case of such issues to Vote 8 vessels, the claim should also be referred to the local Expense Accounts Officer for signature.

**976.—Rubber Parts of Switches and other Small Fittings—Preservation.**

(N.S. 8422/28.—19.4.1929.)

In order to prevent, as far as possible, the deterioration of the rubber components of switches and other small electrical fittings, such articles should be stored in as cool a place as possible. The surfaces of the rubber parts which have to be separated during installation should be liberally coated with French chalk or a thin paste of graphite and water, and all screws tending to compress the rubber should be eased off so as to relieve the rubber of pressure. Care should be taken not to leave the screws so slack that there is danger of the entry of dirt or damp into otherwise closed fittings, or risk of loss of the screws.

### 979.—Permanent Apparatus at Dockyard Schools— Annual Verification.

(N.S. 3847/29.—19.4.1929.)

The inventories of permanent apparatus at dockyard schools have usually in the past been forwarded to the Admiralty after the annual verification referred to in Article 182, paragraph 3, of Store Duties Instructions has been carried out.

2. In future the inventories should be kept at the yards, and a report included in the annual Return D.677 certifying that the inventories have been duly verified.

### 985.—*Issued Confidentially.*

#### \*992.—Full Dress Uniform.

(N.L. 483/29.—26.4.1929.)

It has been decided, with the King's approval, that from the 1st July, 1930, all officers of Commander's rank and above (with the exceptions mentioned below) shall be required to provide themselves with Full Dress Uniform.

2. For Commanders who have more than four years' seniority on 1st July, 1930, for Non-Executive officers of Commander's rank who are within five years of retirement on 1st July, 1930, and for all officers below the rank of Commander, Full Dress will continue to be optional (except at State Balls).

3. Full Dress will continue to be optional (except at State Balls) for officers on the Retired List.

4. The broad ribbon and badge of Knights Grand Cross and Knights Grand Commander are not in future to be worn with No. 3 Dress.

5. Should No. 3 Dress be ordered, and the occasion be such that the wearing of the broad ribbons and badges of the higher classes of orders is appropriate, officers in possession of them should wear Full Dress.

#### \*995.—Colonial Allowance during Short Periods in Hospital, or on Detached Duty or Leave.

(C.W./C.(II) 105/29.—26.4.1929.)

Officers who are in receipt of Colonial Allowance may be permitted to retain the allowance when absent on detached duty, and when admitted to hospital or absent on leave, under the same rules as those laid down in Article 1672, King's Regulations and Admiralty Instructions, for the continued payment of lodging allowance in similar circumstances.

#### 998.—Fire Control Instruments—Modification of Gyro Bearing Indicators—REPORT.

*Battleships (earlier than "Nelson" Class) Battle Cruisers, Cruisers (earlier than "Kent" Class.)*

(G. 2113/29.—26.4.1929.)

The following extract from the narrative of one of H.M. ships is promulgated for information:—

\* \* \* \* \*

If an error is suspected in P.I.L. it is considered that Datum Angle and Distance to Master Ship should be passed down direct from TOP by phone and set on the S.N.3 instrument until everything has been checked through.

To obtain Datum Angle quickly in the TOP the following method is used:—The plain ring of the TOP G.B.I., marked "TARGET BEARING," has had the lettering removed and has been graduated in degrees 0 to 180 either side of the index mark. As the zero mark is automatically kept opposite the gyro bearing of target, to obtain the datum angle it is only necessary to read off the new graduation opposite the gyro-bearing-of-Master-Ship. Graduating this ring is also useful for transposing gyro courses of enemy into inclination.

\* \* \* \* \*

2. These remarks are concurred in and the extra graduations should be made by ship's staff on the gyro bearing indicators in the control positions of the ships affected and a report forwarded when the work has been completed.

### 1000.—Gun Mountings, 8 in. Twin, Mark I—Fall of Shot Contact Box.

*"London," "Shropshire," "Devonshire," and "Sussex."*

(G. 1952/29.—26.4.1929.)

The following report has been received from one of H.M. ships of the "Kent" class:—

"The rounds fired counters have sometimes failed to operate correctly at full calibre firings, the ratchet wheel not being given sufficient movement, with the result that contact is made but not broken again.

"The causes are:—

- (i) The bracket carrying the pawl which operates the ratchet lever is clamped to the recoiling rod. This frictional connection is liable to slip, allowing the bracket to revolve slightly.
- (ii) The recoiling rod is not keyed sufficiently strongly to the bracket at its rear end. By this means it is attached to the balance weight on the gun.

"A  $\frac{1}{8}$  in. tapped bolt has now been fitted at each of the brackets at (i) and (ii) above. This bolt projects radially into a hole drilled in the recoiling rod (which is tubular), and prevents relative movement of rod and brackets. At a full calibre firing carried out after this modification had been completed, the rounds fired counters operated correctly throughout the firing."

2. Similar locking pins should be fitted in this gear on the 8 in., Mark I, mountings of the ships enumerated.

### 1001.—Gun Mountings, 8 in. I—White Metal Jointing Rings.

*"Kent" Class.*

(G. 16899/28.—26.4.1929.)

To judge by the demands which are being received for metal jointing rings to replace those expended in connection with 8 in. gun mountings, "Kent" class, it appears that excessive force has been exerted in tightening up the joints.

2. The butting surfaces of the pipes are fitted with V-shaped grooves, and in order to obtain a tight joint it is only necessary for the rings to be compressed sufficiently to form a slight projecting spigot in the grooves.

3. Excessive tightening will result in the jointing rings being squeezed out into the bore of the pipe, and the projecting spigots being sheared off.

4. Hand tightening with the ordinary standard spanners only should enable an efficient joint to be made, if care is first taken that the surfaces of the jointing rings and the butting surfaces of the pipes are perfectly clean and free from burrs, and that the flanges of the pipe couplings are parallel and tightened up evenly.

5. If due care is exercised when making a joint it should be possible for a joint ring to be used several times before renewal is necessary.

**1004.—Langdon Reverse Gear—Replacements.***Motor Boats.*

(D. 4797/29.—26.4.1929.)

A considerable number of Service motor boats are fitted with Langdon reverse gear, and replacement of detailed parts will necessarily be required from time to time. These requirements should be met by manufacture in H.M. dockyards.

2. In the event of a complete renewal being considered necessary, a requisition should be made on the Admiralty, when consideration will be given to the supply of a reverse gear by other approved makers.

**1006.—Tanks of Submarine "M.3"—Test.**

(D. 4167/29.—26.4.1929.)

In view of the recent alterations to the internal tanks of H.M. Submarine "M.3," the following tanks in this vessel are to be tested in lieu of those mentioned in A.F.O. 1491/28, on the occasion of a six-monthly docking:—

- (a) External main ballast tanks, Nos. 1, 5 and 8, port and starboard, 6 in No.
- (b) Internal auxiliaries A, B, Y and Z (fitted with telemotor kingstons), Nos. 2 and 12 (fitted with hand operated kingstons).

(A.F.O. 1491/28.)

**1008.—Oil Fuel Sprayer—Defects.***R.F.A. Oilers.*

(N.S. Fuel 1427/29.—26.4.1929.)

An accident, resulting in the death of a fireman, recently occurred when a torch was being applied to a new O.F. sprayer, which had been fitted on the centre furnace of a three-furnace boiler in one of the R.F.A. vessels, whose O.F. burning installation is of the "White-Howden" combination.

2. When the torch was applied, a flash back, through the sight door of the furnace, was followed by a sheet of flame and burning oil which extended to the boiler room bulkhead, cutting off from immediate escape the fireman, who subsequently died from the injuries received.

3. An investigation into the cause of the accident has revealed that one of the coned nipple joints of the system supplying the fuel oil to the sprayer was defective, a groove in the surface allowing the oil to escape in a spray against the boiler front and thus to become ignited.

4. While such a defect might not normally be expected in a new sprayer, such fittings, where provided, are to be carefully examined before being put into use, and in addition every possible care is to be taken, when making these joints, to ensure the correct alignment of the component parts.

**1009.—Issued Confidentially.****1013.—W/T—Damage to Main Aerials.**

(N.S. 2098/29.—26.4.1929.)

A case occurred recently in which three of the single wires forming part of a flat roof main aerial in a battleship carried away owing to the parting of some Pattern 5439 strain insulators. Apart from putting the main W/T set out of action, serious injury to personnel might have occurred.

2. The accident took place during a full power trial. Subsequent investigation showed that the porcelain portions of the insulators had been pulled out of the metal bush in which they were secured by a filling of solder, the latter having been melted by the heat of the funnel gases. Pattern 7603 insulator, the standard pattern insulator used with flat roof aerials in heavy ships and cruisers, is also liable to this defect.

3. Steps are being taken to alter the design of insulators so as to obviate this defect in future supplies. Meanwhile, ships in which any aerial strain insulators are in close proximity to the funnels should, if feasible, alter the aerial rig so as to avoid subjecting the insulators to excessive heat from the funnel gases.

### 1014.—Compasses in Royal Fleet Auxiliaries not under Commercial Management.

(N.S. Fuel 788/29.—26.4.1929.)

Every opportunity is to be taken of obtaining errors of the standard compass. Observations should be taken each watch and on each course steered, when possible, and the results entered in the ship's log.

2. The ship is to be swung after each dry-docking or repair and at least once a year, the results of the swing being forwarded to the Director, Compass Department, Slough, Bucks, on Form S.374a.

3. No change in the positions of the compasses or binnacles is to be made without Admiralty approval.

4. In ships fitted with dry card compasses, the spare cards are to be stowed in a proper manner, *i.e.*, boxes, one on top of the other, with north point of one card over the south point of the next.

5. Whenever a ship docks or repairs at a home dockyard the Master is to arrange for the King's Harbour Master to inspect the compass equipment and to report any defects to the Director, Compass Department.

### 1016.—Steel Wire Ropes—Effect of exceptionally Severe Frost.

(N.S./C.P. 5168/29.—26.4.1929.)

The following circular letter received from Messrs. Wrights' Ropes, Ltd., in regard to the effects of exceptionally severe frost upon steel wire ropes is promulgated for information and guidance:—

“ We have been asked on several occasions during the recent exceptionally severe frost what would be the probable effect of such low temperatures upon steel ropes, and we would take this opportunity of making a statement upon the subject.”

“ As you are aware, the wire from which ropes are made is drawn from high carbon steel, and a great amount of alternate cold work and patenting is done upon it before it is finally ready to be made up into the rope. The crystal grain of the steel is finely drawn out to obtain the high tensile strength required, and the material, therefore, must be regarded as a very highly wrought product.”

“ It is a well-known fact that everything becomes embrittled by the action of low temperatures, and in the case of high strain steel wire the internal structure tends to become unstable with twenty to thirty degrees of frost, this being more marked the higher the ultimate tensile stress to which the wire has been drawn. This is also the case with small wires which have had more work done upon them in reducing from the rod.”

“ It is, therefore, advisable to exercise special supervision in regard to all steel ropes, and especially those which have been exposed to the direct action of these low temperatures. Winding or crane ropes should be carefully examined for broken wires, and this applies particularly to ropes which have done a fair proportion of their usual period service.”

## 1017.—Resistance Wires for Elements of Electric Soldering Bits— Particulars.

(N.S. 2099/29.—26.4.1929.)

Particulars of resistance wires suitable for rewinding the round or flat elements of electric soldering bits are as follows :—

Electric Soldering Bit. Pattern.	Voltage.	Type of Element Fitted.	Suitable Wire.	
			Pattern.	Diameter. Inches.
701	220	Round Flat Flat	706	0·0124
8616	220		8618	0·0064
			8618	0·0064
2014	100	Round Flat Flat	6463	0·0156
8617	100		8619	0·0112
			8619	0·0112

2. The following points should be noted in regard to the obsolescent Patts. 701 and 2014 :—

### *Bits Fitted with Round Elements.*

The elements should be reworded when necessary, *providing that the bits are otherwise in a serviceable condition.* When larger repairs are necessary, however, the bits should be replaced by the later patterns.

### *Bits Fitted with Flat Elements.*

Wires, Patts. 706 or 6463, are not to be used for rewinding. The bits are to be modified to take wires, Patts. 8618 or 8619.

3. *Home Yards.*—Review demand provision should be based on the above information.

4. *Foreign Yards.*—Particulars of revised requirements should be forwarded as soon as possible.

## 1018.—Sling Psychrometers—Separate Purchase of Humidity Tables.

(N.S. 429/29.—26.4.1929.)

Humidity tables for use with sling psychrometers will in future be provided through H.M. Stationery Office instead of by purchase with the instruments. Demands both for tables and instruments should continue to be forwarded to the Director of Stores.

2. The tables now exhibited at the Admiralty Pattern Rooms will be sent to Chatham.

3. The necessary amendments to the Rate Book of Naval Stores, etc., will be issued in due course.

## 1021.—Storing Period.

*Flotilla Leaders and Destroyers of "V" and "W" Classes.*

(N.S. 2375/29.—26.4.1929.)

Flotilla leaders and destroyers of "V" and "W" classes, whether in commission or reserve, are, in future to complete with Naval stores sufficient for four months. Vessels in commission should draw the additional stores on the next occasion of replenishment, and vessels in reserve forthwith.

2. The supplies are to be stored in the appropriate storerooms, but where, in Leaders, this condition cannot be met entirely, any stores which cannot be placed in the storerooms are to be stowed below the upper deck as far as possible, so as not to affect the stability of the vessel.

3. Under these conditions the vessels will replenish every three months.

**1032.—Steam Heaters for Living Spaces ex Destroyers.***All Dockyards except Devonport.*

(D. 1399/29.—26.4.1929.)

Any steam heaters for living spaces ex destroyers on machinery or deposit charge are to be disposed of, if there are no yard or other service for which they can be utilised.

2. Attention is invited to the instructions contained in A.F.O. 2792/28.

*(A.F.O. 2792/28.)***\*1043.—Entry of Aircraft Apprentices, Royal Air Force—  
Service Nominations.**

(N. 1310.—3.5.1929.)

The following particulars relative to the grant of Service nominations to candidates for aircraft apprenticeships, Royal Air Force, are promulgated for information :—

2. *Qualifications for Entry.*—(i) *Education.*—Candidates should have received a good general education such as will enable them to undertake with profit the course of technical and general education included in the apprenticeship training.

(ii) *Nationality.*—Candidates must be British subjects, of pure European descent and the sons of natural born or naturalised British subjects. Where there is doubt, the burden of clear proof will rest upon the candidate.

(iii) *Age Limits.*—The age limits for all candidates will be 15–17 years; candidates must be of the prescribed age on 1st January (for entry in January) or on 1st August (for entry in August). A candidate whose birthday falls on the governing date will be regarded as being within the age limits on the day on which he attains 15 years of age, but outside the limits on the day on which he attains 17 years. Application for waiver of the limits from a candidate for Service nomination will, however, be considered in cases of serious hardship, or where there is an adequate explanation of the failure to take the examination at an earlier date. Any request for such extension must be made through, and be recommended by, the nominating authority. Only cases which are very near the limiting date will be so considered.

3. *Systems of Entry.*—There are three systems of entry—

(i) By limited competition (on the results of an examination held by the Air Ministry in June and November at a large number of centres).

(ii) By open competition (on the results of an examination held by the Civil Service Commissioners, normally about April and October), at the following centres :—

London	Cardiff	Plymouth
Belfast	Chatham	Portsmouth
Birmingham	Edinburgh	

(iii) “Service” candidates (such candidates being required to reach only a qualifying standard in the examination held for the open competition).

4. *“Service” Candidates.*—(i) A “Service” nomination may be granted by the Air Council to a boy whose father holds or has held the rank or its equivalent of either (a) *Sergeant* or above in the Army, Royal Marines or Royal Air Force, or (b) *Petty Officer* or above in the Royal Navy.

If the father is serving, he should apply through his Commanding Officer, who will countersign the application, if recommended, and forward it direct to the Air Ministry. If the father is not serving, application should be made direct to the Secretary, Air Ministry, Kingsway, London, W.C.2.

(ii) “Service” candidates will sit normally at open competitions conducted by the Civil Service Commissioners, but

(iii) Boys nominated for entry by limited competition (*see* paragraph 3 (i) ) may also be permitted by the Air Council to sit as "Service" candidates, if eligible under paragraph 4 (i) above.

(iv) "Service" candidates, who cannot conveniently attend one of the specified open competition centres (*see* paragraph 3 (ii) ) and who have not been nominated for entry by limited competition, may apply to the Air Ministry for permission to sit at the nearest R.A.F. station.

(v) "Service" candidates will not be called upon to compete with other candidates, but in order to be successful, they must reach the qualifying standard laid down by the Air Council.

(vi) Applications for "Service" nomination must be forwarded to reach the Air Ministry *not later than 21 days before*

Either (a) (in the case of entry by open competition) the last date on which applications can be accepted by the Civil Service Commissioners, which will be notified by advertisement in the public press, or (b) (in the case of entry by limited competition) the first Tuesday in May for the June examination, or the first Tuesday in October for the November examination.

### \*1045.—Eyesight Standards in the R.N. and R.M.

(N. 1006.—3.5.1929.)

Pending a review of the visual standards in the Navy, it has been decided that, when the eyesight of ratings who are in their final periods of service is being examined, the vision in each eye shall be recorded and, if below the present standards, they may be permitted to use both eyes together. If, using both eyes, they are able to attain the higher of the two standards required by A.F.O. 2334/28 on re-engagement, they are to be passed as fit for general service, provided they can read at least 6/24 with the worst eye, and the defect is due to refractive error only.

Marines are included in this Order, but they shall be required to read at least 6/12 with the right eye.

(A.F.O. 2334/28.)

### \*1047.—Q.A.R.N.N.S. and Massage Sisters—Board and Washing Allowance.

(C.E. 1890/29.—3.5.1929.)

The rate of Board and Washing Allowance payable to members of Queen Alexandra's R.N. Nursing Service and Head and Assistant Massage Sisters is to be reduced, as from 1st April, 1929, to the following amounts:—

	Weekly rate.		
	£	s.	d.
At home stations, except as specified hereunder ...	1	0	0
At home stations, where not more than two nurses are employed ... ..	1	3	6
At foreign stations, except Hong Kong ... ..	1	3	6

2. The rates payable at Hong Kong remain unaltered.

3. The rate of messing contribution payable by nurses, etc., who are subsisted at the public expense is to be decreased from 2s. 3d. to 2s. 1d. a day, or 15s. 9d. to 14s. 9d. a week, as from the same date.

4. These rates will be subject to review after six months.

. 1048.—*Issued Confidentially.*



**1049.—Director Installation—Synchronous Transmission Gear.***Ships earlier than "Nelson" and "Kent" Classes.*

(G. 2493/29.—3.5.1929.)

In ships earlier than "Nelson" and "Kent" classes fitted with director synchronous transmission gear, the mechanical stops limiting the travel of the red pointers in the elevation receivers are to be removed.

2. This alteration is to be carried out by ship's staff.

3. In future the operation of lining up the director elevation system is to be effected by means of the milled knobs in a manner similar to that employed for lining up the director training and slewing transmission.

**1056.—Issued Confidentially.****1064.—Oxygen and Enriched Air Plants.**

(G. 14265/28.—3.5.1929.)

The instructions contained in the new Article 140A of the Engineering Manual are to apply generally to installations in H.M. dockyards and shore establishments.

**1067.—High Speed Mine Sweeps.***Destroyers in Maintenance Reserve.*

(N.S. 4636/29.—3.5.1929.)

Destroyers in Maintenance Reserve fitted for high speed mine sweep should remain so fitted and will require the outfit of stores allowed for this service on mobilisation.

2. Dormant demands and special reserves of Naval stores required to complete these outfits should be held by the Naval Store Officer at the vessel's storing yards.

**1119.—Diving Dresses.**

(N.S. 1577/29.—3.5.1929.)

It appears that the importance of re-soldering the tin-lined cases in which diving dresses are shipped to yards abroad, after the cases have been opened up for inspection of contents, is not universally recognised. The cases should be opened up for examination of contents on delivery, and also as required for the periodical survey of diving gear, or for the purpose of making issues, and steps should be taken after each occasion of opening a case, to have it re-soldered as soon as possible.

**\*1142.—R.N. Officers and Men serving in the R.A.N. on Loan or in Exchange—Liability for Payment of Income Tax.**

(N.P. (I) 1320/29.—10.5.1929.)

This Order is issued at the request of the Commonwealth Naval Board.

2. All officers and men of the Royal Australian Navy are subject to Commonwealth and State Income Tax. They are required to render returns of Income which are assessed in accordance with the rates and conditions for the time being in force in respect of any income derived by them from Australian sources.

3. Officers and men of the Royal Navy on loan to the Royal Australian Navy or serving as Exchange officers, are subject to the above provisions regarding Income Tax from date of arrival in Australia to date of departure therefrom.

4. Officers in receipt of Table Money or Entertaining Allowance are required to include these allowances in their Income Tax Returns for taxation purposes, but they may claim deductions of all expenditure incurred in connection with official entertaining up to a limit of the allowances received.

5. The Federal Taxation Department will accept a certificate as to the total expenditure made during each year out of the particular allowances, with the reservation that records of expenditure may be called for if at any time found necessary.

### 1143.—Ratings Serving on Shore Abroad—Allowances in lieu of Victualling.

(C. (II) 907/29.—10.5.1929.)

When special rates of Provision Allowance have been authorised, under the arrangements laid down in A.F.O. 938/27, paragraph 2, for ratings serving ashore at places abroad where service victualling is not available and the ordinary rate of Provision Allowance is insufficient to cover the cost of providing the normal service standard of victualling, Commanders-in-Chief are authorised to adjust the special rates when necessary, subject to a full report of the action taken being submitted immediately to the Admiralty for covering approval. The rates of allowances should not be altered to meet trivial changes in prices.

2. The allowances should, in any case, be reviewed annually, and reports furnished to the Admiralty showing whether any material change in prices has taken place since approval was given for the allowances in course of payment.

(A.F.O. 938/27.)

### \*1144.—Ships' Books—Numbering of Accounts.

(N.P. (II) 2755/28.—10.5.1929.)

In order to reduce to a minimum the clerical labour occasioned when new books are opened owing to ships' books' numbers having become so high as to be unwieldy, the following procedure is to be adopted in future:—

2. As soon as the numbers in any section of the ledger reach 9999, instead of opening new books, ratings are to be entered in a new series commencing at 1.

### 1147.—*Issued Confidentially.*

### 1148.—Director Firing Gear—Drainage of H.A.C.S. Director Support.

*“Queen Elizabeth,” “Royal Sovereign,” “Renown” and “London” Classes, “Hawkins,” “Glorious,” “Dorsetshire” and “Exeter” and Dockyards concerned.*

(G. 16927/28.—10.5.1929.)

Arrangements are to be made by the Dockyards concerned for a gutter-way for drainage purposes, as shown on the sketch (E.F.O. 35/29) to be fitted to the H.A.C.S. director support in the above ships and for a drain pipe to be carried therefrom to a suitable position on the structure below the tower.

The fitting of the drain pipe to the underside of the revolving drum structure of the director will be carried out by ship's staff. A further Admiralty Fleet Order will shortly be issued showing the approved arrangements for the fitting.

### 1149.—High Angle Control System, Mark I—Arrangements for Supply of Power for Operating the System.

*H.M. Ships of the "Royal Sovereign," "Queen Elizabeth," "Repulse," "Hawkins" and "Enterprise" Classes, "Hood," "Tiger," "Furious," "Eagle" and "Hermes."*

(G. 4250/28.—10.5.1929.)

The reports of the above-mentioned ships have now been considered, and it has been decided to adopt the following modifications to the low power supply arrangements in order to meet the additional power required for feeding the high angle control system, Mark I.

2. *H.M.S. "Hood."*—The present arrangements allow of ample power being available for supply to the system without making any alterations to the present low power supply arrangements.

3. *H.M. Ships of the "Royal Sovereign," "Queen Elizabeth" and "Repulse" Classes and "Tiger."*—Five motor generators of 150 amp. output and five batteries, the circuits to be grouped as follows:—

<i>Circuit.</i>	<i>Supply.</i>
(i) Main armament ... ..	1—150 amp. motor generator and 1—400 A.H. battery.
(ii) Secondary armament and torpedo control.	1—150 amp. motor generator and 1—250 A.H. battery.
(iii) Miscellaneous and H.A.C.S.I. ...	1—150 amp. motor generator and 1—250 A.H. battery.
(iv) Telephones ... ..	1—150 amp. motor generator and 1—100 A.H. battery.
(v) Firing and other earth circuits ...	1—150 amp. motor generator and 1—100 A.H. battery.

*Note.*—The motor generator mentioned at (iv) is also to be regarded as a reserve for (i), (ii), (iii) and (v).

4. *H.M. Ships of "Hawkins" Class.*—Four motor generators of 100 amp. output and four batteries, the circuits to be grouped as follows:—

<i>Circuit.</i>	<i>Supply.</i>
(i) Main armament and torpedo control	1—100 amp. motor generator and 1—250 A.H. battery.
(ii) Miscellaneous and H.A.C.S.I. ...	1—100 amp. motor generator and 1—250 A.H. battery.
(iii) Telephones ... ..	1—100 amp. motor generator and 1—100 A.H. battery.
(iv) Firing and other earth circuits ...	1—100 amp. motor generator and 1—100 A.H. battery.

*Note.*—The motor generator mentioned at (iii) is also to be regarded as a reserve for (i), (ii) and (iv).

5. *H.M.S. "Furious."*—Four motor generators 150 amp. output and four batteries, the circuits to be grouped as follows :—

<i>Circuit.</i>	<i>Supply.</i>
(i) Main armament ... ..	1—150 amp. motor generator and 1—250 A.H. battery.
(ii) Miscellaneous and H.A.C.S.I. ...	1—150 amp. motor generator and 1—250 A.H. battery.
(iii) Telephones ... ..	1—150 amp. motor generator and 1—100 A.H. battery.
(iv) Firing and other earth circuits ...	1—150 amp. motor generator and 1—100 A.H. battery.

*Note.*—The motor generator mentioned at (iii) is also to be regarded as a reserve for (i), (ii) and (iv).

6. *H.M. Ships "Eagle," "Hermes," "Emerald" and "Enterprise"* (fitted with L.P. ring main system).—Three motor generators of 114 amp. output and five batteries, the circuits to be grouped as follows :—

<i>Circuit.</i>	<i>Supply.</i>
(i) Main armament ... ..	1—114 amp. motor generator and 1—250 A.H. battery.
(ii) Miscellaneous, H.A.C.S.I. and tele- phones.	1—114 amp. motor generator and 2—250 A.H. battery.
(iii) Firing and other earth circuits ...	1—114 amp. motor generator and 2—100 A.H. battery.

*Note.*—The telephones mentioned at (ii) are to be fed from one of the 250 A.H. batteries as shown in the diagram (E.F.O. 45/29).

7. The additional apparatus required by the various ships to fulfil the above requirements is as follows :—

(i).—*H.M. Ships of the "Queen Elizabeth," "Royal Sovereign" and "Repulse" Classes and "Tiger."*

Each ship ... ..	One 250 A.H. battery of 12 cells, Pattern 5532, and the necessary switch gear and battery trays.
"Malaya" ... ..	Replace 3—100 amp. motor generators by 3—150 amp. motor generators.
"Barham" and "Tiger"	Replace 4—100 amp. motor generators by 4—150 amp. motor generators.

(ii).—"Hawkins" Class.

Each ship ... ..	One 250 A.H. battery of 12 cells, Pattern 5532, with the necessary switch gear and battery trays.
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(iii).—"Furious."

One 250 A.H. battery of 12 cells, Pattern 5532, with the necessary switch gear and trays.
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(iv).—"Eagle," "Hermes," "Emerald" and "Enterprise."

Each ship ... ..	One 250 A.H. battery, Pattern 5461, consisting of 12 cells, Pattern 5532, and four back E.M.F. cells, Pattern 5533, and the necessary battery trays.
	One charge and discharge panel and change-over switch.

8. The work of making the alterations in the various ships is to be carried out by the dockyards when the ships are taken in hand for installing the high angle control system, Mark I, and an item for this work is to be included in the lists of alterations and additions submitted.

9. The following instructions are promulgated for information and guidance regarding the supply of the additional apparatus mentioned in paragraph 7 :—

(a) Arrangements have been made for the replacement of the 100 amp. motor generators and making the other alterations and additions in *H.M.S. "Malaya"* during her present large repair.

(b) The 150 amp. motor generators and switch gear required for *H.M. Ships "Barham" and "Tiger"* are to be obtained from those available at the home dockyards and those which are being liberated from *H.M.S. "Glorious."* The question as regards the allocation of this is to be raised by the yard concerned when these two ships are about to be taken in hand for fitting the system.

- (c) Arrangements are being made for the purchase of the additional batteries and trays for the ships mentioned in paragraph 7 and for the purchase of the charge and discharge and change-over switches for the ships mentioned in paragraph 7 (iv).
- (d) The necessary switches for connecting the batteries to the low power board and for making the necessary divisions of the boards to comply with the method of connections approved in this Order, are to be obtained from the liberated switch boards and switch gear available at the home dockyards from ships disposed of and other services. Arrangements are to be made direct with other yards for the supply of switch gear not available at the individuals yards.

(A.F.O. 1546/29.)

**1152.—Issued Confidentially.**

**1153.—Boxes, Cartridge, Ammunition, Q.F.—Precautions as to Slinging and Stowing.**

(A.S. 565/29.—10.5.1929.)

A number of instances having occurred recently of damage to the handles of Q.F. 4.7 in., fixed ammunition boxes, the attention of ships and armament depôts is drawn to the necessity of correctly slinging and lifting these boxes and all other types of cartridge and ammunition boxes, which may be similarly affected, by both handles.

2. Particular care should be taken to see that the boxes are slung from the leather covered ends of the handles, and that the becket itself rests in the recess provided for it, and is not bent over the top of the box. When stowing the boxes in the magazine, it is essential that the wire handle is seen to rest in the recess provided, in order that it may not be crushed by the weight of boxes stowed on top of it.

**1155.—Electrical Equipment in H.M. Ships—Care to be taken when Painting.**

(S. 3046/29.—10.5.1929.)

When electrical apparatus is painted internally or externally, special care is to be taken to ensure that all moving parts can be operated after the paint has dried, and that there is no danger of the plant being rendered out of action owing to paint seizure. This applies particularly to small switch handles, pushes, plugs for sockets and portions of plant projecting through cases which must be a good sliding fit.

2. Arrangements are to be made by the district electrical engineers and overseers concerned to test all newly painted electrical plant after the paint has thoroughly dried to ensure that the plant is in an efficient working condition.

3. Attention is drawn to the instructions promulgated in A.F.O. 2133/27.

(A.F.O. 2133/27.)

**1156.—L.P. Circuits in H.M. Ships—Junction Boxes, etc., fitted with Channel Type Terminals for V.R. Cables.**

(T. 1202/29.—10.5.1929.)

The particulars of the new pattern L.P. junction boxes and terminals as regards specification, symbols, and the instructions for wiring these junction boxes with V.R. cables will be issued as a separate drawing from the books of junction box diagrams with which these particulars were formerly issued, in order that no difficulty may be experienced in supplying the necessary information contained therein to all concerned.

2. The instructions for wiring included, apply to all low-power junction boxes, switches, instruments, etc., fitted with channel type terminals, and the attention of all concerned is called to these instructions.

3. Drawing No. D.T.M. 10/29 will therefore replace the specification, list of symbols and instructions for wiring formerly included in the requisite books of junction box diagrams, and copies of this drawing can be obtained on application to the D.T.M. Department, Admiralty.

4. Drawings, prepared by dockyards or shipbuilders indicating the requirements and connections for junction boxes of the type referred to above, should in future quote the Drawing D.T.M. 10/29 for specification, etc., particulars.

### **1157.—2-Wire Telephone System—Incorrect Wiring of Line Relay Boxes.**

*Ships fitted with 2-wire Telephones, Dockyards and Overseers of Ships Building.*

(T. 823/29.—10.5.1929.)

It has been observed that certain line relay boxes supplied by Messrs. Graham have been incorrectly wired and that the diagram of connections fixed to the interior of the cover is also misleading.

2. In the boxes affected, it has been found that an additional wire has been inserted between the B— block and the —block of each line. The effect is to parallel the negative fuzes of all telephones served by the box in question, and thus isolation for test is impossible.

3. Boxes should be examined, and in cases where such wires have been inserted, they should be removed forthwith.

4. The correct wiring is shown on the diagram E.F.O. 43/29

5. Diagrams fitted inside the box covers should be amended to show separate fuzes for the B— and —blocks.

### **1158.—H.C.D. Searchlight Lamps, Mark VI—Recarboning Levers.**

(T. 1098/29.—10.5.1929.)

The squared ends of pivots of the recarboning levers for the positive and negative heads of the Mark VI H.C.D. lamps have been fitted on the right-hand side of the lamp looking towards the crater; this corresponds to the sliding door on the right-hand side of the Mark II barrels.

2. When these lamps are fitted in Mark III barrels the squared ends should be fitted on the opposite side as shown dotted in E.F.O. 48/29.

3. All lamps supplied in future will have the pivots drilled and reamed for fitting on either side of the lamp.

4. Ships fitted with Mark III projectors and Mark VI lamps prior to this Order should reverse these pivots, drilling and reaming for taper pins as necessary.

### **1160.—Spares for Magnetos or Replace Magnetos—Demands.**

(D. 5829/29.—10.5.1929.)

In all cases where spares for magnetos or replace magnetos are required the following information should be furnished with the demand:—

- (i) No. and size of motor boat or service for which required.
- (ii) Type and name of maker of magneto.
- (iii) Number of cylinders of motor.
- (iv) Direction of rotation of magneto, looking on the end driven by the engine.
- (v) Serial number of magneto.
- (vi) Date of manufacture of magneto.

**1161.—H.M. Ships—Repair at Dockyards Abroad—REPORTS.**

(D. 4911/29.—10.5.1929.)

When H.M. ships are taken in hand for refit or repair in dockyards abroad, the date of commencement of the work is to be at once reported to Admiralty by telegraph. The date for completion (as soon as known) is also to be reported by telegraph.

**1164.—Governors, Pattern 317, for Walker Logs—Fitting of Brass Hooks.**

(N.S. 15537/28.—10.5.1929.)

All governors, Pattern 317, for Walker Logs, whether forming part of complete logs, or on charge as separate articles are to have the short length of rope attached thereto fitted with a brass hook.

2. The governors at present fitted with iron hooks are to have them removed and brass hooks substituted, the necessary work on dockyard stocks being carried out in the yards and by ships' staffs in the Fleet. Ships should demand from their storing yards the number of brass hooks required.

3. At home yards the necessary brass hooks should be obtained by local purchase; yards abroad should forward demands to the Admiralty.

4. The reports forwarded in accordance with A.F.O. 3188/28 show that six logs at Devonport are fitted with iron governors and that 68 No. spare iron hooks are available at Portsmouth. These should be disposed of, and any logs at yards abroad found to be fitted with iron governors should similarly be disposed of.

(A.F.Os. 3188/28 and 1978/29.)

**1165.—Lamps, 15-volt, for Illumination of Instruments—  
New Pattern No. 9890.**

(N.S. 127/29.—10.5.1929.)

As a result of difficulties which have been experienced in ships owing to excessive drop of voltage and consequent ineffectiveness of the 20-volt lamps provided for illumination of instruments, it has been decided to introduce a new lamp for use on such circuits and for other exceptional purposes.

2. The lamp is of the same dimensions as Pattern 629, but is a metal filament lamp rated at 15 volts and 3 watts. It is fitted with a small bayonet cap, and is interchangeable with Pattern 629 or Pattern 666.

3. Pattern number 9890 has been assigned to the new lamp.

4. This lamp is not to be used on any circuit where the voltage is liable to rise above 16 volts. Its use is therefore limited to those circuits where the feed wiring is fully loaded whenever the lamp is in use, *e.g.*, on Evershed open-faced indicators. In such cases the lamps may be demanded in lieu of Pattern 629.

5. Arrangements have been made for purchase of 100 lamps, Pattern 9890, for delivery at Portsmouth and Devonport (half at each) for H.M. ships "Nelson" and "Rodney" respectively.

**1175.—Royal Fleet Auxiliaries—Maintenance.**

(N.S. Fuel 1967/29.—10.5.1929.)

The principles outlined in A.F.O. 438/29 for maintenance of freighting oilers managed by the Admiralty are to be applied also to supplies from, or services rendered by, local contractors to Fleet Attendance Oilers, etc., including the R.F.As. "Perthshire" and "Bacchus" while at dockyard ports.

(A.F.O. 438/29.)

### 1176.—S.W. Brushes for Cleaning Boiler Tubes.

(N.S. 1986/29.—10.5.1929.)

It has been approved to adopt the following patterns of S.W. Brushes for cleaning boiler tubes in "Kent" and "London" class vessels, viz., Patterns 210B, 211B and 218A and 218B.

2. The following quantities have been provided for "Kent" class and will be shipped to Hong Kong from Sheerness Yard, viz. :—

Pattern 210B	...	...	...	1850	No.	
(Similar to Pattern 210A with one screwed end omitted.)						
Pattern 218A	...	...	...	2000	No.	Similar to Pattern 218 but will be 6 in. overall with 2 spirals.
Pattern 218B	...	...	...	2000	„	
(Similar to Pattern 218A but with one screwed end omitted.)						

3. The following have been provided for "London" class and will be shipped to Malta from Sheerness Yard :—

Pattern 211B	...	...	...	720	No.	240 for each "London," "Sussex" and "Devonshire."
(Similar to Pattern 211A but with one screwed end omitted.)						
				1000	No.	For stock at Malta.
Pattern 218B	...	...	...	144	„	48 for each of above vessels.
				300	„	For stock at Malta.

Two hundred and forty of Pattern 211B and forty-eight of Pattern 218B for H.M.S. "Shropshire" are being provided for supply from Chatham Yard.

4. The following quantities of S.W. Brushes are also being supplied to Hong Kong from Sheerness Yard :—

Pattern 210A.	Brushes, S.W.	...	...	...	...	1850	No.
„ 218.	„	„	„	„	„	1900	„

5. Dues to Hong Kong of the following have been cancelled as requested :—

Pattern 210.	S.W. Brushes	...	...	...	...	3500	No.
„ 211	„	„	„	„	„	400	„
„ 211A.	„	„	„	„	„	300	„

6. The Rate Book of Naval Stores will be amended in due course.

### 1188.—Messages Transmitted by Service W/T Routes—Waiving of Charges.

(M. 1250/29.—10.5.1929.)

Arrangements have been made with the War Office and Air Ministry for co-operation between the Navy, Army and Air Force in the transmission of messages by Service W/T routes, where this is convenient, and for W/T messages to be handled free of charge between the three Services so long as the volume of traffic at any W/T station does not increase beyond the capacity of existing W/T apparatus and personnel as the result of messages handled for other Services.

It will not therefore be necessary for Naval W/T stations to render, for accounting purposes, copies of messages handled on behalf of the Army and Air Force in future.

The number of words should continue to be included on the appropriate line in the quarterly traffic returns.



1202.—*Issued Confidentially.***\*1210.—Fire Precautions—Prohibition of Use of Patent Cigarette, etc., Lighters.***H.M. Ships carrying Aircraft.*

(N.L. 545/29.—17.5.1929.)

A recent outbreak of fire in one of H.M. aircraft carriers was directly attributable to the accidental dropping of a patent cigarette lighter during the fuelling of an aircraft from two-gallon petrol tins, for the purpose of accurate fuel consumption tests.

2. The petrol tins had been placed in a large drip tray. A man employed on the work pulled a rag from the breast pocket of his overalls, and a mechanical lighter, caught on the rag, dropped into the tray. The spark from the lighter ignited a small quantity of spirit on the tray, which, together with that in the tins, immediately flared up.

3. My Lords have decided that the use of patent cigarette or pipe lighters in ships carrying aircraft is to be definitely prohibited.

4. Commanding Officers of such ships are to take steps to ensure that this prohibition is brought to the notice of all concerned.

*(K.R. & A.I., Art. 1073.)*1218.—*Issued Confidentially.***1219.—Fire Control—Voicepipe Communications in 6 in. Gun Batteries—Fitting Officers' Headpieces.***"Queen Elizabeth" and "Royal Sovereign" Classes and Dockyards.*

(G. 1761/29.—17.5.1929.)

It has been decided to supply officers' headpieces in lieu of sightsetters' headpieces for the 6 in. guns in "Queen Elizabeth" and "Royal Sovereign" classes.

2. The following modifications to the equipment of sea stores for these vessels, in accordance with page 14, line 8, of the Establishment of Naval Stores for Gunnery purposes are therefore approved:—

*"Queen Elizabeth" Class.*

(i) At each 6 in. gun one officer's headpiece, 2 in., Mark IV, Pattern 3275, in lieu of the sightsetter's headpiece at present supplied. In "Queen Elizabeth" the supply of the officers' headpieces, Pattern 3275, is to be in replacement of the officer's headpiece, Mark III, Pattern 1002, supplied to "Queen Elizabeth" for trial.

(ii) As the existing flexible voicepiping is not fitted with Mark IV couplings in each case, ships are to demand such 2 in., Mark IV couplings as may be required, together with additional 2 in. bronze flexible voicepiping if this also is necessary. The removal of existing couplings and fitting of Mark IV are to be carried out by the ship's staff.

*"Royal Sovereign" Class.*

(iii) "Royal Sovereign" and "Ramillies."—At each 6 in. gun, one officer's headpiece, 2 in., Mark IV, Pattern 3275, in lieu of the sightsetter's headpiece at present supplied.

(iv) As the existing flexible voicepiping is not fitted with Mark IV couplings, in each case, ships are to demand such 2 in. Mark IV couplings as may be required, together with additional 2 in. bronze flexible voicepiping if this also is necessary. The removal of existing couplings and fitting of Mark IV are to be carried out by the ship's staff.

(v) "Resolution."—At each 6 in. gun, one officer's headpiece, 2 in., Mark IV, Pattern 3275, in lieu of the plain mouthpieces now fitted.

(vi) As the existing flexible voicepiping is not fitted with Mark IV couplings in each case, ships are to demand such 2 in. Mark IV couplings as may be required, together with additional 2 in. bronze flexible voicepiping if this also is necessary. The removal of existing couplings and fitting of Mark IV are to be carried out by the ship's staff.

(vii) "Royal Oak" and "Revenge."—At each 6 in. gun, one officer's headpiece, 2 in., Mark IV, Pattern 3275, one plug piece, 3 in. to 2 in., Mark IV, Pattern 3255. (This pattern number is to be confirmed by ships.) One length of 2 in. bronze flexible voicepiping with Mark IV couplings, large enough to reach the sightsetter at all angles of training.

3. The following quantities of headpieces, etc., are being purchased for delivery as indicated to meet requirements for this service, viz. :—

Pattern 3275 headpieces.	Twelve of each for delivery at Ports-
Pattern 3236 grip connections.	mouth for "Valiant." 108 of each,
	West India Docks for shipment to
	Malta for remainder of ships
	concerned.
Flexible voicepiping, bronze,	Twenty-four, West India Docks for
without connections, 2 in.	shipment to Malta for "Royal
by 10 ft.	Oak" and "Revenge."

4. Twenty-four plug pieces, Pattern 3255, are to be sent to Malta from Portsmouth to meet requirements of "Royal Oak" and Revenge."

(A.F.O. 2883/28.)

## 1221.—Field Guns, 12 pdr. 8 cwt.—Allowance for Training Establishments.

(G. 01783/28.—17.5.1929.)

The undermentioned 12 pdr. 8 cwt. field guns and mountings are to be kept in the training establishments, viz. :—

H.M.S. "Excellent" ... ..	5 (one mounting for funerals.)
H.M.S. "Vernon" ... ..	2
R.N. Barracks, Portsmouth ... ..	1
H.M.S. "St. Vincent" ... ..	2
Devonport G.S. ... ..	4 (two of these are for funerals.)
Chatham G.S. ... ..	4
R.M. Division, Eastney ... ..	2
R.M. Division, Chatham ... ..	Nil.
R.M. Division, Devonport ... ..	Nil.
H.M.S. "Ganges" ... ..	6

2. These equipments (except "St. Vincent" and "Ganges") are for use in the Inter Port Competition at Olympia, and the Captain, H.M.S. "Excellent," the Captain (G), Chatham, and the Captain (G), Devonport, are to arrange for all available equipments in the local establishments and dockyard to be examined, and those in the most suitable condition selected, up to the numbers detailed in paragraph 1.

3. All surplus equipments now held are to be returned to store.

4. *Spare wheels.*—The supply of spare wheels to establishments taking part in the competition is being dealt with separately.

(C.A.F.O. 1318/29 and A.F.O. 1538/29.)

**1223.—Branch Breakers, Oil Type, 50/250 amp.**

(D. 5523/29.—17.5.1929.)

It has been observed during tests on a 250-ampere, oil type, branch breaker of Messrs. Whipp & Bourne's latest design, that if the operating coils be incorrectly connected, the overload device does not function according to the markings on the calibration scale.

2. It has been ascertained from the firm that the oil type branch breakers affected are those supplied to the following vessels:—

H.M. Ships "Nelson," "Rodney," "Adventure," "Cumberland,"  
"Berwick," "Kent," "Suffolk," "Cornwall," "London,"  
"Devonshire," "Shropshire," "Sussex," "York," "Medway,"  
"Resource," "Vernon," and to H.M.A. Ships "Australia,"  
"Canberra," and "Albatross."

3. In order to guard against the operating coils being incorrectly connected in future, steps should be taken to ensure that after connecting the coils the operation of the overload device is in accordance with the calibration.

4. The firm have arranged that in all future orders for operating coils for this type of branch breaker, the coils shall have red and blue connecting ends. The appropriate terminals in the branch breakers to future orders, including those required for H.M. Ships "Dorsetshire" and "Norfolk," will be marked as above.

**1224.—Gyro Compass Equipments.***H.M. Ships "Birmingham" and "Lowestoft."*

(N.S. 3760/29.—17.5.1929.)

It has been approved for the gyro compass equipments in the above-named vessels to be withdrawn on the ships passing into dockyard control.

2. Arrangements should therefore be made for the equipments to be removed and forwarded to Slough at an early date after the vessels pass into dockyard control, a formal estimate of the cost involved being forwarded for covering approval.

**1226.—Carbons for Searchlight Projectors in Contract-built Ships.***Dockyards, Principal (Ship) Overseers, and District Electrical Engineers.*

(N.S. 2272/29.—17.5.1929.)

Carbons for searchlights are not included in the list of items to be supplied by shipbuilders, and supply is an Admiralty liability.

2. Arrangements should be made, on receipt of the usual requisition (D.501) from Principal (Ship) Overseer, for a first supply from the storing yard on the basis of the present G. and T. establishment, viz.: 120 each positive and negative for each 36 in. projector, 50 each for each 18 in. projector, and 30 each for each 10 in. projector fitted.

3. Carbons in the authorised list only should be supplied for first issue.

4. The above instructions are to apply to all ships now building and to future new construction.

**1227.—Naval Stores containing Radium Compound.**

(N.S. 3307/29.—17.5.1929.)

The undermentioned Naval stores contain small quantities of radium compound enclosed in glass tubes, viz. :—

- Torpedo sights, Type B.
- Torpedo sights, Type C.
- Radiomir sights.
- Gyro bearing indicators, Mark III.

2. Action should be taken when any of the articles mentioned are in hand for repair or are condemned, to ensure that the radium compound is conserved.

**1229.—A.E.C. Lorries—Renewal of Double Steering Levers.**

(N.S.M.T. 111/28.—17.5.1929.)

It is necessary that the double steering levers fitted in A.E.C. lorries should be exchanged for re-heat treatment purposes, after each vehicle has completed 30,000 miles running subsequent to the date when the last new lever was fitted.

2. When this mileage has been completed, demands are to be forwarded to R.N. Motor Transport Depôt, Albany Street, London, for levers in replacement, and on receipt the old levers properly tallied are to be returned to the depôt.

**1233.—“Ceymal” Material for Upholstery Purposes.**

(N.S. 2823/29.—17.5.1929.)

As the result of favourable reports on the trials of “Ceymal” for upholstery purposes, it has been approved to adopt this material for Service purposes.

2. It is not intended that this material, or “Auteautite” or “Rhinos” should entirely replace the present Service upholstery hide, Pattern C.85a. The latter, where considered essential, should continue to be demanded on all periodical demands; the alternative materials for upholstery purposes, viz., “Auteautite,” “Rhinos” and “Ceymal,” being grouped and demanded separately, with their respective bindings, buttons and studs. The question as to which particular substitute shall be purchased at any time will be decided at the Admiralty. Upholstery reviver should not be used on these materials.

**1237.—Form S.255—Gunnery and Torpedo Quarter Bill—  
Revised Procedure for Issue.**

(G. 2566/29.—17.5.1929.)

In future, Form S.255, The Gunnery and Torpedo Quarter Bill, will be issued to ships, direct from the Admiralty and not by the Captain, H.M.S. “Excellent.”

2. The footnote on page 1 of Form S.255 is to be *amended to read*:—

“Any remarks, with a view to improving the efficiency of the stationing shown herein, should be forwarded to the Admiralty after sufficient experience has been gained from the date of commissioning.”

3. Instructions for the disposal of this form on paying off are embodied in the King’s Regulations and Admiralty Instructions.

### 1245.—Overtime Worked by Subordinate Technical Officers on Repayment Services at Yards Abroad—Gratuities.

(C.E. 2009/29.—17.5.1929.)

Where exceptional circumstances arise at yards abroad in connection with work on repayment services, *e.g.*, those in which the owners or underwriters of foreign or private vessels press for work to be carried out urgently in order to save demurrage, dock dues, etc., in respect of which technical subordinate officers are required to work abnormal hours, and the Superintendent decides that the circumstances warrant the work being carried on in overtime hours, gratuities may be paid to these officers, without prior reference to the Admiralty, for the special services rendered, provided that the owners' representatives agree to pay for any extra expenditure that may be incurred.

2. The gratuities should be calculated on an hourly rate to be arrived at by dividing the annual salary (inclusive of bonus) of the officers concerned first by 52, and then by 47. This rate will apply to all overtime worked during weekdays, and may be increased by 50 per cent. for all time worked on Sundays.

3. The gratuities should not be paid until payment has been obtained from the party for whom the service was undertaken, and a return of the amounts collected and disbursed should be rendered quarterly.

### 1247.—Anchors and Chain Cable ex Destroyers on Sale List.

(N.S. 5008/29.—17.5.1929.)

When destroyers are being prepared for sale, the following stores, if on board, are to be landed and taken into store for utilisation, viz. :—

Anchors, stockless, 18 cwt., of *Byer's plan*.

Chain cable, 1½ in.

Shackles, joining, 1½ in.

Shackles, for securing to buoys, 1½ in.

Swivels, mooring, 1½ in.

2. Any anchors and chain cable gear landed, other than the above, should be placed direct on sale charge.

3. In regard to any of the items detailed above which are required to be left on board for safe navigation of ship to breaking-up yards, a clause is to be inserted in the sale particulars of the vessels concerned, to the effect that these particular stores will remain Admiralty property and are to be returned to the dockyard by the purchasers. In such cases exact details of the gear to be excluded from the sale and returned by the purchaser are to be indicated when the sale particulars for the vessels concerned are rendered.

### 1255.—Torpedo Specialist Course—Revised Syllabus.

(C.W. 3683/29.—24.5.1929.)

The following is the revised syllabus of the theoretical portion of the Long (T) Course held at the R.N. College, Greenwich :—

#### DURATION OF COURSE—ONE TERM.

The subjects of study, the number of periods per week devoted to each subject, and the marks at the Final Examination are as follows :—

Subject.	Periods per week.	Marks.
Mathematics ... ..	2	100
Applied Mechanics ... ..	6	250
Physics ... ..	2	} 550
Applied Electricity ... ..	11	
Physics Laboratory ... ..	2	
Electro-Chemistry, Explosives and Metallurgy ...	2	100
Total for Greenwich Course ... ..	...	1,000

## PHYSICS AND APPLIED ELECTRICITY.

## I.—PHYSICS.

Lectures—2 periods per week.

*Kinetic Theory of Gases.*—Short discussion with statement of the chief facts and numerical values.

*Discharge of Electricity through Gases.*—Principal phenomena ; production and properties of electrons ; ions and ionisation by collision ; theory of discharge at high and low pressures.

*Electron Theories.*—Size, mass and charge of electron ; magnetic and electric fields due to the electron ; electron theory of conduction of heat and electricity ; structure of the atom.

*Emission of Electrons by Hot Bodies.*—Experiments of Richardson and Langmuir, laws governing the emission.

*X-Rays.*—Their production, properties and nature ; modern X-ray tubes ; applications of X-rays.

*Thermionic Valves.*—Construction and application.

*Wave Motion.*—General properties of transverse and longitudinal waves ; stationary waves ; beats ; energy carried by waves.

*Sound Waves.*—Production and nature ; their speed and its measurement in various media ; musical notes and their production.

*Vibrations of Square and Circular Plates under various Conditions.*—Telephone diaphragms.

*Illumination.*

Laws, definitions and units.

*Dependence of the Sensitivity of the Retina on Frequency.*—Luminosity curves.

Spectrum of a source and distribution of energy in the spectrum.

*Photometry.*—Description of various types of photometers ; standard sources ; illumination photometers.

Various theorems in illumination and their application to the determination of the illumination at a point by a given arrangement of lamps.

Polar curves of intensity.

Sources of light and their properties.

*Reflection of Light at Plane and Curved Surface.*—Effects of reflectors ; searchlight mirrors.

General theory of searchlight beams.

*Absorption of Light in various Media.*—Effect of atmospheric absorption on range of searchlights.

## II.—APPLIED ELECTRICITY.

Lectures—11 periods per week.

*Direct Currents.*

Brief revision of the laws of magnetism, electromagnetism and electrolysis, and of units.

*Magnetic Flux and its Measurement.*—Magnetic properties of iron and methods of testing ; permeability and hysteresis.

*The Magnetic Circuit.*—Magnetomotive force, reluctance and the equation for the circuit.

*Electromagnets.*—Their construction ; estimation of mechanical forces exerted ; application to various purposes, including fire control instruments.

*D.C. Generators.*—Mechanical construction of modern machines ; inspection of drawings ; field system calculations and the magnetisation curve ; armature system—ring armature ; drum armature, lap-windings and wave-windings. Methods of excitation ; separate, series, shunt and compound excitation ; characteristics ; torque on armature ; power losses and efficiency. Voltage regulation ; generators in parallel.

*D.C. Motors.*—Principle of action ; torque ; back E.M.F. ; characteristics of series, shunt and compound motors ; speed control and reversal ; field regulators, controllers and starters. Use of different types.

*Commutation in D.C. Machines.*—Reversal of current and origin of tendency to spark ; armature reaction and its effect on sparking ; various methods in use of preventing sparking.

*D.C. Transmission.*—Two and three-wire systems ; ring main.

#### *Alternating Currents.*

*Elementary Theory.*—Simple harmonic motion ; alternating and rotating vectors ; sine waves ; amplitude, frequency, arithmetic mean, R.M.S. value and form factor ; addition and multiplication of alternating quantities.

Production of alternating currents by simple generator ; wave forms.

Measurement of alternating D.P. and current ; types of voltmeters and ammeters.

*A.C. Circuits.*—Meanings of inductance and capacity ; definitions and units. Steady conditions in a circuit containing (a) resistance ; (b) inductance ; (c) capacity ; (d) resistance, inductance and capacity in series. Resonance definitions of impedance and reactance ; impedances in series and parallel.

*Power in an A.C. Circuit.*—Methods of measurement ; wattmeters.

*A.C. Generators.*—Outline of construction of single, two and three-phase machines ; characteristics and regulation ; method of connecting up ; relations between line and phase D.P.s and currents.

*Transformers.*—Elementary theory ; principles of design and construction ; use on single, two and three-phase circuits.

Measurement of power in three-phase circuits.

*A.C. Motors.*—Principles of action of synchronous and induction motors ; their characteristics and uses.

*A.C. Transmission Systems.*—Single, two and three-phase systems ; use of high voltage ; efficiency.

*Electric Propulsion of Ships.*—D.C. and A.C. systems.

#### *Wireless Telegraphy.*

General properties of high frequency currents. Spark and arc methods of generation ; transmitting circuits ; reception of waves ; crystal detector, its theory and application ; valve detector, its theory and application ; receiving circuits. Heterodyne reception. Amplifiers.

### III.—LABORATORY WORK.

2 periods per week.

Experiments on sound, photometry, electrical measurements and testing, D.C. generators and motors, A.C. generators and motors, thermionic valves.

#### APPLIED MECHANICS.

6 periods per week.

*Brief Revision.*—Mass, momentum, force, work, energy and power.

*Rotation.*—Certain types of gearing, torque, centripetal force, balancing, strength of gyro-wheels, whirling, angular acceleration, starting of gyro-wheels.

*Gyro Actions.*—Precession, action of torpedo-gyro.

*Harmonic Motions.*—Phase diagram, natural and forced vibrations of stable systems, resonance.

*Hydrodynamics.*—Stability and rolling of torpedoes, and of surface and submerged vessels. Bernoulli's theorem and a variety of illustrative applications.

*Forces on Submerged Bodies.*—Lift and drag components. Resistances in viscous and in turbulent motion, Reynold's number as a basis of comparison, forces on torpedo bodies, rudders and propellers; and on paravanes and ropes. Profile of paravane rope.

#### ELECTRO-CHEMISTRY, EXPLOSIVES, METALLURGY.

2 periods per week.

##### *Electro-Chemistry.*

*Theory.*—Laws of electrolysis. Applications to the measurement of current.

Electro-chemical actions giving rise to production of current.

Polarisation—causes and methods of reducing.

Primary cells—Daniell, Menotti-Daniell, Leclanche and dry cells.

Secondary cells. The construction and theory of the lead and nickel accumulator—care and treatment.

*Practical.*—This will be arranged to amplify the lectures and will include:—

The verification of Faraday's Laws. Conductivity of solutions including battery acids.

Measurement of single electrode potentials and e.m.f.

Detection of impurities in battery acid.

##### *Explosives.*

Potential energy of explosives. Density of loading.

Effect of time factor—rapid combustion—explosion—detonation. Effect of method of initiation.

*Explosive Compounds.*—Guncottons. N.G. explosives. Trotyl (T.N.T.). Tetryl. (C.E.).

*Initiators.*—Mercury fulminate, lead azide.

*Explosive Mixtures.*—Amatols; chlorate and per-chlorate explosives.

*Transmission of Explosions.*—Explosion by influence.

##### *Metallurgy.*

Distinctive characters of cast and wrought iron. Mild, medium and alloy steels.

Typical treatments for softening, hardening and toughening steels. Outline of the uses and treatments of alloy steels.

The composition, working, and heat treatments for ferrous and non-ferrous materials used in torpedo construction for wheel gearing, shafting, air vessels, fuel and water bottles, valves, fuel and water leads, springs, engine bodies and bearings.

Detection of defective material, and specifications for torpedo materials.

#### MATHEMATICS.

2 periods per week.

Revision of sub-lieutenants' course: and as much of the following as time permits.

Solid angles; illumination.

Tangent property of parabola; effect of light out of focus.

$\frac{dy}{dx} = -Ky$ ; absorption of light; starting and terminating values of a current.

Calculating machines; slide rules, differentials, cams, etc.

Errors of the torpedo.

Wave motion.

Probability: problems analogous to the double; resultant of two errors.



**1256.—Gunnery Specialist Course—Revised Syllabus.**

(C.W. 3683/29.—24.5.1929.)

The following is the revised syllabus of the theoretical portion of the Long (G) Course held at the R.N. College, Greenwich :—

**DURATION OF COURSE.—ONE TERM.**

The subjects of study, the number of periods per week devoted to each subject, and the marks at the final examination are as follows :—

Subject.	Periods per Week.	Marks.
Mathematics ... ..	10	350
Applied Mechanics ... ..	9	350
Physics ... ..	2	100
Chemistry ... ..	2	100
Marine Engineering ... ..	2	100
Total for Greenwich Course ... ..	...	1,000

**MATHEMATICS.**

10 periods per week.

Revision of sub-lieutenants' course.

Rangefinder ; formula, errors, design of scale, use as inclinometer.

Inclinometer ; formula, conditions of use as rangefinder, errors due to errors in base length, range and backlash ; also errors due to roll and pitch of target, and to pitch of observing ship.

Rates of change of range and bearing.

Change of range and deflection due to enemy's speed, own speed and wind. P.I.L. correction. Rakes.

Slide rules ; types of equations a slide rule will solve ; constructing slide rules to solve certain gunnery formulæ ; circular slide rules, differentials and dial scales nomograms, briefly.

Toothed cams ; conversions possible with toothed cams ; constructing a pair of toothed cams to produce a given conversion.

Scrolls ; equations a scroll will solve, advantages of scrolls, constructing a scroll.

Calculating machines set by hand on a diagram, such as the H.A. deflection calculators ; types of equation for which this is necessary.

Spherical trigonometry. Drift direction by canting of sight. Cross levelling.

High angle. Hill predictor, assumption made and conditions under which this is sufficiently accurate ; constructing a Hill.

Accurate formulæ for vertical, lateral and azimuthal deflections ; the shadow calculator, the results of this and how they differ from the true value.

Probability ; Gauss' law and table ; mean error, root mean square error, 50 per cent. zone. Independent events. Resultant of independent errors, and its bearing on the design of instruments.

Errors in deflection and range due to roll. Errors as between turrets due to tilt, combination of tilt and displacement and its correction.

**APPLIED MECHANICS AND BALLISTICS.**

9 periods per week.

*Brief Revision.*—Mass, momentum, force, work, energy and power.

*Exterior Ballistics.*—Retardation of projectiles, ballistic coefficient, use of the retardation tables.

Explanation of "Short Arc" methods of obtaining trajectories for direct and high-angle fire. Use of "Parabolic Velocity" (Vitesse fictif) tables for angles of elevation greater than 15°. Siacci method, and use of ballistic tables for smaller angles of elevation. Effects of changes of muzzle velocity elevation and ballistic coefficient.

*Interior Ballistics.*—Burning of cordite and rate of rise of pressure in closed vessels and in guns. Variation of pressure along the bore of the gun. Calculation of muzzle velocity.

*Strength of Materials.*—Laboratory demonstrations of tests for tensile strength, hardness, fatigue and brittleness. How to recognise causes of fractures of different types. Distribution of stress in torsion and in bending. Factors of safety. Comparison of different metals, and of welds and joints.

*Principles of Similarity.*—Comparison of large and small guns, projectiles and mountings as regards strength, stiffness and speed of operation.

*Rotation about a Fixed Axis.*—Angular acceleration, balancing, centrifugal stress, whirling at high speeds.

*Gyro Actions.*—Precession, Gyro-pendulum and other practical applications. Brief consideration of steadiness of flight, and drift of rifled projectiles.

*Gun Construction.*—Elastic strength of thick tubes. Distribution of stresses. Comparison of stresses for different methods of construction.

## PHYSICS DEPARTMENT.

### OPTICS.

Lectures—2 periods per week.

*Revision.*—Brief revision of work done in sub-lieutenants' course.

*Refraction at a Spherical Surface.*—Formation of image by paraxial rays; power focal lengths; graphic construction of image.

*Thin Lenses in Air.*—Definitions; image formation; magnification; graphic construction; thin lenses in combination.

*Prisms used in Optical Instruments.*—Inverting prism; porro systems. Pentagonal prism.

*Monocular Instruments.*—Magnifying glass; simple astronomical and Galilean telescopes; terrestrial telescope; construction of object glasses and eye pieces; variable power telescopes; periscopes; coincidence rangefinders; optical system of gyro firing gear; inclinometers; dial sight; high angle control system; Aldis ring telescope; Aldis unit power telescope.

*The Eye and Monocular Vision.*—Construction and properties of the eye image formation on the retina; refractive errors and their correction.

### CHEMISTRY.

2 periods per week.

#### EXPLOSIVES.

1 period weekly.

*Potential Energy Factor.*—Measurement of the gaseous products and heat developed. Temperatures of explosions. Density of loading; time factor in determining force.

*Requirements of Explosives.*—For demolition (high explosives), mining, propellants and initiation.

*Classification* on (a) Service uses, (b) composition.

*Explosive Compounds.*—Nitric ethers—nitroglycerine, nitrocellulose nitro substitution compounds—picric acid, trinitrotoluene, tetryl. Salts—fulminates, azides.

*Explosive Mixtures.*—Gunpowder. Amatols.

*Propellants.*—Gunpowder. The alterations (physical and of composition) to adapt it to increasing size of guns. Smoke and bore deposit. Smokeless powders. Development and types. Requisite characters. Comparison of the nitrocellulose and nitroglycerine/nitrocellulose types. Influence of the nitro-glycerine/nitrocellulose ratio on erosion and flash. "Solventless" powder.

*Stability.* Changes on storage and action of stabilisers.

METALLURGY.

1 period weekly.

*Steel.*—Outline of the production by open hearth process.

*Classes of Steel.*—Plain carbon. Nickel and nickel-chromium-molybdenum.

*Steel Ingots and their Defects.*—Segregation ; piping ; blowholes ; contraction cavities ; cracks.

*Gun Tubes.*—Forging and annealing. Heat treatment—oil quenching tempering. Mechanical properties at the various stages of production.

*Gun Wire.*—Drawing, annealing and treatment. Alteration during life of guns.

*Armour Plate.*—Forging and rolling. Annealing, carburising, toughening by oil quenching and tempering. Face hardening. Mechanical properties at the various stages of production.

*Failures.*—Due to composition and faulty material. The interpretation of cracks and fractured surfaces.

MARINE ENGINEERING DEPARTMENT.

MACHINE CONSTRUCTION AND DRAWING.

2 periods per week.

Drawings of simple machine parts.

Design of cams.

Study of construction and working of important machines, *e.g.*, swashplate engines, etc.

Reading and working drawings of ordnance details.

Effects of working tolerances on accuracy of laying and training.

1257.—Anti-Submarine Specialist Course—Revised Syllabus.

(C.W. 3683/29.—24.5.1929.)

The following is the revised syllabus of the theoretical portion of the Anti-Submarine Specialist Course, held at the R.N. College, Greenwich :—

DURATION OF COURSE—ONE TERM.

The subjects of study, the number of periods per week devoted to each subject, and the marks at the Final Examination are as follows :—

Subject.	Periods per week.	Marks.
Mathematics ... ..	3	200
Applied mechanics ... ..	4	200
Sound ... ..	6	} 600
Applied electricity ... ..	9	
Laboratory work ... ..	3	
Total for Greenwich Course ... ..	...	1,000

MATHEMATICS.

3 periods per week.

Revision of the sub-lieutenants' course with special reference to applications of the calculus.

Hyperbolic functions ; the common catenary.

The hyperbola ; sound ranging.

Step by step integration ; application to the depth-charge pistol.

Wave-motion ; combination simple harmonic motions of the same, and of different, periods ; the equation of wave-motion.

A short statement and discussion of Fourier's theorem and (if time permit) the determination of the coefficients, and the harmonic analysis of wave-forms.

## APPLIED MECHANICS.

4 periods per week.

*Brief Revision.*—Mass, momentum, force, work, energy and power.

*Rotation.*—Centripetal force, balancing, angular acceleration, precession, brief reference to action of gyro-compass.

*Vibration.*—Phase diagram for harmonic motions. Natural vibrations of different types, controlled by buoyancy or gravity, as in pendulum and ship; by elastic forces, as in instruments, structures and ropes; or by stabilising devices, as in torpedoes and paravanes. Forced vibration, resonance. Vibration in damped systems.

*Hydrodynamics.*—Stability and rolling of surface vessels and submarines. Bernoulli's theorem and a variety of illustrative applications.

*Forces on Submerged Bodies.*—Lift and drag components. Eddying. Reynold's number as basis of comparison. Forces on submarines, domes, depth-charges, paravanes. Profile of paravane rope.

## SOUND.

Lectures—6 periods per week.

*Propagation of Sound.*—Longitudinal waves; expression for velocity of sound in air and other media; effects of pressure, temperature, intensity and frequency; methods of determining the velocity of sound in air and other media; propagation in water; effects of temperature, salinity, aeration, screening, etc.

*Musical Notes.*—Their production; Savart's toothed wheel; Seebeck syren; tuning fork; reed; singing flame; organ pipe; limits of audibility.

*Resonance.*—Experiments with tuning forks and air columns; theory of organ pipes; harmonics.

*Vibrations of Plates.*—Chladni's figures; telephone diaphragm; Fessendon vibrator; special attention to disc clamped at edges, and effect of water in contact with it.

*Vibrations of Strings.*—General laws; harmonious beats; theory; experiments with forks and pipes.

*Refraction of Sound.*—Effects of temperature.

*Dissipation of Sound.*—Effects of scattering and diffraction; beams.

*Binaural Effects.*—Rayleigh's theory; direction finding.

*Piezo-electric Effects.*—Theory and application.

## APPLIED ELECTRICITY.

Lectures—9 periods per week.

*Direct Currents (D.C.).*

*Units.*—Practical units of current, E.M.F. and resistance.

*Ohm's Law.*—Its applications; specific resistance; temperature co-efficient; resistance in series and parallel; measurement of resistance.

*Electrical Energy and Power.*—Joule's law.

*Capacity.*—Condensers in series and parallel.

*Cells.*—Primary and secondary.

*Magnetism.*—Fundamental laws and definitions; magnetic moment; field strength; earth's field; oscillations of magnets in fields; magnetic induction; flux; B-H curves for iron.

*Electro-magnetism.*—Induction of E.M.F. laws force on conductor in field.

*Magnetic Circuit.*—Magneto-motive force; reluctance; calculation of flux.

*Inductance.*—Self and mutual; simple calculations.

*Instruments.*—Galvanometers; fluxmeters; ammeters; voltmeters; wattmeters; Wheatstone's bridge; bridge-megger aperiodic galvanometer.

*Telephones and Microphones.*—Construction and application.

*Thermo-electricity.*—Elementary effects and laws.

*Selenium Cells.*—Description and application.

*Dynamos and Motors.*—Principle and construction. (Very brief.) Description of 4,000 volt D.C. generator.

#### *Alternating Currents (A.C.).*

*Simple Harmonic Function.*—Waves: vectors, sine wave assumption; R.M.S. values; power; wattmeters.

*A.C. Circuits.*—Non-inductive circuit; resistance and inductance; resistance and capacity; resistance, capacity and inductance; definitions of reactance and impedance; resonance; impedances in series and parallel.

*Alternators.*—Principles of construction of single, two and three phase machines.

*Transformers.*—Principles and construction.

*Motors.*—Synchronous and induction. (Very brief.) Distribution.

#### *High Frequency Currents and W/T.*

*Oscillatory Discharge from Condensers.*—General conditions;  $T = 2\pi \sqrt{LC}$ ; mechanical analogy; damping; R.M.S. value of current.

*Special Properties of High Frequency Currents (very brief).*—Power losses; H.F. resistance.

*Valves.*—Outline of electron theory; principles and construction of two and three electrode valves; characteristics; theory of hard two electrode valve; space charge;  $3/2$  power law; influence of atmosphere; application to three electrode valves; effect of temperature distribution and fall of potential along filament. Brief description of Cathode Ray Oscillograph.

*Use of Valve as Amplifier or Note Magnifier.*—Non-inductive resistance; tuned circuit and transformer; couplings, properties of the various types; reaction effects.

*Use of Valve as Oscillator.*—Underlying principles and application to various types of circuits; practical considerations.

*Use of Valve as Detector.*—Principles of action; requirements for sensibility; production of harmonics; dependence on laws of rectification.

Use of valves for high power rectification.

*Receiving Circuits.*—Requirements for selectivity; shock effects.

#### LABORATORY WORK.

3 periods per week.

Use of instruments, methods of measurement and valve characteristics.

### 1264.—Breach Mechanisms—Boxes, Slide K—Modification.

(A. S. 1769/29.—24.5.1929.)

Boxes, slide K, modified to instructional print N.O.D. 2119/6, are to have the vent sealing tube retaining catch and extractor lever further modified in accordance with instructional print N.O.D. 2119/11 to facilitate working.

2. The necessary work should be carried out to the boxes, slide, on board H.M. ships and in store by Naval Armament Depot Staff at first opportunity at depôts where facilities permit. Copies of print are being forwarded in the usual manner.

(A.F.O. 103/26.)

### 1265.—Star Shell Deflection Calculators.

*H.M. Ships "Kent," "Cumberland," "Cornwall," "Berwick," "Suffolk,"  
H.M.A.S. "Australia" and "Canberra," and H.M. Ships "London,"  
"Devonshire," "Sussex" and "Shropshire."*

(G. 2851/29.—24.5.1929.)

In erecting the star shell deflection calculator in the fore control positions of the above-mentioned ships, the runs of flexible shafting from the calculator to the star shell Evershed transmitter and the gyro bearing dial gear box must be arranged as follows, to maintain the correct direction of rotation.

2. The shaft from the star shell Evershed transmitter must enter the deflection calculator on the forward side, *i.e.* the side nearest the transmitter.

3. The two shafts from the gyro bearing dial gear box must enter the star shell deflection calculator on the after side, *i.e.* the side remote from the gyro bearing dial.

4. Care should be taken to see that the radius of the bends in the two shafts are kept sufficiently large to ensure free running of the flexible shafts.

### 1266.—Issued Confidentially.

### 1267.—Gun Mountings, 4 in. H.A. III and IV—Modifications to Depression Safety Firing Gear.

(G. 1285/29.—24.5.1929.)

It has been found that the depression safety firing gear fitted to a 4-in. H.A., Marks III and IV Mountings, functions better with the spring for the catch removed, and a sleeve piece limiting the travel of the catch substituted.

If the catch remains out when in a safe firing position, the toe on the firing shaft will push it in. The gear should be modified as shown on the sketch E.F.O. 47/29 (1).

2. A safety switch will be issued shortly, and it will be found that lag in operation exists between the percussion firing gear and the electric firing gear "breaks."

3. The setting of the depression safety firing gear in erection or tests can only be carried out with any degree of reliability when the percussion firing gear "break" is used as the gauge of performance, the operation of the electric firing gear "break" being too quick in operation to give reliable readings.

4. When depressing the gun into a dangerous zone, the percussion firing gear as at present arranged is cut out first, the "break" of the electric switch being 2 to 2½° of depression later.

5. Elevating the gun out of a danger zone, both the percussion gear and the switch "come on" at the same time.

6. The lag in depression is not acceptable, and the surface of the operating rod which actuates the catch of the percussion gear should be cut back, as shown on sketch E.F.O. 47/29 (2), to allow the electric and percussion gears to cut off at the same time on depressing the gun into a danger zone.

7. When elevating the gun out of a danger zone, the percussion gear will then be released first, the "make" of the switch occurring 2½° later.

8. This lag in elevating is allowable, and when this modification is made, adjustments of the cams or rods will be necessary to compensate for the cutting back of the surface of the operating rod. The amount of metal to be removed will possibly vary in different mountings and with different switches, and should be determined by experiment, as indicated on sketch E.F.O. 47/29 (2).

9. The modification referred to in paragraph 1 should be carried out where possible by ships' staffs.

10. *Dockyards*.—The fitting of the safety switches, modifying and adjusting the gear referred to in paragraph 2 should be carried out by dockyards as part of the work involved in fitting H.A.C.S. gear, referred to in C.A.F.O. 1580/27 and Admiralty Letter G. 6319/27, dated 26th July, 1927.

(C.A.F.O. 1580/27.)

### 1268.—Gun Mountings, 16 in., 15 in., and 13·5 in.—Recording Pressure Gauges.

*"Nelson," "Royal Sovereign," "Queen Elizabeth" and "Renown" Classes, "Tiger," and Portsmouth Yard.*

(G. 2431/29.—24.5.1929.)

As a result of trials carried out in *"Revenge"* and *"Rodney,"* arrangements have been made to supply two recording pressure gauges together with 400 charts per gauge to each of the ships referred to above.

2. These gauges, which give a permanent record of the variation of pressure, are to be used periodically to enable the performance of the hydraulic engines and turret machinery to be checked under actual firing conditions and during pump capacity tests.

3. In order to get a clear record of variation of pressure, the dial is arranged to revolve once in ten minutes and is fitted with a stopping and starting device. When carrying out tests, one gauge is to be fitted in the pump room and the other on ring main in turret.

4. The record charts obtained during pump capacity tests are to be inserted in the Gun Mounting Register (Form S.1151).

*"Tiger" only*.—Record charts showing performances and the Weir's pump and other pumps when working alone on one and two turrets are to be obtained and forwarded to the Admiralty.

*Portsmouth Yard*.—The gauges and charts delivered by Messrs. Budenberg in accordance with Admiralty Letters dated 22.11.28, C.P. 20272/28, and 4.12.28, C.P. 27544/28, are to be issued to ships stated, except that those for *"Valiant"* should be retained in store until completion of refit.

1272.—*Issued Confidentially.*

### 1274.—Change-over Switches for L.P. Circuits—REPORTS.

*"Nelson" and "Rodney," "Kent" and "London" Class Cruisers.*

(T. 1828/29.—24.5.1929.)

With reference to the change-over switches for low power circuits other than Patterns 7968–7971, fitted in the above-named vessels, a report has been received that there is not sufficient spring in the contacts to ensure a good contact of unvariable resistance being made when the switches are operated.

2. In view of the importance of obtaining satisfactory operation and performance of these switches, ships concerned should report through the Administrative Authority at an early date whether similar defects have been experienced, stating the position in which the switches are fitted and the name of the manufacturer.

### 1275.—Telephone Transmitters, Pattern 9260—Measures for Carbon Brushes, Pattern 9259.

(T. 1094/29.—24.5.1929.)

In order that telephone transmitters, Pattern 9260, when refilled with carbon granules, Pattern 9259, may be of standard resistance (nominally 40–50 ohms) a measure should be employed.

2. This measure should be a cylindrical cup  $\frac{1}{8}$  in. diameter and  $\frac{1}{2}$  in. deep with flat bottom. The cup should be slightly overfilled and lightly tapped. The surplus granules should then be wiped off level with the edge of the cup, using a straight edge.

3. A suitable cup should be made by all ships and establishments using two-wire telephones.

4. Attention is called to the necessity for keeping carbon granules perfectly dry.

### 1276.—Over-speed Device for Turbo-generator Sets.

*H.M. Ships.*

(D. 6623/29.—24.5.1929.)

In H.M. vessels fitted with an overspeed device for the turbo-generators, arranged to trip the supply breaker at the same time as the steam is cut off, the action of the electrical portion of the over-speed device is to short-circuit the "OFF" push contacts of the supply breaker or to energise the solenoid tripping coil in the case of the hand-operated breakers on leaders and destroyers, thereby disconnecting the generator from the electric ring main.

2. When, therefore, a vessel is connected to "shore" supply, deliberate or accidental operation of the pertinent over-speed device would result in the supply of current being cut off.

3. Steps should be taken to guard against such interruption when taking a supply of current from the above source by temporarily disconnecting the mechanism operating the trip switch or the leads from the switch to the breaker, when any work has to be done on the generating set affected.

4. Care should be taken to put the gear back into working order after completion of the work on the set, and to test for correct operation before passing the set as ready for service.

### 1278.—Locks to Storerooms, Offices, Workshops, etc.

*New Construction only.*

(S. 06859/28.—24.5.1929.)

The following list of storerooms, offices, workshops, etc., in H.M. ships, which in future are to be fitted with locks, is promulgated for general guidance in the fitting out of ships building and future construction.

(i) In the following compartments locks are to be fitted to the access door or hatch only :—

Gunners' ready use store.	Bulk clothing, soap and tobacco store.
Engineers' ready use store.	General mess store.
Electrical ready use store.	Canteen store.
Medical store.	Cloak rooms.
Workshops.	Serving room.
Aircraft store.	Soda fountain.
Paymasters' store.	Galley (ships' and officers').
Marines' store.	Cooks' kitchen.
Inflammable store.	Bakery.
Provision rooms.	Bread cooling room.
Flour stores.	Ready use flour store.
Engineers' spare gear store.	Vegetable store.
Paint room.	Potato locker.
Paint store (no lock is required if entered through paint room).	Beef screen.
	C.P.O.s' and P.O.s' pantries.

(ii) In the following compartments locks are to be fitted to the access door or hatch and, in addition, as follows :—

Officers' mess store rooms ...	...	All wine racks and 2 cupboards or bins.
Shipwrights' ready use store ...	...	One locked cupboard.
Boatswains' ready use store ...	...	Do.
Spirit room (special lock to be fitted to access door or hatch).	...	Wine racks or cupboards where fitted.
Chart and chronometer room ...	...	Chronometer box, chart cupboards or drawers.



Central stores	...	...	...	Bedding cupboards. W/T valve chests or cupboards. Cupboard for valuable articles. Small tool stowage. Searchlight reflectors and glass shade stowage.
Canteen	...	...	...	Cupboards and drawers. One writing desk only.
Electrical store	...	...	...	Two locked cupboards, bins or nests of drawers (if fitted).
Electric light store	...	...	...	Do. do.
Gunners' armament stores	...	...	...	Four locked cupboards, bins or nests of drawers (if fitted).
Aircraft armament store (where fitted).				Do. do.
Torpedo gunner's store	...	...	...	Do. do.
Issue room	...	...	...	Writing desks. Cupboard for medical comforts.
Offices, chart houses and plotting rooms.				All drawers, cupboards and desks and, in the mail office, the letter box.
Cabins	...	...	...	All drawers, cupboards, wardrobes, bed berths and key cases.
Lamp room	...	...	...	One cupboard.
Clothing issue room	...	...	...	Writing desk and badge cupboard.
Cool and cold stores	...	...	...	Cupboards for officers' mess stores.
Officers' kitchens and pantries	...	...	...	All drawers and cupboards.

2. The preceding arrangements apply where the store is used only by men to whose department the store belongs.

3. Nests of drawers are to be locked as far as possible by a bar and padlock. Drawers and cupboards that are not locked are to be fitted with suitable means for keeping them closed when the vessel is rolling or pitching.

4. These instructions are intended to secure greater uniformity in future in the provision of locked spaces, and they do not cancel any specific orders now in force as to the fitting of locks.

## 1280.—W/T—Types 37, 38, 44 and 83—Supply of Pattern 7324 Key, Magnetic—REPORT.

*Flotilla Leaders fitted with Types 38/S, 44 and 83, and Destroyers fitted with Types 37 and 83.*

(N.S. 16430/28.—24.5.1929.)

It has been approved to supply Pattern 7324 key, magnetic, as a listening-through switch in place of aerial earthing switches in Type 83, and auxiliary aerials in destroyers and Type 83 aerials in flotilla leaders. This key is also incorporated as a listening-through switch in Type 44 set.

2. Vessels concerned are to demand the following stores from their respective storing yards, quoting this Order as authority:—

Pattern No.	Description.	Number.		Remarks.
		Flotilla Leader.	Destroyer.	
7324	Key, magnetic, 2-way ... ..	2	2	In flotilla leader 1 key is flotilla spare. Flotilla spare.
7325	Moving system, spare ... ..	1	—	
7326	Contact copper, spare ... ..	1	1	
8046	Lamp, incandescent, carbon filament, 32 c.p., 110 volts.	1	1	

On receipt, the Pattern 7324 keys, magnetic, are to be fitted by ships' staffs, in accordance with instructions given in paragraph 3 of this Order. The displaced Pattern 7299 magnetic switches or Pattern 5237 rectifier switches are to be returned to the appropriate storing yards. All stocks of Pattern 7299 magnetic switch so returned and not required to complete reserves and replacements at the respective yards should be forwarded to Superintending Naval Store Officer, H.M. Dockyard, Portsmouth.

3. It will probably be convenient to mount the Pattern 7324 keys in the same positions in the main and Type 83 offices as the switches which they replace. The operating bobbins of the keys are to be wired in parallel with the bobbin of the Pattern 6291 operating switch in the main office, being looped from the terminals of the operating switch. Pattern 6195 cable is to be used. The existing 16 c.p. lamp in the operating circuit should be replaced by a Pattern 8046, 32 c.p. lamp. The lead from the aerial should be connected to the upper moving contact and the lead from transmitter 4H or 8H to the upper of the two corresponding fixed contacts. The lower of these two fixed contacts should be connected to earth. The lower moving and corresponding fixed contacts will not be used. The fitting of Pattern 7324 magnetic key is to be reported in the next subsequent W/T Report.

4. The quantities shown below are to be sent as soon as possible after receipt from contractors to the yards specified in order to meet this service.

Pattern.		Chatham.	Devonport.	Malta.	
7324	Keys, magnetic ...	20	20	40	} To be sent from Portsmouth. To be sent from Chatham.
7325	Moving system... ..	6	6	6	
7326	Contacts, copper ...	10	10	40	
8046	Lamp, incandescent ...	—	—	50	

5. The necessary amendments to the W/T Establishment and Fitting Out Specifications will be promulgated in due course.

## 1282.—Electric Table Fans—General Instructions in regard to Issue.

(N.S. 3002/29.—24.5.1929.)

The following general instructions in regard to the issue of electric table fans are promulgated, following the census of fans in H.M. ships undertaken in 1928.

2. Wherever possible each ship is to be equipped with only one type of electric table fan, *so far as stocks will permit*, but in any case the number of types carried should be kept as low as practicable. By this means, the number of spares to be carried will be reduced to a minimum. Certain modifications to these general arrangements, as detailed in succeeding paragraphs are necessary on the Mediterranean station.

3. There are at present in use many different types and patterns of fans, which for convenience may be divided into two categories—

- (a) Patterns 6040, 6041 and earlier types (i.e., those of a lower pattern number, and of unauthorised type).
- (b) Types later than Patterns 6040 and 6041 (i.e., of a higher pattern number).

So long as the older fans remain usable, it is necessary that they should continue in service, but in order to simplify matters in the meantime, the supply of later type fans will be restricted to certain stations.

4. The expenditure of table fans is greatest on the Mediterranean Station. Demands from Malta and Gibraltar will therefore be met by the supply of fans of category (a) in paragraph 3 above, while these types remain available. Demands from other foreign stations will, as far as possible, be met from patterns in category (b) of paragraph 3.

5. Ships proceeding to a foreign station are to be equipped with their full allowance of table fans before sailing, the type to be supplied being

decided according to the station. The provision proposed should be reported by the Superintending Naval Store Officer in the monthly fan return, or by daily letter in cases of urgency, so that the most satisfactory arrangements may be made, having regard to the stocks at all home yards.

6. Issues in replacement should, in general, be of a similar pattern to that with which a ship is equipped, but at Malta the earlier type fans should be given preference, even though this may involve a departure from the general principle of keeping the number of patterns fitted in a ship to a minimum.

7. Ships returning from foreign stations, and remaining in home waters for an appreciable time, are, *on their arrival*, to return to store all fans in excess of the approved home allowance.

In arranging the provision and purchase of table fans each year, full allowance is made for returns of this nature. To avoid shortages of stock, Superintending Naval Store Officers at home yards are therefore in future to call the early attention of the Admiral Superintendent to any case in which a ship has failed to comply with the above instruction.

8. When spare parts are required for the purpose of effecting repairs to table fans, Patterns 411, 412, and 1954 to 1957 of Messrs. Electric and Ordnance and Accessories Co.'s make, or to any *unauthorised* patterns, such parts are only to be supplied if available in stock or if they can be economically made in the dockyard; otherwise, the repairable fans are to be placed on sale charge and fans of authorised patterns drawn in lieu.

9. It is important that the repair of defective table fans should be undertaken promptly at all yards. The special arrangements for dealing with repairable stocks at Trincomali are detailed in paragraph 10. A report stating the present accumulation of repairable fans and the date by which they will be repaired should be forwarded to Admiralty (N.S.) whenever the repair of fans does not keep pace with the returns, so that arrangements may, if necessary, be made for the work to be undertaken at another dockyard, or by contract.

10. At Trincomali, repairable fans of later types than Pattern 6040 and 6041, are to be forwarded to Hong Kong for repair and retention, as already arranged, and those of Patterns 6040, 6041 and earlier type to England. Those retained at Hong Kong for stock should be indicated in the monthly fan report.

11. Storing yards at home should endeavour to anticipate requirements of table fans as far as possible, so as to avoid uneconomical transfer between yards by passenger train.

12. To obviate alterations to fan brackets in ships on drawing a new type of fan, which is frequently necessary owing to the many types in the service, arrangements have been made for future purchases to be fitted with a standard base, which will be uniform both in dimensions and general arrangement. The introduction of a complete standard Admiralty fan is not at present practicable.

13. The first deliveries of fans fitted with the new standard base are being made under C.P. 22/F.5192, dated 30.1.29, as follows:—

<i>Pattern.</i>	<i>Chatham.</i>	<i>Portsmouth.</i>	<i>Devonport.</i>
9821 ... ..	500	—	50
8641 ... ..	500	100	—

These fans should be taken on charge as Patterns 9821B and 8641B respectively, the suffix "B" indicating that the fans are equipped with the new standard base.

## 1287.—Form S. 1404—Inspection of Guns—Accuracy in Rendering.

(G. 12809/28.—24.5.1929.)

It is observed that inaccuracies frequently occur in the compilation of Forms S.1404—"Inspection of Guns"—especially in regard to the particulars of number of rounds fired with various sizes of cordite. Further, later returns, for the same gun frequently contain particulars which differ from those shown in previous returns. Attention is therefore called to the necessity for accuracy in the compilation of the Form.

### 1293.—Electrical Apparatus for H.M. Ships—Hastening Delivery of Gear to be Supplied by Admiralty.

(C.P. 1605/29.—24.5.1929.)

In order to overcome the difficulties which have been experienced in the past in hastening delivery of electrical machinery and apparatus for H.M. ships, the following procedure is to be adopted in future :—

2. Lists of outstanding electrical gear required for completion of ships are to be prepared and divided into two sections, viz. :—

(a) Electrical gear purchased under Vote 8/II ;

(b) Electrical gear purchased under Vote 8/III (excluding gear referred to in paragraph 6) ;

and these sections are to be compiled on separate lists.

3. With regard to (a), the District Electrical Engineer or Dockyard Superintending Electrical Engineer where the ship is being built is to forward the list (in duplicate) to the Director of Stores through the usual official channel. In the case of dockyard-built ships the list is to be passed through the local Superintending Naval Store Officer.

4. With regard to (b), the list (in duplicate) is to be forwarded to the Director of Electrical Engineering through the usual official channel.

5. In the case of contract-built ships the District Electrical Engineer is to supply the Ship Overseer with a copy of all lists which are forwarded to the Admiralty.

6. In the case of hastening combined electrical and mechanical plant and apparatus (or plant such as bakery ovens, hot cupboards, etc.) which is being manufactured under the joint inspection of the District Electrical Engineer and Warship Production Superintendent or Engineer Overseer, the relevant overseers or dockyard officers are to be associated in and should sign the D.51, enclosing the lists which should be forwarded to Admiralty through the usual channels. This procedure is not intended to interfere with existing Departmental hastening in relation to the progress of that section of the plant for which any Warship Production Superintendent, Engineer Overseer or District Electrical Engineer is solely responsible.

7. Before any lists are forwarded to the Admiralty, hastening action is to be taken between—

(i) Yard Officers (dockyard-built ships), District Electrical Engineer (contract-built ships)	} and {	Relevant Overseers shown on contract letter placing the order.
(ii) Admiralty Overseers concerned	... and	Firms supplying the gear,

in order that any subsequent action taken by the Admiralty may be the more effective.

8. No change is intended in the arrangements in force in regard to gyro compass gear and W/T apparatus under Vote 8/II.

### 1302.—*Issued Confidentially.*

### 1308.—Staff Colleges, Naval, Army and Air Force—Attachment of Students to other Services during Vacation—Financial Arrangements.

(C.W. 504/29.—31.5.1929.)

The following financial arrangements have been agreed upon by the Admiralty, War Office and Air Ministry with regard to the attachment to other Services during vacation of Imperial and Dominion officers attending the three staff colleges :—

#### *Imperial Naval, Army and Air Force Officers.*

Fees to be waived. No charge to be made for the issue of provisions, accommodation, etc. In the case of Army and Royal Air Force officers attached to His Majesty's ships, Naval victualling allowance in lieu of rations is to be paid as a charge to Navy Votes, but the officers are to be responsible for paying the mess subscription of 2s. a day.

In the case of officers attached to Army units the military authorities provide, if available, servant, furnished accommodation as for an unmarried officer, fuel, light, rations, horse, forage, and stabling, if required to be mounted. When issues in kind are not available, Naval officers will be paid the usual Naval allowances in lieu by the Admiralty.

*Dominion Officers.*

(a) Dominion officers from the Royal Naval Staff College, attached to the Army or Royal Air Force, will normally be treated as officers of the Royal Navy. When attached to the Army, the usual Naval allowances payable in lieu of issues in kind will be an Admiralty liability, and will be regarded as covered by the inclusive fee for the staff course.

No special flights are to be made by the Dominion officers during their attachment to the Royal Air Force under this arrangement.

Dominion officers from the Royal Air Force Staff College, attached to His Majesty's ships, will be credited with Naval victualling allowance in lieu of rations, as for Imperial officers, as a charge to Navy Votes, but the officers will be responsible for paying the mess subscription of 2s. a day.

(b) Dominion officers from the Army Staff College attached to His Majesty's ships. As the fees for Dominion students attending the Army Staff College do not cover personal expenses, such as rations, fuel, light, etc., victualling allowance for such officers will not be issued from Naval funds, but an equivalent amount in lieu thereof is to be paid to the mess by the officers themselves as well as mess subscription.

*Note.*—The arrangements for the reciprocal waiver of charges do not apply to travelling expenses.

(A.F.O. 2175/29.)

**1318.**—*Issued Confidentially.*

**1321.**—**Voicepipes—Modification to Mouthpieces for use with Gas Masks.**

(G. 1348/29.—31.5.1929.)

A special form of mouthpiece of the type indicated in E.F.O. 52/29 (2) has now been found to be suitable for use with either type of gas mask.

2. The fitting of these mouthpieces, however, depends to a certain extent on the direction of the final length of voicepipe and should be governed by the arrangement shown in E.F.O. 52/29 (1).

3. For vessels now under reconstruction and for new construction, mouthpieces of the modified shape should be fitted in agreement with paragraph 2.

4. Standard drawings of the fixed voicepipe mouthpieces of the modified design are shortly being issued to yards. Pattern numbers will be assigned as follows:—

Megaphone mouthpieces, brass, for fixed voicepipes—

Pattern 187. Small, shaped, with cover for 2 in. pipe.

Pattern 188. Small, shaped, with cover for 3 in. pipe.

Megaphone mouthpieces, aluminium, for fixed voicepipes—

Pattern 189. Small (with cover), 7 in. for 2 in. pipe.

Pattern 190. Small (with cover), 7 in. for 3 in. pipe.

Pattern 191. Small, shaped, 7 in. for 2 in. pipe.

Pattern 192. Small, shaped, 7 in. for 3 in. pipe.

5. A new design of officers' headpiece has been prepared, but will only be obtained for supply when existing stocks are exhausted.

6. The rubber mouthpieces in the existing officers' headpieces are to be cut to the shape as shown in E.F.O. 52/29 (2), and this particular item is to be carried out by ship's staff in all cases.

7. It is not considered necessary however to alter the existing voice-pipe mouthpieces for flexible voicepiping generally, but all future supplies will be of the new type.

8. With regard to the remaining work involved—

- (a) Ships in the Reserve Fleet should carry out the work by ship's staff as opportunity offers.
- (b) All other ships should include an item in the next list of Alterations and Additions for this work to be carried out, but in the case of ships other than those of the Mediterranean and Atlantic Fleet, the work should be advanced by the ship's staff to the greatest extent possible before their next refit.

(A.F.Os. 1472/29 and 1545/29.)

### 1322.—W/T—Type 37—Modification.

(S.D. 370/29.—31.5.1929.)

In order to enable the operator in the second bay of main W/T offices in destroyers, fitted as divisional leaders, to transmit without reaching across the other operator, it has been approved to fit a tumbler switch in the second bay, wired in parallel with the control switch on the board 2K controlling.

2. Ships concerned are to demand from their storing yards, one, Pattern 328, switch, non-watertight, and one, Pattern 4546, terminal block (single pair), quoting this Order as authority. On receipt, the Pattern 328 switch is to be mounted in the second bay in a position convenient to the operator, and wired in parallel with the control switch on the board 2K controlling. As it will not be possible to run extra leads into the board 2K controlling, the Pattern 4546 terminal board should be mounted in a suitable position adjacent to the board 2K controlling. The 100-volt supply lead to the terminal marked "+", and the lead from the Pattern 6921 switch operating to the terminal marked "W" on the board 2K controlling should be broken and connected one to each terminal on the terminal board. The Pattern 328 switch should be connected to both terminals on the terminal board using Pattern 6195 cable. The lead casings of all the cables coming to the terminal board should be effectively bonded together. The work is to be carried out by ships' staffs.

3. This alteration, when completed, is to be reported in the next subsequent W/T report. The necessary amendments to the W/T establishment and fitting out specifications will be promulgated in due course.

### 1323.—W/T—Fire Control Office—Extension of Main Buzzer Line.

*Leaders and Destroyers of First to Sixth Flotillas.*

(S.D. 370/29.—31.5.1929.)

In order to improve communication between the compass platform and Type 83 set in the fire control W/T office of flotilla leaders and destroyers, it has been decided to include the fire control office in the main buzzer line between the compass platform and main W/T office.

2. Ships concerned are to demand from their storing yards the following stores, quoting this Order as authority:—

<i>Patt. No.</i>	<i>Description.</i>	<i>No.</i>
1056 or 1056a.	Key, Morse ... ..	1
298.	Buzzer, repeater ... ..	1
328.	Switch, non-watertight ... ..	1

On receipt, they are to be fitted by ship's staff in the fire control W/T office, and wired up to the compass platform—main W/T office buzzer line.

3. The fitting of these instruments is to be reported in the next subsequent W/T report. The necessary amendments to the W/T establishment and fitting out specification will be promulgated in due course.

### 1324.—Issued Confidentially.

## 1327.—Moorings and Mooring Gear.

(N.S. 3726/29.—31.5.1929.)

The following summary of existing Orders relating to moorings and mooring gear is circulated for general information.

2. *Moorings in Home Waters—Responsibility.*—In order to ensure that the laying and raising of all moorings are promptly reported in detail to the Departments of the Admiralty concerned, it has been approved to define clearly the area for which each dockyard or port is responsible, and all plans, history sheets, etc., of Admiralty moorings laid or raised (no matter by whom) within the area should be prepared and dealt with through the officers shown below :—

*Nore Command.*—Commander of Dockyard, Sheerness.

*Portsmouth Command.*—Captain of Dockyard, Portsmouth (except moorings at Portland which should be dealt with by the Commander of Dockyard, Portland).

*Plymouth Command.*—Captain of Dockyard, Devonport.

*East Coast Ports.*—Commander of Dockyard, Sheerness.

*West Coast Ports.*—Captain of Dockyard, Devonport.

3. *Buoys and Moorings—Classification.*—Moorings have been classified as tabulated below on the basis of the size of ships' cables.

Class of Mooring. (1)	Mooring Pendants.			Suitable for Ship's Cable.		Margin of Safety, Col. (4) over Col. (6). (7)	Old Displacement Basis. (8)
	Dia. when New. (2)	Dia. when worn to Min. Size Allowable. (3)	Proof Test for Worn Size. (4)	Dia. (5)	Proof Test. (6)		
1 (1922) ...	4 in.	3½ in.	189·8 tons.	3½ in.	161·6 tons.	17·5 per cent.	40,000 tons.
1 (1916) ...	4	3½	183·2	3	145·8	25·7	32,000
1 (1916) Light	4	3½	176·4	2½	141·7	24·5	32,000
2 ...	3½	3⅞	149·8	2⅞	116·7	28	16,000
3 ...	2½	2⅞	106·9	2½	81½	31·5	6,000
4 ...	2¼	2	72	1½*	55½	30·5	2,000
5 ...	1½	1⅞	37½	1½†	28½	32	600
6 ...	For use of small craft and lighters.						

\* Or two vessels with 1½ in. cable, margin 28 per cent.

† Or two vessels with ⅞ in. cable, margin 35 per cent.

The design of these moorings, with instructions for guidance in provision and maintenance have been issued to the dockyards, etc., and future demands for moorings should be based on these designs as far as local circumstances permit.

4. *1st Class Moorings—Designation.*—Moorings designated 1st Class are to be referred to in future under one of the following headings :—

- (i) *1st Class (1922).*—Denotes that the mooring is accepted for vessels carrying chain cable up to and including 3½ in. For typical example, see book of "Designs of Moorings," 1927 edition.
- (ii) *1st Class (1916).*—Denotes that the mooring is accepted for vessels carrying chain cable up to and including 3 in. For typical example, see book of "Designs of Moorings," 1927 edition.
- (iii) *1st Class (Light).*—Denotes that the mooring is accepted for vessels carrying chain cable up to and including 2½ in. This type is obsolescent.

5. A ship whose size of cable entails her going to a 1st Class mooring must secure to the ring of the 1st Class buoy and not to the reducing links thereon ; similarly a ship whose size of cable entails her going to a 2nd Class mooring must secure to the ring of the 2nd Class buoy, but she may secure to the reducing links of a 1st Class mooring.

The various classes of moorings are tabulated on certain charts.

6. *Chain Cable carried in H.M. Ships—Sizes.*—In connection with the new basis of classification of moorings the following list shows the sizes of chain cable carried in H.M. ships :—

<i>Chain Cable.</i>	<i>Class of Mooring.</i>	<i>Chain Cable.</i>	<i>Class of Mooring.</i>
3 <sup>3</sup> / <sub>8</sub> in. "Hood "	—	2 <sup>1</sup> / <sub>8</sub> in. "Petroleum "	} 3rd Class
3 <sup>1</sup> / <sub>2</sub> in. "Eagle "		2 <sup>1</sup> / <sub>16</sub> in. "Lucia "	
"Furious "		2 in. "C " class cruisers	
"Rodney "		"Burma "	
"Nelson "		"Titania "	
"Courageous "		"Mixol "	
"Glorious "		"Thermol "	
3 <sup>1</sup> / <sub>8</sub> in. "Renown "		1 <sup>7</sup> / <sub>8</sub> in. "Enchantress "	
"Repulse "		1 <sup>3</sup> / <sub>4</sub> in. "Trefoil "	
3 in. "Queen Elizabeth "		"Turmoil "	
"Tiger "	"Bacchus "		
"Argus "	"Triad "		
"Medway "	1 <sup>1</sup> / <sub>2</sub> in. "Attendant "		
"Royal Sovereign "	"Carol "		
"Iron Duke " class	"Endeavour "		
"Centurion "	"Birchol " class oilers		
"Resource "	1 <sup>7</sup> / <sub>16</sub> in. "Codrington "		
"Hermes "	1 <sup>3</sup> / <sub>8</sub> in. "Scot " class		
"Sandhurst "	"Shakespeare " class		
"Assistance "	"Kempenfelt " class		
"Cyclops "	Submarine "X.1 "	} 5th Class	
"Kent " class	"Herald "		
"London " class	"Iroquois "		
"Dorsetshire "	"Ormonde "		
"Norfolk "	1 <sup>1</sup> / <sub>16</sub> in. "Hunter " class tugs		
"Leaf " class oilers	"Argo "		
"Olna "	"Amazon "		
"Oleander "	"Ambuscade "		
"British " class oilers	"Acasta " class		
"Maine "	destroyers		
2 <sup>1</sup> / <sub>4</sub> in. "Effingham " class	1 <sup>1</sup> / <sub>4</sub> in. "V " and "W " class	} 5th Class	
"York "	destroyers		
"Erebus "	"Beaufort "		
"Terror "	"Fitzroy "		
"War " class oilers	"Flinders "		
2 <sup>3</sup> / <sub>16</sub> in. "Greenwich "	"Kellett "		
"Delphinula "	"Bridgewater "		
"Perthshire "	"Sandwich "		
2 <sup>1</sup> / <sub>2</sub> in. "E " class cruisers	Sloops		
"D " class cruisers	"Aphis "		
"Chatham " class	"Bee "		
"Weymouth " class	"Cockchafer "		
"Marshal Soutl "	"Cricket "		
"Ark Royal "	"Gnat "		
"Vulcan "	"Ladybird "		
"Victoria and Albert "	"Mantis "		
"Adventure "	"Scarab "		
"Ambrose "	"Adamant "		
"Belgol " class oilers	"Alecto "		
"Dredgol "	Twin screw mine-		
"Nucula "	sweepers		
	1 <sup>1</sup> / <sub>16</sub> in. "Kharki "	} 5th Class	
	"Jaunty "		



Chain Cable.	Class of Mooring.	Chain Cable.	Class of Mooring.	
1 1/8 in.	} 5th Class	7/8 in.	} 5th Class	
" R " and " S " class destroyers		" Gannet "		
Submarine " K.26 "		" Peterel "		
" Odin " and class submarines		" Seamew "		
" Parthian " and class submarines		" Tern "		
Small monitors		" Cicala "		
" Mersey " class trawlers		" Moth "		
" Saint " class tugs		" Tarantula "		
1 in.		1 1/8 in.		Drifters
" M " class submarines		3/4 in.		" L " class submarines
" P.C.74 "	11/16 in.	" Ancona "		
" Oberon "	5/8 in.	" X " lighters		
1 1/8 in.		" H " class submarines		
7/8 in.		" Moorhen "		
" Axe " type trawlers		" Teal "		
" P " boats		" Widgeon "		
" West " class tugs		1/2 in.	" R " class submarines	

7. Buoys of old classes should be considered as in lieu for reserve purposes as shown below :—

Old Classification (prior to February, 1917).		Diameter of Trunk.	New Classification.
1st	Pegtop ... ..	18 in.	1st.
1st	Cylindrical, new plan	18 "	"
1st	" old "	16 "	2nd.
2nd	Pegtop ... ..	18 "	"
2nd	Cylindrical, new plan	18 "	"
2nd	" old "	14 "	3rd.
3rd	Pegtop ... ..	14 "	"
3rd	Cylindrical, new plan	14 "	"
3rd	" old "	13 "	"
4th	Pegtop ... ..	14 "	"
4th	Cylindrical, new plan	14 "	"
4th	" old "	12 "	4th.
5th	Pegtop ... ..	12 "	"
5th	Cylindrical, new plan	12 "	"
5th	" old "	10 1/2 "	"
6th	Pegtop ... ..	12 "	"
6th	Cylindrical, new plan	12 "	"
6th	" old "	8 1/2 "	5th.
7th	Pegtop ... ..	8 1/2 "	"
7th	Cylindrical, new plan	8 1/2 "	"
7th	" old "	7 1/2 "	"
8th	Pegtop ... ..	8 1/2 "	"
8th	Cylindrical, new plan	8 1/2 "	"
8th	" old "	6 1/2 "	6th.
9th	Pegtop ... ..	6 1/2 "	"
9th	Cylindrical, new plan	6 1/2 "	"
9th	" old "	5 "	} These will be available until stocks are exhausted for any special light moorings required.
10th	Pegtop ... ..	6 1/2 "	
10th	Cylindrical, new plan	6 1/2 "	
10th	" old "	4 "	

Care should be taken in future when reporting stocks, receipts or issues of mooring buoys, to show them under the revised classification.

The only exceptions to the above are in the cases of 9th class old plan, and 10th class buoys.

8. *Mooring Materials—Reports of Issues and Receipts.*—Fortnightly reports should be forwarded from Home Yards (on Tuesday) giving quantities of mooring materials issued or received during the preceding fortnight in the following form :—

## RECEIPTS.

C.D.			N.S.O.		
Description.	Quantity.	Service.	Description.	Quantity.	Contractors stating contract.

## ISSUES.

C.D.			N.S.O.		
Description.	Quantity.	Services, stating Admiralty Authority, if any.	Description.	Quantity.	Services, stating Admiralty Authority, if any.

Issues are not to be reported as such unless the materials have actually been put into moorings or the work already done does not permit of the materials, although not actually issued, being appropriated for other mooring work no matter how urgent.

All materials sent from one yard to another are to be passed through the Naval Store Officers' Ledgers, and if, in any special circumstances, items are transferred to other yards from Captains of Dockyards' working stocks, the Captains of Dockyards at sending yards are to furnish return notes for any items so sent.

The working stocks of the Captain of the Dockyard and the main stock held by the Naval Store Officer will be regarded as a whole for the purpose of dealing with special urgent schemes.

9. *Anchors, Chain Cable, etc., for Moorings.*—Admiralty quality anchors, chain cable and gear are not to be issued for mooring work without prior Admiralty approval.

M.S. quality materials are generally readily obtainable where not available from stock, and any requirements which cannot be met should be reported to the Admiralty.

10. *Clump Anchors.*—Demands for clump anchors are to be accompanied by a print, showing clearly the clearances required to be provided in the clump shackle to accommodate the mooring shackle.

11. *Harbour Service Chain Cable.*—In view of existing stocks and limited requirements of harbour service chain cable of 2½ in. and below, no further quantities are to be taken on main ledger charge without prior Admiralty approval.

12. *Pins for Anchor Shackles and Joining Shackles.*—It is desirable, but not essential, that steel pins should be fitted to M.S. quality shackles used in connection with mooring work. In cases where the alteration would cause undue delay in supply of chain cable or shackles for any particular mooring work the shackles need not be modified.

13. *Thwart Shackles.*—Details of a type of thwart shackle for moorings, which provides an economical method of varying the position of buoys in a trot, are shown on drawing (E.F.O. 53/29). The use of such shackles is at present to be restricted to temporary alterations only. Any shackles so used are to be examined at least once every three months, and a report on their use forwarded in due course.

(ii) These shackles should be made locally as required.

(iii) A brief description of the shackles is as follows :—

*Material.*—The shackle and bolt should be forged from mild steel of 28–32 tons per sq. in.

*Manufacture.*—The shackle should be forged from the bar in one piece to the dimensions detailed on the sketch. The forelock and washer may be made either of mild steel or cable iron.

*Test.*—The shackle on completion is to be tested to a proof load equal to that of the buoy pendant with which it will be used.

14. *Mooring Chains—Tests.*—Mooring chains returned to store after removal from moorings need not be tested before being taken on charge, but each length should be carefully examined and received on charge according to its condition, *i.e.*, serviceable or repairable.

Upon re-issue for service, whether or not the chain has previously been marked down to a lower category owing to its worn condition, tests need only be made if the mooring chain has been heated for repairs.

15. *Mooring Gear to be placed on Value Ledger Charge.*—Stocks of mooring materials should generally be on the Naval Store Officer's value charge, and only sufficient held by the Captain of the Dockyard to maintain the working stocks referred to in para. 16, further quantities being drawn from the Naval Store Officer as required for use.

(ii) All mooring gear, therefore, on charge of the Captain of the Dockyard and not known to be required for actual use should be returned to value charge of the Naval Store Officer.

(iii) In future, the valuation of mooring gear of authorised description, when specifically classified as "repairable," is to be in accordance with the procedure laid down for anchors, chain cable, and gear (first fitting stores) in Article 39 of the Appendix to the Memorandum to the Rate Book, *i.e.*, the value before repair is to be the full Rate Book price less the estimated cost of repair, and the value after repair is to be the full Rate Book price.

(iv) The same principle is to be observed in the case of mooring gear of unauthorised description when specifically classified as "repairable."

(v) The foregoing instructions are not intended to authorise any immediate adjustment of Expense Accounts where mooring gear in a repairable condition is already on charge at values assessed on lines other than those indicated in

paragraph 15 (iii). When, however, consequent upon the appropriation of mooring gear for a particular service, repairs to the gear are about to be undertaken, the difference between the value at which on charge and the value assessed as in paragraph 15 (iii) should be dealt with as follows, viz. :—

Gear on charge at "repairable" values.	} Item 6c of Section B of Account No. D.88.
Gear on charge at "arisings" values.	} Item 3d of Section B of Account No. D.88.

(vi) *Home Yards, Malta, and Gibraltar only.*—Worn and unauthorised mooring gear returned to store is not to be taken on charge without prior Admiralty approval unless there is a known service for it. In all such cases full details are to be reported for instructions as to the manner in which the gear is to be taken on charge.

(vii) All future arisings of mooring gear from work performed, unless they can at once be transferred for actual use to some definite service and charged to that service, are to be placed on Naval Store Officer's value charge on return either for disposal or for future use, being valued according to their condition and the prospects of utilisation.

(viii) Expense in removing the mooring gear returned to store charge to another place of storage is to be avoided as far as practicable, but such gear is to be clearly marked to distinguish it from that remaining with the C.D. Department for known services. Every opportunity should be taken, when stocks are drawn upon for use, to rearrange stocks as most convenient and economical.

(ix) No article of mooring gear of *authorised description* other than referred to in paragraph 11 in fit condition for further service (with or without repairs) should be disposed of without special Admiralty authority.

16. It has been approved to maintain at the Home Yards the reserves and working stocks of mooring materials shown on the following list, so far as they are at present available, or become available from returns.

(ii) The question of the provision of such items as prove to be unlikely to be met from returns will be considered at a later date. Such transfers between yards as are practicable to complete to reserves will be arranged at the Admiralty.

(iii) Arrangements will be made for the transfer to Invergordon of the materials required to complete reserve, on receipt of a report from that Base stating what gear is not available.



Mooring rings, "A" :—																				
4"	No.	1*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3½"		1*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3"		—	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3½"		1*	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3"		—	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2½"		—	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2"		—	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Rings, mooring, "B" :—		—	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3"	No.	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Buoy shackles :—		2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4"		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3½"		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3"		—	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2½"		2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
2"		4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1½"		3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1"		1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Links for buoy shackles :—		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4"	No.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3½"		1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3"		—	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2½"		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2"		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Anchor shackles :—		—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4½" (c)	No.	—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3½" (c)		—	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
3"		—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2½"		—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2½"		—	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
2½"		—	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

\* Pattern "A" or "B."

(f) Forelock.

(c) Clench.

(a) Includes requirements of Pembroke.



1 1/2"	...	...	...	6	-	-	-	-	-	4	-	-	-	-	-	-	-
1 3/4"	...	...	...	6	-	-	-	-	-	4	-	-	-	-	-	-	-
1 1/2"	...	...	...	12 (d)	-	7	-	-	-	2 (c)	-	-	-	-	-	-	-
1"	...	...	...	12 (d)	-	-	-	-	-	-	-	-	-	-	-	-	-
3/4"	...	...	...	4	-	-	-	-	-	1 (c)	-	-	-	-	-	-	-
	...	...	...	-	-	-	-	-	-	1 (c)	-	-	-	-	-	-	-
Swivel pieces :—				No.													
3"	...	...	...	1	-	1	-	-	-	-	-	-	-	-	-	-	-
2 3/4"	...	...	...	2	-	-	-	-	-	1	-	-	-	-	-	-	-
2 1/2"	...	...	...	2	-	-	-	-	-	2	-	-	-	-	-	-	-
2 3/8"	...	...	...	1	-	-	-	-	-	1	-	-	-	-	-	-	-
2 3/4"	...	...	...	1	-	-	-	-	-	1	-	-	-	-	-	-	-
2 1/2"	...	...	...	4	-	2	-	-	-	1	-	-	-	-	-	-	-
2"	...	...	...	2	-	-	-	-	-	1	-	-	-	-	-	-	-
1 3/4"	...	...	...	2	-	-	-	-	-	1	-	-	-	-	-	-	-
1 1/2"	...	...	...	2	-	-	-	-	-	1	-	-	-	-	-	-	-
1 3/8"	...	...	...	10	-	3	-	-	-	1	-	-	-	-	-	-	-
1 1/4"	...	...	...	10	-	4	-	-	-	1	-	-	-	-	-	-	-
1 1/2"	...	...	...	12 (d)	-	-	-	-	-	1	-	-	-	-	-	-	-
7/8"	...	...	...	4	-	-	-	-	-	1	-	-	-	-	-	-	-
3/4"	...	...	...	4	-	-	-	-	-	1	-	-	-	-	-	-	-
Anchors, mooring :—				No.													
8 tons	...	...	...	1	-	1	-	-	-	-	-	-	-	-	-	-	-
7 "	...	...	...	1	-	-	-	-	-	-	-	-	-	-	-	-	-
6 "	...	...	...	1	-	-	-	-	1	-	-	-	-	-	-	-	-
5 "	...	...	...	1	-	1	-	-	1	-	-	-	-	-	-	-	-
4 "	...	...	...	1	-	-	-	-	-	-	-	-	-	-	-	-	-
3 "	...	...	...	1	-	6	-	-	-	-	-	-	-	-	-	-	-
2 "	...	...	...	1	-	-	-	-	-	-	-	-	-	-	-	-	-
1 1/2 "	...	...	...	1	-	2	-	-	-	-	-	-	-	-	-	-	-
1 "	...	...	...	2	-	2	-	-	-	-	-	-	-	-	-	-	-

(a) Includes requirements of Pembroke.  
 (b) Includes requirements of Loch Long.  
 (c) Clench.  
 (d) Includes requirements of Portland.  
 (e) 1 1/2" or above.  
 (f) Forelock.  
 (g) Ordinary.



MOORING MATERIALS—RESERVES AND WORKING STOCKS—continued.

Description.	Denom-ination.	Reserves.				Working Stocks.						
		Ports-mouth.	Devon-port.	Port-land.	Rosyth.	Inver-gordon.	Sheer-ness.	Ports-mouth.	Devon-port.	Port-land.	Rosyth.	Inver-gordon.
<b>Stocks for mooring anchors :—</b>												
<i>Weight of stock.</i>												
8 tons (32 cwt.)	No.	1	1	-	-	-	-	-	-	-	-	-
7 " (28 " )		1	-	-	-	-	-	-	-	-	-	-
6 " (24 " )		1	-	1	-	-	-	-	-	-	-	-
5 " (20 " )		1	1	1	-	-	-	-	-	-	-	-
4 " (16 " )		1	-	-	-	-	-	-	-	-	-	-
3 " (12 " )		1	6	-	-	-	-	-	-	-	-	-
2 " (8 " )		1	2	-	-	-	-	-	-	-	-	-
1½ " (6 " )		1	1	-	-	-	-	-	-	-	-	-
1 " (4 " )		1	2	-	-	-	-	-	-	-	-	-
<b>Mooring clumps :—</b>												
6 to 7 tons	No.	3	-	-	-	-	-	-	-	-	-	-
5 "		2	1	-	-	-	-	-	3	-	-	-
2 "		2	-	-	-	-	-	-	2	-	-	-
1 "		2	-	-	-	-	-	-	1	-	-	-
<b>Chain cable :—</b>												
3" ...	lgths.	3	2	-	-	-	-	-	1	-	-	-
2½" ...		3	3 (a)	-	1	-	-	-	1	-	-	-
2¼" ...		-	4	-	-	-	-	-	-	-	-	-
2½" ...		4	18	2	-	-	-	-	1	1	-	-
2¼" ...		12	8	-	-	-	-	-	1	1	-	-
2" ...		2	6	-	-	-	-	-	2	-	-	-
1½" ...		6	9	-	-	-	-	-	1	1	-	-
1¼" ...		3	3	12	-	-	-	-	1	1	-	-
1¼" ...		20	3	-	1	-	-	-	-	-	-	-
1¼" ...		10	12 (a)	-	-	-	-	-	-	-	-	-
1¼" ...		10	-	-	-	-	-	-	-	-	-	-
1¼" ...		2	24 (d)	-	-	-	-	-	1	-	-	-

1½"	...	...	6	-	1	-	-	-	-	-	-
1"	...	...	12 (d)	-	1	-	-	-	-	-	-
7"	...	...	6	1	1	-	-	-	-	-	-
¾"	...	...	6	1	1	-	-	-	-	-	-
Wreck marking buoys	...	No.	-	-	4	-	-	-	-	1	-
Gear for—Sinkers, 30 cwt.	...		-	-	-	-	-	-	-	-	-
"	25 "		-	-	2	-	-	-	-	2	-
Chain cable, 1½"	...	lgths.	-	-	2	-	-	-	-	-	-
Swivel pieces, 1½"	...	No.	-	-	2	-	-	-	-	-	4
Anchor shackles, 1½"	...		-	-	2	-	-	-	-	1	-
Joining shackles, 1½"	...		-	-	4 (f)	-	-	-	-	2	-
Munro buoys with globes and staves	...		-	-	4 (c)	-	-	-	-	2	-
Buoys, mark :—	...		4	-	6	-	-	-	-	-	-
Can. superstructure	...	No.	-	-	1	1	5	-	-	-	-
Conical superstructure...	...		-	-	1	1	14	-	-	-	-
Conical, small	...		-	-	1	-	-	-	-	1	-
Can. topshape	...		-	-	-	-	3	-	-	-	-
Conical topshape	...		-	-	-	-	-	-	-	-	-
Hemispherical	...		-	-	-	-	-	-	-	-	-
Cast iron sinkers for :—	...	No.	-	-	1	1	3	-	-	-	-
4 tons	...		-	-	-	-	-	-	-	-	-
3 "	...		1	-	-	-	-	-	-	-	-
2 "	...		1	-	-	-	-	-	-	1	-
35 cwt.	...		2	-	-	-	-	-	-	-	-

(c) Clench.

(b) Includes requirements of Loch Long.

(f) Forelock.

(a) Includes requirements of Pembroke.

(d) Includes requirements of Portland.

### 1328.—H.A.C.S., Mark I Control Tables—Lamp for Grid Illumination.

(N.S./G. 19711/28.—31.5.1929.)

The grid lamp used on the above tables is of a new pattern, conforming to the following specification :—

Watts	...	...	...	...	...	...	...	36.
Amps.	...	...	...	...	...	...	...	3.
Volts	...	...	...	...	...	...	...	12–14.
Length of bulb	...	...	...	...	...	...	...	73 mm.
Diameter of bulb	...	...	...	...	...	...	...	50 mm.
Vacuum type	...	...	...	...	...	...	...	B.A.S. No. 7.

Pattern No. 9822 has been allocated to this lamp.

2. The “first supply” provision of spare lamps, Pattern 9822, as consumable stores will be eventually six per table, but pending supplies of this lamp, two lamps only of the commercial type should be provided for each table.

3. *Yards only.*—Until supplies of the new pattern lamp are available, yards should obtain requirements of the commercial lamp, G.E.C. Catalogue No. S.7076 under the standing agreement with that firm.

### \*1331.—Paint Removers—Precautions, etc.

(N.S. 3335/29.—31.5.1929.)

Proprietary paint removers which are now purchased for use in H.M. dockyards and shore establishments are generally highly inflammable, and suitable precautions as regards stowage and use should be observed.

2. In regard to the painters' request, No. 31, Group VI, Welfare Conference, 1928, paint removing materials are considered unsuitable for carrying on board H.M. ships for the reason given above, and supply should therefore not be made to services afloat.

### 1337.—Billiard Tables supplied to Officers' and Police Messes—Revised Percentage Charge.

(N.S. 15859/28.—31.5.1929.)

The conditions under which billiard tables are supplied to messes and police quarters have been under review, and it has been decided that a charge of 9 per cent. per annum (instead of the existing charge of 7½ per cent. per annum) shall be made from 1st July, 1929. The instructions in Chapter IV of the Furniture Regulations otherwise remain unaltered, and the Admiralty will continue to re-imburse the mess, etc., on account of repairs and replacements to the extent of 3¼ per cent. per annum on the original outlay under the conditions stated.

2. As an alternative to paying the increased rates, the Admiralty are prepared to consider applications from messes for the purchase of the tables at their redemptive value, and, where this course is desired, applications, giving particulars as far as practicable of the percentage paid, and refunds of percentage received, should be forwarded through the Commanders-in-Chief from messes which have been supplied with tables by the Admiralty.

3. The applications should arrive in office by 30th September, 1929.

### 1345.—Submarines Building—Official Correspondence.

(S. 3353/29.—31.5.1929.)

Although submarines are placed in commission some time before completion, official correspondence from the Commanding Officer should continue to pass, if they are being built by contract, through the Captain Superintendent of Contract-built Ships until they are finally accepted, or, if they are being built in one of H.M. dockyards, through the Admiral Superintendent until they are finally passed into the Fleet.

### 1348.—Established Typing Grades—Remuneration on Appointment.

(C. E. 2404/29.—31.5.1929.)

The remuneration of established typists, clerk-typists, shorthand-typists and clerk-shorthand-typists who have had previous service as temporary typists, clerk-typists, shorthand-typists or clerk-shorthand-typists, has been under consideration and the following decisions have been reached:—

I. An established typist or clerk-typist who, immediately prior to the date of appointment to the established class, was in receipt of salary as a temporary typist or clerk-typist higher than her normal commencing rate (inclusive of cost of living bonus) in the established class, may, subject to the conditions set out below, retain that higher salary on a mark-time basis until such time as she would have become entitled to that salary on the established typist or clerk-typist scale if she had entered at the normal commencing rate—

- (a) The higher salary to be temporarily retained will be subject to the cost of living changes applicable to the temporary typist or clerk-typist rates of pay.
- (b) Where, immediately prior to the date of her appointment to the established class, a temporary typist, or clerk-typist has been in receipt of salary on the basis of a 44-hour week, the higher salary to be temporarily retained shall be adjusted to the basis of a 42-hour week.
- (c) In the event of a temporary typist or clerk-typist in London being appointed to the established class in an intermediate or provincial centre, the higher salary to be temporarily retained shall be the intermediate or provincial rate, as the case may be, corresponding to her salary on the London temporary scale. Similarly a temporary typist or clerk-typist in an intermediate centre appointed to the corresponding established class in a provincial centre will retain the provincial equivalent of her intermediate temporary rate.
- (d) In the case of a temporary typist or clerk-typist appointed to the established class before 1st July, 1927, the higher salary to be temporarily retained shall be the salary which she would have been receiving if the scale of pay awarded to temporary typists by Industrial Court Award No. 1328 had been in operation at the date of her appointment.
- (e) In no case shall a typist or clerk-typist receive as a result of this decision a salary in excess of the salary she would have received if she had been appointed as established typist or clerk-typist at the age of 18.

II. An established typist or clerk-typist, who, immediately prior to the date of appointment to the established class, was in receipt of salary as a temporary shorthand-typist or clerk-shorthand-typist, may, subject to conditions (a), (b), (c), (d) and (e) above, retain on a mark-time basis the salary to which she would have been entitled if all her temporary service as a shorthand-typist or clerk-shorthand-typist at the time of her established appointment had been in the rank of Grade I temporary typist or clerk-typist.

III. An established shorthand-typist or clerk shorthand-typist, who, immediately prior to the date of appointment to the established shorthand-typist or clerk-shorthand-typist class, was in receipt of salary as a temporary typist or clerk-typist higher than her normal commencing rate (inclusive of cost of living bonus) in the established shorthand-typist or clerk-shorthand-typist class, may retain that salary on a mark-time basis, subject to conditions (a), (b), (c) and (d) above, and also to the condition that in no case shall she receive a salary in excess of the salary she would have received if she had been appointed as established shorthand-typist or clerk-shorthand-typist at the age of 19.

The decisions set out above shall be operative with effect from 1st October, 1928.

### 1354.—Expense Accounts—Returns D.72, Parts I and II and Enclosures thereto.

(D.A. 431/29.—31.5.1929.)

In order to reduce the clerical work involved in compiling the Account D.88, Section F, and in preparing the Quarterly Returns D72 and enclosures thereto, it has been decided to dispense with the detail of the amounts for material under each subhead of Vote 8, Section II, on all enclosures (Returns D.72 (a)–(d)), and throughout the Return D.72 (Part I), General Abstract, except in the Abstract on page 7 on the three lines denoted “Total other Branches of the Naval Service,” “Total other Departments, etc.,” and “Grand Total.”

2. A similar elimination of detail should be made in the body of the Return D.72 (Part II) (k), and in the enclosures thereto, the subdivision of issues and returns under the several headings of Vote 8/II.K.I (a) being shown only in the summary on page 4 of the General Abstract on the three lines “Total other Branches of the Naval Service,” “Total other Departments, etc.,” and “Grand Total.” Pending revision of Return D.72, Part II, amendment of the existing printed headings on page 4 to provide for the classification authorised, should be made in manuscript.

3. It will still be necessary on enclosures and abstracts to show separately, and to annotate amounts classified as Vote 8/III, Vote 8/II.K.II and Vote 8/II.K.IV.

### 1355.—Merchant Vessels—Control of W/T in Time of War.

(M. 01558/29.—7.6.1929.)

#### BRITISH VESSELS.

1. *Powers.*—Clause 22 of the license issued by the General Post Office to ships registered in Great Britain and Northern Ireland provides for the control in emergency of all ship installations. On emergency arising, the General Post Office will issue a notice bringing this clause into operation. A copy of the clause is contained in Appendix I. Admiralty consequent orders are contained in Appendices III and IV.

2. The procedure as regards vessels registered in the Dominions and Colonies is under consideration.

3. *On the High Seas and in British Territorial Waters.*—On emergency arising, an order will be broadcast to vessels in all areas where they could be exposed to risk of enemy action, warning them to restrict use of W/T to essential messages (*vide* Appendix IV).

4. After issue of the order in any area, Commanding Officers of H.M. ships should report to the Admiralty any cases of use of W/T by British merchant vessels in that area for non-essential messages; if opportunity occurs the Master should be warned of the risk which is being incurred.

5. Any case of a British merchant vessel using her W/T so as to cause unnecessary interference should similarly be reported and the Master should be warned. If persisted in, such conduct may justify confiscation or disablement of the apparatus, but such action is liable to form a basis for claims for compensation.

6. *In Harbours of Great Britain and Northern Ireland.*—It is not possible to *prevent* illicit messages being despatched by vessels in harbour with treasonable intent, since such messages could always be sent by concealed apparatus. Special arrangements will therefore be made to enable messages of this nature to be promptly detected and dealt with.

7. The problem is, however, simplified if steps are taken to ensure that messages will not be made in harbour by irresponsible persons without

treasonable intent. For this purpose, after clause 22 of the licences has been brought into operation, the Customs Officials will seal the door(s) of the W/T office(s) of all vessels except as provided in paragraph 8 below, when the vessels are boarded on coming into harbour. Until the vessel leaves, the door(s) will only be opened at pre-arranged times when required for maintenance of the apparatus. Assistance will, when necessary, be given by the police in enforcing this regulation.

8. *Fitting of Wireless Switches.*—By arrangement with the Wireless Telegraph Companies, a number of vessels will be fitted in future with wireless switches which will give the Master control of the transmission of wireless messages. Lists of vessels so fitted at home will be furnished by the Wireless Companies from time to time.

It is the intention that in peace the lists of vessels fitted should be collated by the Admiralty, and communicated periodically to the Customs authorities at home and to the Dominion, Colonial and Indian Governments.

A complete list of vessels fitted with wireless switches will also be maintained in the Admiralty and kept up to date as additional information is received, and this comprehensive list will be circulated to all the authorities concerned as soon as possible after an emergency arises.

So far as home waters are concerned, the responsibility for the control of wireless apparatus on all vessels included in this list will rest entirely with the Master in time of war, and the Customs Officers will regard such vessels as exempt from the procedure for sealing the door(s) of the wireless room(s) in harbour required for vessels not fitted with wireless switches.

Pending the issue of the complete list mentioned above, Customs Officers will obtain information as to vessels fitted with wireless switches from the lists furnished periodically in peace.

All vessels not shown on the lists, whether fitted with wireless switches or not, will be subject to the ordinary procedure as regards sealing doors indicated in paragraph 7.

#### NEUTRAL OR ALLIED VESSELS.

9. *On the High Seas and in British Territorial Waters.*—Can only be interfered with if the vessel can be regarded as guilty of unneutral service. On this point the following Order was issued during the war:—

“*Merchant Ships and Control of Information.*—On any occasion in war when the success of the operations in which the British Fleet is engaged depends upon the preservation of secrecy as to its movements or the accurate and rapid transmission of intelligence or instructions, the Senior Officer conducting the operations may take the following steps, in whole or in part as he considers necessary, in order to obviate any action, whether intentional or unintentional, which may be prejudicial to the successful issue of his movements.

“2. A notification, similar to that for blockade, may be issued, informing all merchant vessels within the area concerned that naval operations are in progress, and requesting them—

“(a) To desist from the use of their wireless apparatus until further notice.

“(b) To make no entries of sighting any of His Majesty's ships, or of any wireless signals which they may intercept, emanating from any of His Majesty's ships, whether in plain language or in cypher.

“(c) Not to make signals which may interfere with the communication of His Majesty's ships.

“3. If, after the issue of this notification, any merchant vessels continue to act in disregard of the request, the Senior Officer may take such steps as in his opinion are necessary and practicable, by ordering the ship to leave the area, by prescribing her a particular course, by confiscating or disabling her instruments, destroying her records, or by

capturing the ship herself according to the gravity of the offence or its consequences.

“ 4. It is clearly to be understood that such action is taken without prejudice to any claims for compensation which may be laid.”

10. The following Draft Regulation was drawn up in 1923 by a Conference of Jurists at the Hague:—

“ In case a belligerent Commanding Officer considers that the success of the operation in which he is engaged may be prejudiced by the presence of vessels or aircraft equipped with radio installations in the immediate vicinity of his armed forces or by the use of such installations therein, he may order neutral vessels or neutral aircraft on or over the high seas:—

“ (1) To alter their course to such an extent as will be necessary to prevent their approaching the armed forces operating under his command; or

“ (2) Not to make use of their radio transmitting apparatus while in the immediate vicinity of such forces.

“ A neutral vessel or neutral aircraft which does not conform to such direction of which it has had notice, exposes itself to the risk of being fired upon. It will also be liable to capture, and may be condemned if the Prize Court considers that the circumstances justify condemnation.”

11. This regulation has not yet been adopted internationally, but is believed to represent the generally accepted views, and should be acted upon, the procedure in paragraph 9 being adopted if considered desirable. Liability to capture and confiscation thus incurred is not extinguished by the conclusion of the voyage or flight, but shall subsist during the whole course of the war.

12. In cases of interference, not so serious as to constitute unneutral action, report of the offence should be made to the Admiralty, in order that the matter may be dealt with under the W/T conventions.

13. *In the Harbours of Great Britain and Northern Ireland.*—The procedure for British vessels (*see* paragraph 7) will be applied. A copy of the Orders, which will be issued by General Post Office, is contained in Appendix II. Admiralty consequent Orders are contained in Appendix III.

#### ENEMY SHIPS.

14. On the outbreak of war, Customs Officers will arrange for the temporary dismantling of W/T on enemy vessels until such time as the apparatus (unless the vessel is covered by Days of Grace) can be completely dismantled by an expert from General Post Office or Admiralty.

#### DOMINIONS, COLONIES AND INDIA.

15. The Dominion, Colonial and Indian Governments have been asked to make similar arrangements.

#### APPENDIX I.

##### LICENSE TO ESTABLISH WIRELESS TELEGRAPH SHIP STATIONS.

###### *Article 22.*

1. If and whenever an emergency shall have arisen in which it is expedient for the public service that His Majesty's Government shall have control over the transmission of messages by the licensed apparatus it shall be lawful for any Naval Military Customs or Police Officer, or any other person authorised by the Admiralty to take possession of the licensed apparatus or any part thereof in the name and on behalf of His Majesty, and to use the same for His Majesty's service, and in that event any such officer or person so authorised may enter upon any ship on which any such apparatus is installed and take possession of the said apparatus and use the same as aforesaid and subject to such use may use the same and allow it to be used for such ordinary

services as may in his discretion seem fit to him or may prohibit and take steps to prevent the use of the same and issue directions which shall be obeyed by the Licensee to prevent such use.

2. Any such officer or person so authorised as aforesaid may in such event as aforesaid instead of taking possession of the licensed apparatus as aforesaid direct and authorise such persons as he may think fit to assume the control of the transmission of messages by the licensed apparatus either wholly or partly and in such manner as he may direct, and such persons may enter upon any ship on which any apparatus is installed accordingly or the said officer or person so authorised as aforesaid may direct the Licensee to submit to him or any person authorised by him all messages tendered for transmission or arriving by the licensed apparatus or any class or classes of such messages to stop or delay the transmission of any messages or deliver the same to him or his agent and generally to obey all such directions with reference to the transmission of messages as the said officer or person so authorised as aforesaid may prescribe and the Licensee shall obey and conform to all such directions.

3. The Licensee shall be entitled to reasonable compensation for any damage to the licensed apparatus arising in consequence of the exercise of the powers conferred by this clause.

#### APPENDIX II.

In pursuance of Regulation 5 of the Wireless Telegraphy (Foreign Ships) Regulations, 1908 (b), I..... His Majesty's Postmaster-General, do hereby give notice that in the opinion of the..... one of His Majesty's Principal Secretaries of State, an emergency has arisen in which it is expedient for the public service that His Majesty's Government should have control over the transmission of messages by wireless telegraphy, and that the use of wireless telegraphy on board foreign ships whilst in the territorial waters of the British Isles will be subject to such rules as may be made by the Admiralty (c).

Dated this

(b) The Regulations (1908-496) made by the Postmaster-General, 20th June, 1908, under the Wireless Telegraphy Act, 1904 (4, Edw. 7, c.24), are printed in Statutory Rules and Orders, 1908, pp. 961-963.

(c) See Admiralty Rules printed below.

#### APPENDIX III.

##### DRAFT ADMIRALTY REGULATIONS AS TO THE USE OF WIRELESS TELEGRAPHY BY MERCHANT VESSELS.

1. The use of wireless telegraphy is prohibited in the harbours of Great Britain, Northern Ireland, and Channel Islands.

2. On entering any port or harbour the wireless telegraphy office(s) will be sealed up by the Customs Officer boarding the vessel. During the stay of the vessel in harbour access to the wireless telegraphy office(s) will only be allowed under the following condition:—If the vessel will remain in harbour for some time so that it is necessary for the wireless staff to have access to the office(s) in order to attend to the batteries, etc., the Master of the merchant vessel will be responsible for warning the Customs Officers that such access will be required in order that the Customs Officers may arrange for the breaking of the seals. The Master will be held responsible that no messages are transmitted while the office(s) is (are) open, and should state for how long access is required in order that the Customs Officers may afterwards go on board and re-seal the office(s).

3. Foreign vessels within the territorial waters of the British Isles are to restrict their use of wireless telegraphy as much as possible so as to avoid interference with British communications.



4. Any breach of these regulations renders the Masters of the offending ships liable to penalties and to the confiscation of the wireless apparatus of their ships.

#### APPENDIX IV.

##### INSTRUCTIONS ISSUED BY ADMIRALTY TO BRITISH VESSELS IN AREAS WHERE THEY WOULD BE EXPOSED TO RISK OF ENEMY ACTION.

No wireless message is to be sent or answered without direct orders from the Master or officer on watch. Wireless messages are to be restricted to distress messages, reports of foreign men of war, mines or other dangers to navigation, essential messages to owners as regards the service of the vessel and messages made in accordance with definite orders given by Naval representatives. No messages are to be sent on behalf of private persons.

#### \*1367.—Remittances—Modification of Existing Arrangements.

(A.G./C.E. 6334/28.—7.6.1929.)

With a view to reducing clerical work it has been decided that the remittance system is to be restricted to sums in excess of £3 3s., other facilities for the transmission of small sums being available (*e.g.*, weekly or monthly allotments can be declared by officers and men for regular payments, and postal orders can be purchased on board ship free of poundage for sums up to £3 3s.). An exception to this rule will be permitted in the case of remittances on behalf of mess, wine, and other recognised funds.

2. The attention of ships' companies should be drawn to the desirability of filling in the name of the payee and the post office of payment on postal orders before despatch, and of retaining the counterfoils, and to the facilities for transmission by registered post.

3. In future, remittances over £3 3s. in favour of banks, firms, or persons who may be assumed to possess banking accounts will be paid at the Admiralty by Navy Bill instead of by Postal Draft. Such remittances are therefore to be included in the same lists as sums in excess of £10.

4. These changes are to be brought into force as early as practicable.

5. The necessary amendments to Art. 1787 of the King's Regulations and Admiralty Instructions and to Form S.66 (Outside) will be made in due course.

#### 1370.—*Issued Confidentially.*

#### 1371.—Torpedo Control and Deflection Discs, Mark IV.

"*Codrington*" and "*A*" Class Destroyers, and Submarines of "*P*" Class and later.

(T. 2042/29.—7.6.1929.)

It has been approved to introduce a new design of torpedo control and deflection disc for "*Codrington*" and "*A*" class destroyers, and submarine "*P*" class and later, the approved allowances being—

2 per destroyer or leader.  
1 per submarine.

2. This disc will be known as—

##### *Section II.*

Torpedo control and deflection disc, Mark IV, St. No. T.256, and new design boxes will be provided as follows:—

##### *Section II.*

Boxes for torpedo control and deflection discs, Mark IV, to hold 2,  
St. No. T.257.

Boxes for torpedo control and deflection discs, Mark IV, to hold 1,  
St. No. T.258.

3. The new disc is to be regarded as a complete item, and separate stamp numbers will not be assigned to the handles and base plates as has been done in earlier marks of discs. In the event of replacements being found necessary they will be dealt with as Section V, "C" items (made only as required).

4. Spare spindles for this type of disc will be dealt with on the lines of spindles, St. No. 2428, *i.e.*, as Section V items with the following nomenclature, *viz.* :—

*Section V.*

Spindles for torpedo control and deflection discs, Mark IV (with nut and washers), St. No. 4241.

5. The Naval Proportion Book, Part IV, and Vocabulary of Naval Armament Stores, Part III, will be amended in due course.

### 1375.—Fire Control Instruments—Stripping and Checking after Assembly.

(G. 2596/29.—7.6.1929.)

The following extract from a report of H.A. firing carried out by one of H.M. ships is issued for information :—

"An analysis of the vertical deflection showed that the error of one degree high during part of the firing was not attributable to the data ordered by the Control Officer, and it was verified that the calculator was capable of giving an "up deflection" with an inclination of 90 or even less, and it was found that it gave a constant error of 0.6 degrees high.

"There is reason to believe that this error has existed for a least a year and has in the past led to errors (often corrected in practice by using an artificial speed) which might still have continued had not the photographic film (No. 4) enabled its extent to be accurately measured, and given rise to further investigation.

The error arose through the instrument having been assembled so that the deflection read zero at the minimum speed setting, when the index 'D' (C.B. 1679, figure 1, facing page 16) cut the curve of 0 degree inclination instead of the curve of 90 degrees inclination.

"When assembled in this incorrect manner the scale 'L' is *central* in the calculator box; when assembled in the correct way the scale protrudes  $\frac{3}{8}$  in. outside the right-hand side of the box, and cannot be shortened this amount owing to the extent of the slot in which pointer 'S' travels. There are two holes for positioning the scale, which pass through the top of the box and the scale, but as drilled in the instrument in 'Eagle,' one pair is  $\frac{1}{8}$  in. out of line when the screw is passed through the other pair, and they are therefore of very doubtful value."

2. Before any mechanism of an intricate nature is stripped, care is always to be taken to see that the various components are adequately marked to ensure correct re-assembly.

3. Further, when any mechanism is re-assembled after being stripped, test should always be carried out immediately to ensure that the mechanism is again functioning accurately and satisfactorily.

### 1376.—A.A. Control Instruments—Vertical and Lateral Deflection Calculators—Assembling and Checking.

(G. 2596/29.—7.6.1929.)

Whenever lateral and vertical deflection calculators are re-assembled after being stripped, the accuracy of assembly is to be checked as follows:—

*Lateral deflection calculator* (any gun).

*Right hand drum.*—Set index pointer to 180° or 0° inclination—deflection should now read zero.

*Vertical deflection calculator* (any gun).

*Right-hand drum.*—(i) Rotate the drum until the bottom of the scale on the drum (where the inclination curves are closest together) is at the top, underneath the index pointer.

(ii) Set the index pointer to 90° inclination.

The deflection should now read zero.

2. The test for the vertical deflection calculator as given above is not theoretically exact, as there is always a certain amount of down deflection at 90° inclination, but at the low speed end of the scale on the drum the amount will be inappreciable on the deflection calculator. The lateral deflection test is exact.

### 1378.—Gun Mountings, 4 in. H.A., Marks III and IV—Safety Switches for Depression Safety Gear—REPORT.

(G. 18565/28.—7.6.1929.)

Arrangements have been made for early delivery at Portsmouth of 191 safety switches for depression safety gear. These switches are to be fitted on 4 in. H.A., Marks III and IV mountings, and are allocated as follows:

"Queen Elizabeth" class	...	...	...	...	...	20
"Royal Sovereign" class	...	...	...	...	...	20
"Kent" class	...	...	...	...	...	20
"Hawkins" class	...	...	...	...	...	14
"London" class	...	...	...	...	...	16
"York"	...	...	...	...	...	4
"Exeter"	...	...	...	...	...	4
"Norfolk" class	...	...	...	...	...	8
"Hood"	...	...	...	...	...	4
"Repulse"	...	...	...	...	...	4
"Renown"	...	...	...	...	...	4
"Tiger"	...	...	...	...	...	4
"Emerald"	...	...	...	...	...	3
"Enterprise"	...	...	...	...	...	3
"Eagle"	...	...	...	...	...	5
"Furious"	...	...	...	...	...	4
"Hermes"	...	...	...	...	...	3
"Medway"	...	...	...	...	...	4
"Resource"	...	...	...	...	...	4
"Northumberland" class	...	...	...	...	...	8
"Maidstone"	...	...	...	...	...	4
Reserve mountings...	...	...	...	...	...	13

The remainder are to be kept in store.

Switches required at yards abroad are to be despatched as early as possible.

2. *Malta.*—The first opportunity is to be taken to fit switches to mountings in "Malaya," "Revenge" and "London". The director firing gear on the 4 in. mountings, for use in conjunction with the H.A., C.S.I in these ships is complete, and an early report is to be forwarded when the fitting of the switches has been completed.

3. *Chatham.*—Switches for the mountings of "York" and "Norfolk" are to be fitted before the mountings are despatched to contractors. Those for "Hawkins" are to be fitted during the present refit.

4. *Devonport*.—Switches are to be fitted to mountings for "Exeter."

5. *Portsmouth*.—Switches are to be fitted to mountings for "Dorsetshire."

Those for "Valiant," "Renown" and "Hood" are to be fitted during the present refit.

Switches are to be fitted to the mountings for "Northumberland" and "Surrey" on delivery of the mountings, and those for "Maidstone" are to be forwarded to R.C.D., Woolwich.

Reserve mountings at the various yards will eventually be fitted with director firing gear, and instructions for fitting switches will be issued in due course.

6. In the remaining ships quoted, advantage is to be taken of the earliest opportunity to have these switches fitted.

7. The switches are to be fitted in accordance with Portsmouth Yard Drawing G.320A forwarded to Devonport, Chatham, Malta and Hong Kong with Admiralty Letter, dated 6th December, 1927, G.16802/27, and the instructions contained in A.F.O. 1267/29.

Yards should demand their requirements from Portsmouth Yard.

*Portsmouth, Devonport and Malta Yards Only*.—Attention is called to Admiralty Letter G.17234/28, dated 31st January, 1929, in connection with "Kent" and "London" classes, "Medway" and "Resource."

(A.F.O. 1267/29.)

### 1382.—W/T—Type 43—Modifications to Wiring of Power Supply.

*All Vessels fitted with Type 43.*

(S.D. 456/29.—7.6.1929.)

Recent defects which have occurred in a Pattern 7109/7114 motor generator, Type 43 set, show that the circuits fitted in connection with this machine are not sufficiently fuzed. It has been decided, therefore, to fit fuzes in the negative lead of the input to the motor, and in the positive lead from the low tension generator of each motor generator. The positive input and the positive high tension output leads are already fuzed; the negative high tension and low tension output leads are common and earthed at the machine.

2. Ships concerned are to demand the following stores, quoting this Order as authority:—

<i>Patt. No.</i>	<i>Description.</i>	<i>No.</i>	<i>Remarks.</i>
7129	Boards, fuze, 2-way, 35 amps ...	2	
584	Fuzes, 10 amps. ... ..	4	100-volt ships—2 only.
584	Fuzes, 15 amps. ... ..	2	100-volt ships only.

On receipt they are to be fitted by ship's staff in accordance with the following instructions:—

3. The Pattern 7129 fuze boards are to be mounted in convenient positions adjacent to the Pattern 7676 board 2E supply. Two 10-amp. fuzes in the case of 220-volt ships, and 15 amps. in the case of 100-volt ships, are to be wired, one each in the common negative leads between the board 2E supply and the motors of Pattern 7109/14 motor generators. Referring to O.U. 6087(35), Handbook for Type 43 W/T Set, Fig. 6, the leads in question are marked "C-1" and "C-2." The two remaining 10-amp. fuzes are to be wired, one each in the positive output leads from the low tension generators of Pattern 7109/14 motor generators. The fact of fitting these fuze boards and fuzes is to be reported in the next subsequent W/T report.

4. The necessary amendments to W/T establishment and fitting out specifications will be promulgated in due course.

**1383.—Issued Confidentially.**

**1394.—Shipment of Private Cars.**

(N.S. 3263/29.—7.6.1929.)

Officers and others shipping cars in H.M. ships, Royal Fleet Auxiliaries and Store Carriers, should make arrangements with a local motor engineering firm or garage at port of arrival to take delivery of the vehicles direct from the vessel in which shipped unless other arrangements have been made for immediate collection.

2. No accommodation for private cars, etc., is to be allocated in any service garage used for Admiralty motor transport vehicles at H.M. dock-yards or other Naval establishments.

**1397.—Electric Fires of “Magicoal” or “Imitation Coal” Type.**

(N.S. 10222/28.—7.6.1929.)

Reports received show that these fires are satisfactory under sea-going conditions generally.

2. Instances have been reported, however, of short-circuiting of the elements by matches and other foreign matter thrown into the fires.

3. Whilst the fitting of a guard would to some extent interfere with the heat beam from the fire, this course can be adopted if considered by ships' officers to be essential. The guard should be provided and fitted by ships' staffs, and made as open as possible.

4. The manufacturers have introduced a new ball-bearing stem for the spinner of the flicker arrangement of these fires. Where the present flicker arrangements are unsatisfactory, demands should be forwarded to the storing yard for requirements of the new fitting.

**1398.—Protecting Compositions—Use on Pontoon Tanks of Floating Docks, etc.**

(N.S. 4508/29.—7.6.1929.)

As a result of practical trials of various grease paints carried out at Portsmouth, for coating the pontoon tanks of floating docks and other similar spaces, the undermentioned materials with covering capacities as shown have now been adopted for Service use:—

- (a) “Stag” brand improved grease paint, red.
- (b) “Camrex,” non-oxidising, paint.
- (c) “Humidine,” anti-corrosive, composition.

“Camrex,” non-oxidising paint is, however, suitable for such use in temperate climates only.

2. The approximate covering capacities per cwt. of each of the compositions named above are as follows:—

- (a) 500 sq. yds.
- (b) 450 „ „
- (c) 250 „ „

3. When requirements arise, purchase will be made of the most economical of the three materials at the time of ordering.

4. Demands for requirements should be prepared on an alternative basis, except in cases where any of the compositions are considered to be unsuitable for use on the particular service for which demanded, when reasons should be given.

### 1402.—Half-Yearly Recommendations for Promotion— Form S.206 to be used.

(C. W. 3994.—7.6.1929.)

Commanding Officers are, in future, to forward all half-yearly recommendations for promotion on Form S.206, and not in the form of a covering letter.

2. To avoid any confusion with reports on this form rendered on other occasions, the space provided for indicating the occasion on which the report is rendered is to be completed in red ink, with the words "half-yearly recommendation for promotion."

3. The instructions for the use of Form S.596 are not affected by the foregoing.

### 1444.—Paper Insulated Multicore Cables—Procedure when Fitting to Sealing Ends.

*H.M. Dockyards at Home and Abroad, and Admiralty District  
Electrical Engineers.*

(D. 7139/29.—7.6.1929.)

It has been found in practice that there is a tendency for the paper insulation on the paper insulated multicore cables used for the control cable junction boxes in H.M. ships to unwind whilst the cables are being fitted to the sealing ends.

2. In order to prevent this, the following procedure should be adopted, viz. :—

After the individual cores of multicore paper insulated cables have been separated and allocated to their respective nipples in the bakelite base, the paper insulation on each core should be measured and cut approximately one-half inch longer than necessary when the core is finally sweated into its nipple.

A tight binding of strong thread should then be applied at a point one-half inch from the end of the paper insulation and continued for at least three-eighths of an inch along the insulated core.

The surplus one-half inch of paper insulation should then be cut off and the wire threaded through the nipple, so that the bound end of the paper insulation impinges on the nipple, the conductor being soldered thereto in that position.

### 1451.—Bottom Logs.

(H. 148/29.—14.6.1929.)

Trials are now being carried out with certain types of bottom logs to ascertain which type is most suitable for use in H.M. ships.

Pending result of these trials, it has been decided that no bottom log is to be supplied to surface vessels, but that in new construction, space is to be reserved for fitting one.

The Forbes' log is obsolescent as far as fast speeds are concerned. Reasonably good results can be obtained from this log so long as it is not used at speeds greater than 15 knots.

1452. }  
1453. }  
1461. } *Issued Confidentially.*  
1463. }  
1464. }

## 1467.—H.P. Reservoirs and Torpedo Air Vessels—Drainage to Prevent Corrosion of Air Vessels.

*All Ships.*

(G. 6633/28.—14.6.1929.)

Recent reports indicate that considerable corrosion takes place in the torpedo air vessels. This is most marked in the torpedoes used in destroyers, and is most active on the Mediterranean Station.

2. Moisture in the air supplied to the torpedoes must be primarily responsible for these conditions, and to check this corrosion as much as possible, the greatest care should be exercised that the torpedo air vessels are drained in accordance with O.U. 5386, and that the H.P. air bottle reservoirs are drained regularly.

3. Particular attention should also be paid to the separators to ensure that the automatic drains are operating correctly, and that the hand drains on both the separator and charging columns are frequently used.

## 1468.—Coston Line-throwing Shoulder Guns and Defects which may Occur.

(G. 2587/29.—14.6.1929.)

*Coston Line-Throwing Shoulder Gun.*

The following is a description of the winding apparatus and instructions for its use:—

A cylinder or cone is made to fit the top and bottom holes of wood discs forming the reel. The cone, which is made of tin-plate, has a groove, formed in it longitudinally. In this groove the end of the line is inserted (the large end) and when winding is commenced this naturally begins at the small end of the cone. The cone itself is mounted on a spindle with a handle one end and is supported in a wooden frame which serves as bearings on which the cone revolves (*see* Fig. 1, E.F.O. 67/29).

*To wind the line.*—The can end discs are first removed and placed one at each end of the cone. Next, the end of the line is laid in the groove and the winding commenced at the small end of the cone, which is revolved by the handle in the wooden support. Winding is continued backwards and forwards until the line is used up. Then the outside of the can is replaced over the wooden ends formerly taken off, and lastly the tin cone pulled out, large end first.

A cardboard cone can be used to keep the line in position till required for firing.

2. One set of the winding apparatus, as in Fig. 1 above, for re-winding the lines after firing, is to be manufactured by ships' artificers in each ship supplied with the Coston line-throwing shoulder gun. One set of the apparatus is supplied to the senior officer's ship of each squadron as a pattern. In small craft, where facilities do not exist for manufacturing the apparatus on board, it will be supplied from the Naval Armament Depot on demand.

3. Projectiles for use with the gun.

Three projectiles made of round mild steel bar, nickel-plated or tinned all over, are supplied with the gun. Requirements over and above this number are to be made in ships. In cases of emergency only, the electroplating or tinning of the projectiles may be omitted.

All projectiles are to be fitted on board with lengths of flexible steel wire,  $\frac{1}{2}$  in. in circumference, to prevent the line being burned by the flash from the gun. (Fig. 2, E.F.O. 67/29, shows the dimensions of projectile and wire lanyard.)

Directions for loading and firing are issued with each gun. It is necessary before firing that the line should be well wetted within about 3 ft. of the projectiles, otherwise the line will probably be burnt by the flash from the gun.

4. Fig. 3, E.F.O. 67/29, illustrates a support for the butt of the Coston line thrower. The support has been designed to obviate the objectionable kick of the gun when firing from the shoulder, and may be permanently attached to the gun, if desired.

5. Figs. 4 A and B, E.F.O. 67/29, illustrate a new type of container for coiling down the line clear for running.

*Method of using the container.*—The bottom of the box is placed over the pegs and a line then wound.

*Note.*—It is unnecessary to wind the whole line. About nine layers, *i.e.*, 94 yards, are all that the gun can fire down wind, and this amount only takes eight minutes to wind.

After winding, the cover of the box is placed on, and secured to the bottom by the two clips on either side.

The pegs are then withdrawn, after which the container is reversed and the bottom removed, thus leaving the line clear for running.

*Note.*—The appliances shown in Figs. 3 and 4 A and B above should be made by ships' artificers if found necessary.

6. The following accessories will be supplied with each gun:—

Brushes, cleaning, with rod ... ..	1
Drums, line ... ..	3
Lines, 564 ft. ... ..	12
Projectiles ... ..	3

7. *Defects which may occur.*—

- (i) Splitting of cartridge cases.
- (ii) Break-up of projectile on firing.
- (iii) Heavy recoil.

8. In view of paragraph 7 above, the following precautions are to be taken when using the Coston gun:—

- (i) Care should be taken, in the event of the cartridge splitting, to remove any piece of brass which may remain in the chamber, before reloading.
- (ii) Range to be clear before firing, to avoid injury to personnel.
- (iii) Gun to be fired with the butt resting on the deck or against a guard rail.

9. Attention is drawn to the possible difficulty of extracting cartridges, S.A., blank, U.M.C. 50/70, Remington make, when used with the Coston gun. A rod should be held in readiness to assist ejection of such cartridges.

## 1470.—Gun Mountings, 4 in., C.P. II, and 4·7 in., C.P. VI\*, Star Shell Gun—Spirit Levels—REPORTS.

(G. 15689/28.—14.6.1929.)

A contract, C.P. 29640/28, dated 18.2.29, has been placed with Messrs. W. Ottway & Co., for the manufacture and delivery to Portsmouth of 32 sets of spirit levels and cases complete for star shell guns of 4 in., C.P. II, and 4·7 in., C.P. VI\* mountings of the undermentioned vessels, *viz.*:—

### *Atlantic Fleet.*

*6th Flotilla.*—Eight vessels with 4 in., C.P. II mountings, *viz.*—

H.M. Ships "Valhalla," "Walpole," "Westcott," "Windsor,"  
"Vidette," "Wessex," "Westminster," "Wolfhound."

### *Mediterranean Fleet.*

*1st Flotilla.*—Eight vessels with 4 in., C.P. II mountings, *viz.*—

H.M. Ships "Vampire," "Vivacious," "Voyager," "Waterhen,"  
"Vendetta," "Vimiera," "Walrus," "Wryneck."

*2nd Flotilla.*—Eight vessels with 4 in., C.P. II mountings, *viz.*—

H.M. Ships "Valentine," "Vanquisher," "Venetia," "Viscount,"  
"Vanessa," "Vega," "Viceroy," "Winchelsea."

*3rd Flotilla.*—Six vessels with 4·7 in., C.P. VI\* mountings, *viz.*—

H.M. Ships "Veteran," "Witherington," "Wild Swan,"  
"Wanderer," "Wishart," "Wolverine."



2. The temporary levels reported to be fitted in vessels of the 6th Flotilla, Atlantic Fleet, are to be removed.

3. The part drawings, E.F.O. 63/29 (1-2), Nos. G.272 and G.274, show the arrangement and methods of fitting the levels on the 4 in., C.P. II and 4.7 in., C.P. VI\* mountings, respectively. Large scale prints of these drawings, for information in fitting, can be obtained from Portsmouth Yard if necessary.

4. The work of fitting is to be carried out by the ships' staffs or depôt ships, and reports are to be forwarded through the Administrative Authority when this work has been completed.

5. *Portsmouth*.—On receipt from the makers, arrangements are to be made for the despatch of the spirit levels and cases, together with brackets and fittings (referred to in Admiralty Letter D. 168/29, date 20.2.29), to the vessels enumerated above, and the two surplus sets of fittings are to be taken into store.

## 1472.—Voicepipes—Modifications to Mouthpieces for use with Gas Masks.

*Ships on China Station.*

(G. 1540/29.—14.6.1929.)

"*Castor*" and "*Hermes*."—The rubber mouthpieces in the existing officers' headpieces are to be modified in accordance with paragraph 6 of A.F.O. 1321/29.

"*Castor*," "*Hermes*," "*Iroquois*" and *Fourth Submarine Flotilla* (except "*L.S.*").—An item is to be inserted in the next list of alterations and additions, if not already done, in accordance with paragraph 8 (b) of A.F.O. 1321/29.

(A.F.O. 1321/29.)

## 1473.—Air Trunks—Provision of Access Doors.

*Steam-boats, Oil-fired.*

(E.-in-C./D. 2704/29.—14.6.1929.)

A fire having occurred recently in the furnace air supply trunk of an oil-fired steam pinnace as a result of an accumulation of oil therein, all ships or establishments to which steam-boats of this type are allocated, are to provide and fit observation and cleaning doors to the air casing and trunks, generally on the lines of the Sketch E.F.O. 60/29, to enable the watch-keeper to examine the sprayers and wipe out the interior of the air trunks from time to time, particularly on shutting off the boiler.

2. A small hand mirror is further to be provided for the use of the watch-keeper, to enable the satisfactory operation of the sprayers to be verified periodically through the observation doors.

3. The interior of the air supply trunks should be examined on all occasions of shutting down the boiler and as otherwise necessary, and any accumulation of fuel oil removed.

4. With regard to the unappropriated oil-fired steam-boats, the modifications should be carried out by yard labour, when necessary, to prepare the boats for issue to an approved service.

### 1475.—Statements of Electrical Instruments, etc.—Forms not now Required.

*“London” Class, “York,” “Dorsetshire,” “Norfolk,” “Exeter,” “Codrington” and “Acasta” Class, “Keith” and “Beagle” Class; Admiralty Ship Overseers and District Electrical Engineers, Devonport and Portsmouth Dockyards.*

(T. 1517/29.—14.6.1929.)

The hull specification, Part I B, and electrical specification, Part II B, for cruisers, and the hull specifications for destroyers and leaders, specify the supply by shipbuilders of forms detailing the low power electrical instruments, etc., fitted in these ships.

2. These forms are not now required, except as stated in A.F.Os. 1133/27 and 2076/27.

(A.F.Os. 1133/27 and 2076/27.)

### 1476.—Bakelite Insulators for Lampholders and the Tops of Electric Lighting Fittings.

(D. 5835/29.—14.6.1929.)

In some cases difficulty may be experienced in fitting the bakelite lampholder insulators in the Pattern 9027 retaining rings which are used in the tops of the various types of electric lighting fittings to secure the insulator.

2. Where this difficulty is experienced a punch and die, as shown on Sketch E.F.O. 61/29, should be made by the ship's staff.

3. The retaining ring should be placed in the die and the punch pushed or driven through to effect the necessary expanding of the ring.

### 1480.—W/T—Pattern 8383 Condenser and Pattern 8568 Handle—Method of Taking on Charge.

*Ships fitted with Types 35S, 37S, 38S, 39X, 46Y or with Transmitter Outfit 5C and all Dockyards.*

(N.S. 4402/29.—14.6.1929.)

It has been decided to split up Pattern 8383 condenser, T, air, adjustable, 0.05 jar, 8,000 volts test, into two pattern articles, viz. :—

Pattern 8383. Condenser, T, air, adjustable, 0.05 jar, 8,000 volts test, without handle,

and

Pattern 8568. Handle, 18 inches long, for Pattern 8383 condenser, adjustable.

2. Pattern 8383 condenser has been supplied already to the following services :—

Transmitter Outfit 5C...	1.
Type 35S ... ..	1 as component of S/W attachment; and 1 as spare to be carried in the ship.
Type 37S } ... ..	1 as component of panel 3KS, short wave.
Type 38S }	
Type 39X ... ..	1 as component of panel 3P, transmitting No. 4.
H.M.A.S. “Brisbane”	1 } as part of S/W transmitting set.
„ “Platypus”	

3. Ships and stations already supplied with, and dockyards holding stocks of Pattern 8383 condensers, are to take the handles (supplied as part of Pattern 8383) on separate charge as Pattern 8568 handle, 18 inches long, for Pattern 8383 condenser, adjustable, and to amend the description of Pattern 8383 to read :—“ Condenser, T, air, adjustable, 0·05 jar, 8,000 volts test, without handle.” The handles in question are to have their new pattern number clearly marked upon them.

4. The Rate Book and the W/T Establishment will be amended in due course.

### 1486.—Torches—Supply.

*R.F.A. Oilers.*

(N.S. Fuel 1464/29.—14.6.1929.)

To meet requirements in R.F.A. oilers for a portable lighting appliance of a less unwieldy size than the existing magazine lantern, it has been approved to add the “Wefco” patent gas-proof safety electric hand torch to the vessels’ establishments. This is the only torch authorised by the Home Office for use in fiery mines and is safe and suitable for use in oilers. No other dry-battery torches are to be taken on board or carried on oilers. Non-compliance with this instruction will, in future, be held to constitute an offence under the regulations.

2. The allowance to each oiler (except “Petronel”) will be four torches, two for deck use and two for engine room, and eight batteries. The necessary torches for oilers not under commercial management have been purchased, and delivery will be made from West India Docks direct to the vessels concerned.

3. Any standard 4·5 volt No. 1 Ever-ready or similar size battery is suitable for this torch, and arrangements should be made for the requisite quantities of Pattern 55 battery to be supplied from stocks at the base ports of oilers. Replenishments of batteries should be supplied on demand to all oilers, whether under commercial or Admiralty management, except R.F.A. “Petronel.”

4. Addresses of oilers on detached service will be furnished if application be made when torches or batteries are ready for despatch.

5. Existing regulations and posters are to be considered as modified by this Order in so far as they prohibit the use of dry battery torches in oilers.

6. The yard and ships’ copies of the establishments should be amended accordingly.

### 1487.—Compass Establishment for H.M. Ships “Dorsetshire,” “Exeter,” “Norfolk” and “York.”

(N.S. 6413/29.—14.6.1929.)

The compass establishment for the ships mentioned above is as follows :—

Position.	Compass. Binnacle.		Flinders Azimuth.			Heeling Error	
	Patt.	Patt.	Spheres. Patt.	Bars. Patt.	Mirror. Patt.	Instrument. Patt.	Magnets. Patt.
Standard ...	193	194	408	45	57	5—one	101-32 No.
Spare do. ...	193	194	408	45	57	—	54-14 No.

2. Boats compasses, Pattern 183, according to the establishment of boats.

1496.—*Issued Confidentially.*

**1510.—Gloves Supplied to Workmen using Pneumatic Tools.***H.M. Dockyards at Home and Abroad.*

(N.S. 7026/26.—14.6.1929.)

Gloves required for workmen using pneumatic tools are not to be obtained through the Loan Tool Store, but are to be drawn from the main store as consumable articles. Any gloves which at present are on charge in the Loan Tool Store for this purpose should therefore be transferred to the main stocks.

2. No change is to be made in the procedure relating to supplies of gloves required for workmen employed in, or associated with, a conversion shop, even though the men may be working temporarily or permanently "afloat," or away from the shop.

**\*1517.—Armistice and Gallipoli (Anzac) Days—Ceremony adopted by Commonwealth of Australia.**

(M. 1639.—21.6.1929.)

The Commonwealth Naval Board has issued orders that H.M.A. ships are to half mast colours on Armistice Day (11th November) from 1030 to 1103, and on Gallipoli or Anzac Day (25th April) from the time of hoisting until noon.

2. As regards Armistice Day, H.M. ships are to comply with the above procedure only when in Australian waters. Outside the Australian Station the instructions in A.F.O. 6/29 are to be rigidly followed, even in the event of an Australian ship being in company with H.M. ship(s).

3. As regards Gallipoli or Anzac Day, the procedure adopted by H.M. Australian ships is to be employed when in Australian waters, or in company with H.M.A. ship.

*(A.F.O. 6/29.)***1519.—Airships—Landing, Mooring and Towing.**

(M. 1900/29.—21.6.1929.)

The following detailed instructions for the landing, mooring and towing of airships in distress have been received from the Air Ministry, and are promulgated for information and guidance:—

**A.—LANDING AN AIRSHIP WITH A LANDING PARTY.**

1. *Ground equipment required.*—The following ground equipment should be available:—

- (i) One 8 to 10-ton snatch-block with hemp stopper, fixed securely on the ground.
- (ii) Aldis lamp for signalling.
- (iii) Port and starboard lights for night landing. White light for snatch-block point.
- (iv) Six lengths of Italian hemp rope, breaking strain 4–5 tons (100 ft. each).
- (v) Large deck cloth (white) to indicate snatch-block position.
- (vi) A portable searchlight would be useful, but not essential. (It is important that the beam should not be directed on the ship as this might blind the Captain when carrying out landing manœuvres.)

2. *Tackle carried on R.100 and R.101.*—The following wires and handling ropes are carried for use when landing with a landing party:—

Trail rope. (For landing to ground party only.)	400 ft. in length, fitted with eye at lower end. Best quality Italian hemp; breaking strength 6-7 tons; approximate $3\frac{1}{2}$ in. circumference.
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Standing guys (2). (For landing to ground party only.)	Each 400 ft. long. Best quality Italian hemp; breaking strength 4-5 tons. Approximate 3 in. circumference.
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3. *Arrangement of Landing Party.*—The landing party should consist of 400-600 men, according to the strength of the wind, and should be detailed into parties for the trail rope, side guy, car and tail plane positions, and arranged in the form of a V, as shown on plan (E.F.O. 72/29).

4. Each party will be in charge of an N.C.O. or chargehand, and two officers will be detailed, one for the bow and one for the stern of the ship.

5. If possible the landing officer should send to the Captain of the airship the ground air temperature and barometer readings M.S.L. and strength of wind, by visual signal immediately prior to the ship commencing landing operations.

6. The airship will approach the landing party from the leeward side, and should be manoeuvred to drop the trail rope just short of the trail rope party. Two men, detailed by the N.C.O. or chargehand of the trail rope party, will bring the trail rope to the snatch-block, and after it has been passed through the snatch-block the main trail rope party will man the trail rope and haul the airship down under the direction of the landing officer. The port and starboard guy parties will lay hold of the bow guys as soon as they are within reach, and take up position on either bow, assisting the trail rope party in hauling the ship down by walking out on their guys. Car and tail plane parties will stand by to receive the cars. Aft guys will be secured when within reach, but will be kept slack so as to allow the ship to swing into the wind when being held on the landing ground.

7. It is usual in a strong wind, when holding the ship on the landing ground, to supplement the forward guy parties with men from the aft guys.

8. If the ship drops the trail rope when flying too fast, it is better to make no attempt to stop her. The landing party should stand fast as a signal to the ship to make another circuit. Whilst a speed of 10 m.p.h. may be regarded as a reasonable speed at which to make a satisfactory landing, 15 m.p.h. would be too fast.

9. If the trail rope is dropped short, the landing party should stand fast with the exception of four or five men detailed from the trail rope party to bring the rope up to the block. These four or five men will seize the trail rope on the order, "Man the trail rope" being given, pass it through the snatch-block as quickly as possible, and the remainder of this party will then be instructed to haul away.

10. When the trail rope is snatched, care should be exercised in checking the way of the ship, so as to avoid bringing her up with a jerk, which might result in pitching the bow towards the ground.

11. All ropes should be allowed to earth to permit of an electrical discharge.

12. The landing party should be warned not to hold on to any rope too long in the event of their being dragged off the ground.

### B.—MOORING OUT AN AIRSHIP ON THE THREE-WIRE MOORING SYSTEM.

The system, as shown on the diagram, E.F.O.72/29, consists of a main wire running through three blocks, placed at the angles of an equilateral triangle. Attached to this wire at three points, C, A, B, between these three blocks are three secondary wires which come to one junction at a central swivel. This central swivel is attached to the airship's mooring point. This system allows the main wire to run through the three blocks up to the point of junction of the secondary wires (M). The airship is moored, not by the bow, but at a position called the mooring point. The mooring point consists of a ring held in place by three wires attached to the airship at various strong points. The airship must first of all be landed to a landing party, as described above, and then taken over by the landing party to the mooring position.

When the mooring point has been made fast to the swivel on the 3-wire mooring, the airship is eased up, lifting the weight of the wires, blocks, swivel, etc. To lie comfortably at this type of mooring, the airship has to be kept tail heavy by both dynamic and static means, *i.e.*, by her ballast and elevators. Otherwise she is liable to dive into the ground, owing to the pull and weight of the three wires on the nose, and also to changes of trim and lift which may arise from superheating, rain, snow, etc. If it can be arranged that she remains sufficiently tail heavy, while at the same time she has sufficient lift at her disposal to keep the 3-wire mooring system taut, she can lie safely at this system in reasonably heavy weather.

### C.—PICKING UP AND TOWING A LARGE AIRSHIP.

1. After the Armistice a series of towing experiments were carried out by H.M.S. "Furious" and one of the N.S. class of airships. These experiments proved that valuable assistance can be rendered by surface craft to an airship in distress. The experiments were based on the assumption that the airship was running short of fuel and could not make her base. If such an occasion were to arise during the future operations of large airships, the following arrangements would have to be made.

2. For taking a large rigid airship in tow, it would be necessary for the surface vessel to have at least 1,000 ft. of 1 in. or 1½ in. diameter wire, approximate breaking strain 25 tons, available for making fast to the 1,000-ft. towing wire of the airship. It would be inadvisable to attempt to tow an airship of the length of R.101 (724 ft.) at a height less than 2,000 ft.

The surface craft should be able to veer and haul on the towing line, so as to allow the airship to tow at a safe height, to be determined by the prevailing weather conditions.

A wire cutter or other quick release device should be available, whereby the airship could be "slipped" from the surface craft if necessary in any emergency.

Visual signals will be made from the airship by Aldis lamp.

3. The procedure to be carried out when taking an airship in tow depends on whether the airship is able to manœuvre or not.

(a) If the airship is able to manœuvre, the ship should steam into the wind, the airship approaching her up wind and lowering the towing wire on to the deck of the surface craft, where it should be made fast to the ship's wire and the airship gradually let up.

(b) If the airship is not able to manœuvre, she will ride to a drogue in the sea at the end of her towing line. In such case the ship, on reaching the spot, should, weather permitting, lower a boat and attach her towing line to a shackle situated underneath the "spilling" arrangement on the drogue. The drogue would then be "spilled" from the airship or by hand from the boat, and the airship would rise lifting the towing line with her.

In the event of the weather rendering it impossible for the surface craft to lower a boat and make fast the tow line, the airship would get under way and the procedure would be as in paragraph 3 (a).

1527. } Issued Confidentially.  
1536. }

**1537.—Evershed Gun Control System—Provision of Repeat Open-faced Indicators from the Director and Control Positions at the Captain's Transmitters—REPORTS.**

*"Danae," "Dauntless," "Dragon" "Delhi," "Dunedin," "Durban,"  
"Despatch" and "Diomede."*

(T. 1305/29.—21.6.1929.)

The following instructions are issued for guidance in making the necessary alterations in the Evershed gun control systems in the above-mentioned cruisers to provide for repeat open-faced indicators from the directors at the Captain's transmitters on the bridge, and also to enable the existing open-faced indicators at these transmitters to indicate, by means of the change-over switch, from the three control positions.

2. Duplicate copies of the undermentioned Evershed gun control diagrams, together with copies of this Order, have been forwarded separately to H.M. Dockyards, Chatham, Devonport, Portsmouth, Malta and Bermuda. Copies have also been sent to H.M. Ships "Excellent" and "Vernon," viz. :—

- (i) Cable and Apparatus Diagram No. 8328G and Detailed Connection Diagram No. 9213D for "Danae," "Dauntless" and "Dragon."
- (ii) Cable and Apparatus Diagram No. 8831H and Detailed Connection Diagram No. 9572B for "Delhi," "Dunedin" and "Durban."
- (iii) Cable and Apparatus Diagram No. 10266H and detailed Connection Diagram No. 10636C for "Despatch" and "Diomede."

3. Duplicate sets of the diagrams mentioned in paragraph 2 (ii) and (iii), together with a copy of this Order, have also been sent separately to the Commodore, New Zealand Squadron.

4. Copies of the diagrams have also been forwarded to H.M. Ships "Excellent" and "Vernon" for information.

5. The additional apparatus required is shown in the accompanying schedule, together with remarks as to the arrangements which are being made for the supply.

6. Chatham and Devonport Dockyards are to arrange for the immediate despatch of the apparatus available at the respective yards, as detailed in the schedule, to Messrs. Evershed & Vignoles' works for modification to suit the requirements of the diagrams. Should any of the items mentioned have been used by the yards for other services since the dates of the yard letters reporting their availability, other items of the same symbol numbers are to be returned to Messrs. Evershed & Vignoles' works in lieu.

Reports are to be forwarded at an early date by Chatham and Devonport Yards, stating the despatch of the gear to Messrs. Evershed & Vignoles' works.

7. One switch, S.31, will be liberated from "Danae," "Dauntless," "Dragon," "Delhi," "Dunedin" and "Durban" as the result of these alterations. The switches are to be retained in store and held available for other services.

8. The additional cables and apparatus are shown dotted on the cable and apparatus diagrams, and a list of the additional apparatus is also included on each diagram.

9. It is anticipated that the additional apparatus will be available in about 2 to 3 months.

10. An item for this work should be included in the next list of alterations submitted by the ships concerned.

Item No.	Symbol No.	Description.	Ships.								Totals.	From whence to be obtained.
			"Dane."	"Dantless."	"Dragon."	"Delhi."	"Dunedin."	"Durban."	"Despatch."	"Dionede."		
1	J.9	Junction box ...	1	1	1	1	1	1	1	1	8	In store at Chatham. In store at Devonport. To be returned to Messrs. Evershed & Vignoles' works for modification.
2	J.98	Junction box ...	1	1	1	1	1	1	1	1	8	Three new J.9 boxes. One J.14, No 84732. Three J.73, Nos. 89591, 89615, 89619. Four J.14, Nos. 80406, 53371, 53377, 84739. New, to be manufactured by Messrs. Evershed & Vignoles. Eight S.46 switches (Register Nos. to be reported).
3	J.F.122	Junction and fuze box...	1	1	1	1	1	1	1	1	8	In store at Chatham. In store at Devonport. To be returned to Messrs. Evershed & Vignoles' works for modification.
4	S.211	Change-over switches ...	1	1	1	1	1	1	1	1	8	In store at Chatham. In store at Devonport. To be returned to Messrs. Evershed & Vignoles' works for modification.
5	Z.2	Open-faced indicators...	2	2	2	2	2	2	2	2	12	Ten Z.2 ex "Canada," Nos. 66733, 4, 47, 48, 49, 42, 60, 62, 66876-77. Two Z.2, ex "Thunderer," Nos. 81199, 81160. In Store at Devonport. Ditto.
6	Z.31	Open-faced indicators...	-	-	-	-	-	2	2	2	4	Four Z.10 open-faced indicators, S/L control (Register Nos. to be reported). In store at Chatham. Ditto.
7	Patt No. 356	Rubber buffers	4	4	4	4	4	4	4	4	32	To be supplied from stocks at yards.
8	Sym. No. Z.B.7	Brackets for illuminating lamps.	2	2	2	2	2	2	2	2	12	To be supplied from stocks at yards.

Items shown as available at the Yards were included in the lists forwarded with Chatham Yard letter, No. 4509, dated 4.10.28, and Devonport Yard letter, No. 4/X/4541, dated 6.9.28.



**1538.—Field Guns, 12 pdr. 8 cwt.—Spare Wheels.***Training Establishments.*

(G. 01783/28.—21.6.1929.)

With reference to paragraph 4 of A.F.O. 1221/29, the following arrangements are to be made with regard to the supply of spare wheels for 12-pdr. 8-cwt. field guns to the training establishments, viz. :—

2. *Portsmouth Yard.*—The five carriages and limbers in store are to be dismantled, and 10 wheels issued to H.M.S. "Excellent" and 10 to the R.M. Division, Eastney.

The limbers (less wheels) are to be retained in store for use in future orders for 3·7-in. howitzers, and the remainder of the equipments brought to produce, except any parts likely to be of use as spares.

3. *Chatham Yard.*—Four carriages and limbers are to be dismantled, and 10 wheels issued to Chatham Gunnery School and 5 to the R.N. Barracks, Portsmouth.

The limbers (less wheels) are to be retained in store for use in future orders for 3·7-in. howitzers, and the remainder of the equipments brought to produce, except any parts likely to be of use as spares.

The four complete equipments in best condition, are to be set aside for possible issue to Canada.

4. *Devonport Yard.*—Three carriages and limbers are to be dismantled and 10 wheels issued to the Devonport Gunnery School.

The limbers (less wheels) are to be retained in store for use in future orders for 3·7-in. howitzers, and the remainder of the equipments brought to produce, except any parts likely to be of use as spares.

The seven equipments in best condition are to be set aside for possible issue to Canada.

(A.F.O. 1221/29.)

**1539.—Gun Mountings and Director Towers—Examination, Cleaning, and Renewal of Oil in Tanks, etc., where Oil is used as Pressure Medium.**

(G. 2213.—21.6.1929.)

Periodical examination, cleaning, and renewal of the oil in tanks, casings of engines, valve boxes, etc., should be carried out in all gun mountings and director towers on the general lines laid down in the Engineering Manual, 1923, Paragraph 111 (Clause 5).

**1541.—Instructional Shooting Appliances—Re-allocation—REPORT.***All Ships and Establishments.*

(G. 1689/29.—21.6.1929.)

It has been decided to re-allocate instructional shooting appliances on the lines indicated below. The following ships are not being supplied with any form of shooting appliance :—

- (a) H.M. ships of "Nelson," "Kent," and "London" classes.
- (b) Leaders and destroyers.
- (c) Submarines.
- (d) Sloops and gunboats.

Service.	No. in Class.	Légé's.	Combined laying and training teachers.	Chatham adaptable type shooting teacher.	Gun and Mounting.
"Queen Elizabeth" Class.	5	5	5	-	6 in. P.IX.
"Royal Sovereign" Class.	5	5	5	-	6 in. P.IX.
"Iron Duke" Class	4	4	4	-	6 in. P.VII.
"Hood" ...	1	1	1	-	5·5 in. C.P.II.
"Renown" ...	2	2	2	-	4 in. Triple.
"Tiger" ...	1	1	1	-	6 in. P.VII.
"Hawkins" Class	4	4	-	-	7·5 C.P.V.
"E" Class ...	2	2	-	-	6 in. C.P.XIV.
"D" Class ...	8	8	-	-	6 in. C.P.XIV.
"Carlisle" Class ...	5	5	-	-	6 in. P.XIII.* P.XIII.**
"Ceres" ...	5	5	-	-	6 in. P.XIII.*
"Cambrian" or "Canterbury"	1	-	-	1	} P.VII.*
"Comus" ...	1	-	-	1	
"Caledon" ...	3	-	-	3	6 in. P.XIII.*
"Centaur" ...	2	2	-	-	6 in. P.VII.*
"Adventure" ...	1	1	-	-	4·7 in. H.A.XII.
"Courageous" ...	2	2	-	-	4·7 in. H.A.XII.
"Furious" ...	1	1	-	-	5·5 in. P.I.*
"Hermes" ...	1	1	-	-	5·5 in. P.I.*
"Eagle" ...	1	1	-	-	6 in. XII.*
"Argus" ...	1	1	-	-	4 in. H.A.III.
Destroyer Base, Firth of Forth	-	2	-	-	To report.
Sandhurst ...	1	2	-	-	4 in. C.P.III.
Manoel Island, Malta	-	2	-	-	4 in. C.P.II, 4·7 C.P.VI.*
Hong Kong ...	-	1	-	-	To report.
"Cyclops" ...	1	1	-	-	-
"Medway" ...	1	1	-	-	4 in. P.IX.
"Excellent" ...	-	2	-	-	} As already arranged in the Establishments.
Devonport Gunnery School.	-	2	-	-	
Chatham Gunnery School.	-	2	-	-	
R.M., Portsmouth	-	1	-	-	
R.M., Plymouth ...	-	1	-	-	
R.M., Chatham ...	-	1	-	-	
R.N.B., Portsmouth	-	1	-	-	
Totals ...	-	70	18	13	

2. The form of local director sights fitted in the ships referred to at (a) above, does not lend itself to any type of simple and portable shooting appliance, and the necessary practice must therefore be obtained by other forms of exercises.

3. Depôt ships and bases are being supplied with shooting appliances, which are primarily intended for the use of the ships enumerated at (b), (c) and (d) above.

4. Shooting appliances are not being supplied for the main armament of heavy ships.

5. Where Légé teachers have already been supplied to ships not authorised to carry them under this revised allocation, these appliances are to be surrendered forthwith to the local dockyard. After

meeting the requirements of other ships on the station, the surplus is to be returned to Portsmouth Yard, who should arrange supplies as necessary to meet deficiencies in other yards.

6. All other shooting appliances now carried in ships in excess of the new allocation are to be returned to Portsmouth Yard. The disposal of these apparatus will be considered when present requirements have been met.

7. Portsmouth Yard, in conjunction with "Excellent," is to prepare drawings of the gear necessary for fitting Légé teachers to the:—

6 in. P.IX mountings of "Queen Elizabeth" and "Royal Sovereign" classes.

6 in. P.VIII mountings of "Tiger" and "Iron Duke" class.

4 in. triple mountings of "Renown" class.

These should be forwarded to the Admiralty, as early as possible, for approval. The work of fitting will be carried out by ship's staff, in accordance with the drawings which will be promulgated.

8. Arrangements have been made for Portsmouth Yard to manufacture and supply the necessary gear for fitting the Chatham adaptable shooting teacher to the P.VII\* mountings in "Cambrian" or "Canterbury" and "Comus."

9. All ships and establishments are to report, through the Administrative Authority, when they are equipped in accordance with the revised allocation.

### 1545.—Voicepipes—Alterations—REPORTS.

*"Montrose" and "Stuart."*

(G. 2433/29.—21.6.1929.)

Reports are to be forwarded through the Administrative Authority as follows:—

*"Montrose."*—(i) On the efficiency of the voicepipe when the modification in accordance with A.F.O. 419/29 has been completed, and

(ii) whether the voicepipe communication in the O.O.Q.'s control between the master sight setter at No. 2 gun and the sight setter at No. 3 gun is satisfactory.

*"Stuart."*—Whether the headpiece referred to in paragraph 2 of ship's letter, dated 18th February, 1929, No. P. 1643/ G.7, has been modified for use with gas masks in accordance with paragraph 6 of A.F.O. 1321/29.

(A.F.Os. 419/29 and 1321/29.)

### 1546.—Secondary Batteries connected to Low Power Switchboards—Number of Cells in each Battery and Method of connecting Batteries to Switchboards—REPORTS.

*H.M. Ships of the "Royal Sovereign," "Queen Elizabeth," "Repulse" and "Hawkins" Classes, "Tiger" and "Furious."*

(T. 844/29.—21.6.1929.)

With reference to the instructions issued in A.F.O. 1149/29, regarding the supply of additional batteries, etc., to certain of the ships which are being fitted with the high angle control system, Mark I, the batteries to be supplied to that Order are to be comprised of 12 cells.

2. It is now under consideration to complete, to 12 cells, the remaining batteries connected to the low power switchboard in the above-mentioned ships, where this is not already arranged.

3. It is also under consideration to standardise as far as is desirable the methods of connecting the batteries to the switchboards in these ships.

4. Reports are therefore to be forwarded through Administrative Authorities by the respective ships, giving the following information:—

- (a) Number of batteries connected to the low power switchboard.
- (b) Number of cells in each battery and the pattern numbers of the cells.
- (c) Method of connecting the batteries to the switchboards—
  - (i) Whether connected direct to the busbars through D.P. switches, and if so, is a central reading ammeter fitted in the negative lead of each battery; or
  - (ii) are battery charging boards (complete with charge and discharge ampere hour meters and ampere and volt-meters) fitted for each battery?
  - (iii) Are end cell switches fitted to all batteries?

(A.F.O. 1149/29.)

### 1547.—36 in. Searchlight Projectors, Mark III.

*“London” and later classes.*

(T. 519/29.—21.6.1929.)

In order to obviate as far as possible the risk of damage by straining or distortion to the barrels and fittings of the 36 in. searchlight projectors fitted in ships of the “London” and later classes, the work of lifting is to be undertaken by dockyards, provided that an item is inserted in the defect list to cover the work involved.

2. It should be clearly stated in the defect list—

- (a) If the examination required to be undertaken by the dockyard is for normal overhaul, no defects being known. In this case the date of last lifting and by whom the work was undertaken is to be inserted.
- (b) Details of any known defects rendering the lifting necessary.

3. The depth charge davit should be used for lifting the searchlight lamps and mirrors, and a heel fitting has been provided at each searchlight platform for this purpose.

4. In order, however, that the lifting of these projectors may be undertaken in emergency by ship's staff, the method to be employed is shown in the sketch E.F.O. 58/29.

### 1548.—*Issued Confidentially.*

### 1549.—Bolts and Studs Subjected to High Temperature— Examination—REPORT.

(D. 8126/29.—21.6.1929.)

Several cases have been reported from ships of bolts or studs, fitted in positions subject to high temperatures, having been found to be brittle or broken.

2. Periodical examinations should be made, by all ships, of bolts and studs fitted in such positions as nozzle boxes, steam stop valves, safety valves, steam pipes, etc., one or more bolts or studs being removed at these examinations, and if found to be broken or brittle, a report should be forwarded to the Admiralty giving details of the bolts or studs, and the part from which they were removed, together with, if possible, the source of supply, and date when fitted.

3. When such bolts or studs are renewed, care should be taken that the material from which the replacements are made is in all respects suitable for the service.

4. All yards supplying any replacements for these items should ensure that they have been made from satisfactory material which has passed the tests required for new bolts and studs.

**1550.—Turbine Nozzle Plates—Replacement.***“ D ” Class Cruisers.*

(D. 8069/29.—21.6.1929.)

It has been decided that all turbine nozzle plates (except L.P. ahead nozzles, where so fitted) of “ D ” Class cruisers are to be replaced during the large repair period by plates with Hecla A.T.V. steel vanes, modified in the case of Brown-Curtis Turbines in accordance with A.F.O. 511/28.

2. For Parsons Turbines the materials of the plates are to be phosphor bronze, with Hecla A.T.V. steel vanes.

3. Tenders for the replace plates, with flanges left undrilled, should be obtained as required by the dockyards concerned.

*(A.F.O. 511/28.)***1554.—W/T—Pattern 7468, Wavemeter G.12—Supply.***Ships carrying aircraft fitted with R/T sets.*

(N.S. 4401/29.—21.6.1929.)

Trials of a Pattern 7468 wavemeter, G.12, have been carried out in connection with the tuning of R/T sets fitted in aircraft of the Fleet Air Arm. These trials show that the wavemeter G.12 is more sensitive than the existing wavemeter W.37, tuning of aircraft on deck using the hand generator being possible with the former, but not with the latter instrument. It has been decided, therefore, to supply wavemeters G.12 to ships carrying aircraft fitted with R/T sets.

2. H.M. Ships “ Courageous,” “ Glorious,” “ Furious,” “ Eagle,” “ Emerald ” and “ Enterprise ” will be supplied with the following stores without demand:—

<i>Pattern No.</i>	<i>Description.</i>			<i>No.</i>
7468	...	...	Wavemeter G.12	1
7469	...	...	Lamps, indicating (Neon), for Pattern 7468	2

3. Priority of supply is to be given to H.M. Ships “ Courageous,” “ Furious ” and “ Eagle.”

4. The above-mentioned stores will be added to the establishment of stores for the W/T sets which may be fitted in the main W/T offices of ships, together with a note that they are allowed for use with R/T sets in aircraft, only if the ship carries aircraft fitted with R/T sets. The necessary amendments to the W/T establishment will be promulgated in due course.

5. *Portsmouth only.*—Provision of those articles required in replacement should be included in Yard Review Demand, Subhead F.1.A. for 1929/30.

**1555.—W/T—Deck Insulators, Groups AB to AE—Fitting in existing Ships.**

(N.S. 6210/29.—21.6.1929.)

Approval has been given to fit the following further five ships:—

“ Effingham.”	“ Dunedin.”
“ Emerald.”	“ Adventure.”
“ Enterprise.”	

2. Ships concerned should insert an item to effect the above on their next List of Alterations and Additions, quoting this Order as authority.

### 1556.—Compass Establishment for H.M.S. "Keith" and "Beagle" Class Destroyers.

(N.S. 7131/29.—21.6.1929.)

The compass establishment for H.M.S. "Keith" and the "Beagle" Class destroyers is as follows :—

<i>Position.</i>	<i>Compass Pattern.</i>	<i>Binnacle Pattern.</i>	<i>Spheres Pattern.</i>	<i>Flinders Bars Pattern.</i>
Standard ...	195	196	406	197
Steering ...	195	196	406	197
After ...	195	196	406	197

Magnets, Pattern 54—21 No.

„ „ 101—30 No.

„ „ 102—12 No.

Boats' compasses, Pattern 183, according to the establishment of boats.

### 1558.—Windscreens for Rangefinders, Pattern 9619—Modification necessary when issued for use with M.Q.12 Mounting.

(N.S. 7351/29.—21.6.1929.)

Pattern 9619 windscreens for rangefinders are unsuitable for use with M.Q. 12 mounting fitted with modified bearings and oscillating trainer's periscope. Ships equipped with M.Q. 12 mounting so fitted are to return the Pattern 9619 windscreens to yards for modification and re-issue.

2. The modification of the Pattern 9619 windscreens is to be carried out by the yards concerned in accordance with the tracing forwarded to Portsmouth with Admiralty letter, dated 10th May, 1929, N.S. 4135/8741. After modification the windscreens are to be taken on charge as Pattern 9619A.

3. Copies of the tracing are being made by Portsmouth for distribution to yards abroad.

If the space between the left end of the rangefinder face piece casting and the cover over the left roller bearing is insufficient to allow of the windscreen being shipped, the stiffening segment on the screen should be reduced in thickness or, if necessary, removed altogether.

### 1559.—Rotary Switches—Component Parts for Repair of Insulating Bases.

(N.S. 2931/29.—21.6.1929.)

The undermentioned component parts have been introduced for repair of Pattern 7170 insulating bases in rotary switches of Pattern 7160, etc., series :—

<i>Pattern.</i>	<i>Description.</i>	<i>Remarks.</i>
7178	Phosphor bronze terminal blocks, fitted complete with phosphor bronze contacts.	Supplied in sets of four.

2. Complete bases, Pattern 7170, should not be demanded in future unless actually required.

**1574.—Light Shale Oil (Pattern 29)—Reserves.**

(N.S. Fuel 228/29.—21.6.1929.)

In order to reduce the period of storage of light shale oil in cans before use, the following reduced reserves are to be substituted for those promulgated in April, 1927, viz. :—

	<i>Gallons.</i>
Rosyth ... ..	(a)
Chatham ... ..	500
Sheerness ... ..	100 (b)
Portsmouth ... ..	2,000
Portland ... ..	400
Devonport ... ..	1,200
Gibraltar ... ..	500
Malta ... ..	7,000 (c)
Trincomali ... ..	200
Singapore ... ..	1,000 (d)
Hong Kong ... ..	2,400
Wei-Hai-Wei ... ..	100 (e)
Bermuda ... ..	500
Cape ... ..	200
Sydney ... ..	(f)

*Notes.*

(a) Sufficient stock to be maintained for commissioning destroyers in maintenance reserve at Rosyth. All stock over one year old to be turned over by transfer to Chatham, by free freight.

(b) In addition to this reserve a stock of empty cans is to be maintained ready for filling, sufficient to effect shipment of 2,000 gallons of light shale oil at short notice.

(c) To include stock on board F.S.S. "Perthshire."

(d) Special reserve for emergency purposes; to be turned over periodically by transfer to Hong Kong.

(e) Supplies to be obtained from Hong Kong.

(f) Sufficient stock to be maintained to complete all vessels in reserve on mobilization, plus one year's peace expenditure.

2. In future, all cans filled at Sheerness are to be marked with the month and year of filling, and similar arrangements will be made with the Scottish Oil Agency with regard to the cans filled at their works. On receipt at yards at home and abroad the consignments are to be stowed in order of date of filling, and every endeavour made to ensure that the oldest filled cans are issued first.

**1594.—War Gratuities—Ratings.**

(N.P. (II) 1220/29.—28.6.1929.)

No payment of War Gratuity is to be made after the 31st December, 1929, without prior reference to the Admiralty.

2. Any claims which may be received in respect of Naval ratings or Marines should be addressed to the Accountant-General of the Navy (Branch 9) or to the Adjutant-General, Royal Marines, respectively.

3. Applications from Natives should in the first instance be sent to the officers named in A.F.O. 1714/24, paragraph 2 (vii), who will verify the claims, and if necessary forward them to the Accountant-General for authority for any payment due.

4. Payments of War Gratuity or "Extra Pay" in respect of war service in the Royal Australian Navy or H.M.S. "Philomel" authorised prior to the 31st December, 1929, should be specially reported to the Accountant-General at the time of authorisation.

(A.F.O. 1714/24.)

1600.—*Issued Confidentially.*1601.—**Gun Mountings, 6 in., P. III, P. IV, P. V, P. V\*, P. VII and P. VII\*—Reconditioning and Converting to 20° Elevation—REPORTS.**

(G. 10977/28.—28.6.1929.)

The following instructions are promulgated for information when reconditioning and converting the above mountings and sights.

Attention is called to the instructions contained in A.F.O. 1325C/19. Paragraphs 2 and 3 of the preamble are not applicable, and the matter is left to the discretion of the yard officers, but generally—

Ball plates in bottom bearings to be ground up or renewed if badly pitted.

Pivots smoothed up, new worm wheels fitted and new bottom bushes fitted to pedestals where required.

Training worm brackets re-bushed. Elevating gear brackets re-bushed as necessary.

Training pawl brackets refitted.

Sights refitted as necessary.

Mountings stripped down, cleaned and painted for preservation.

The following allowances are the maximum permissible, taking into consideration the service for which the mountings are intended :—

**BACKLASH.**

Idle movement of elevating handwheel	...	...	$\frac{1}{2}$ turn.
Idle movement of training handwheel	...	...	$\frac{1}{2}$ turn.

Maximum permissible movement obtained by bearing on the muzzle with the training clamp set hard up =  $\frac{3}{4}$  degrees.

**TANGENTIAL EFFORTS.**

*Conditions.*—Gun empty, without sights or breech mechanism (muzzle heavy).

*Training.*—Not to exceed 16 lb.

*Elevating.*—To elevate, not to exceed 24 lb. To depress O gun should run down.

This should give an elevating effort of about 10 lb. with the gun loaded and balanced.

All mountings are to be complete with electrical night sight circuits and percussion firing gear. (*See* C.A.F.O. 807/29.)

For particulars as to cells, *see* C.A.F.O. 134/27.

Full charge sight graduations only are required at present. A further Order will be issued with regard to provision of sub-calibre dials.

Generally, all these mountings should be complete with training stops, two limit and one housing, any existing stops which are suitable being utilised, and, unless already fitted, should be simply attached to be fitted in appropriate positions when time for service arrives.

Instructions as to index racers and pointers were issued with Admiralty letter, dated 16.12.26, G.16228/26.

No action should be taken in connection with shields for these mountings for the present.



Particulars as to the graduations to be engraved on the full charge range dials of the undermentioned mountings, when reconditioned for use in armed merchant cruisers, defensively equipped merchant ships, fast liners, etc., are not at present available. In the meantime the existing dials are not to be altered.

- 6 in., B.L., XI guns on P.V, P.V\* and P.VI mountings.
- „ „ XII guns, on P.VII, P.VII\* and P.IX mountings.
- „ „ XIII guns on P.XI mountings.
- „ „ XVI guns on P.X mountings.

The following points should be noted in connection with particular mountings:—

*6 in. P.III and IV Mountings.*—Drop centre sights, if fitted, are to be removed, together with the sight brackets.

Sights not of drop centre type can be obtained from Devonport if required.

The range dials are to be graduated for a M.V. of 2,500 f.s., in accordance with approved drawing to suit a gearing ratio of 37·677.

The deflection dials are to be graduated to Approved Drawing No. G.72.

The left-hand training gear, consisting of handwheel and shaft, bevel wheels and training shaft, is to be removed and the surplus parts returned to Portsmouth Dockyard.

*6 in., P.III.*—The sketch (E.F.O. 68/29 (1)) is circulated for information and guidance in connection with any repairs to the ball valve seatings which may be found necessary.

*6 in., P.IIIS Mountings.*—Mountings of this mark are not to be taken in hand at present.

*6 in., P.V. Mountings.*—Range dials to be graduated to approved Drawing No. G.123.

Deflection dials are not to be altered.

Range correctors, if in place, are to be removed.

*6 in., P.V.\* Mountings.*—Range and deflection graduations to remain as at present.

These mountings and sights are not to be converted for a greater elevation than at present.

*6 in., P.VII and VII\* Mountings.*—The sketch (E.F.O. 68/29 (2)), showing the new arrangement of the worm spindle of the auxiliary elevating gear of 6 in., P.VII and P.VII\* mountings, is promulgated for information in cases where this work has not already been carried out, the earlier arrangement of the auxiliary shaft being also shown.

Attention is called to the possibility of a foul taking place on running out after firing, between the toe on the bar of the gun portion of the percussion firing gear of 6 in., P.VII\* mountings and the tripping plate on the mounting portion of the gear if not properly adjusted.

Care should be taken to see that the travel of the tripping plate on the rod of the mounting is just sufficient to function correctly; this can be done by packing the gun back and pressing the firing pedal, adjustment being made by means of the stop bolt provided for the purpose on gunlayer's foot rest.

Additional stops are to be made and fitted in the position shown on the sketches (E.F.O. 68/29 (3) and (4)) to the percussion firing gear of all 6 in., P.VII and P.VII\* mountings.

The stops are to be adjusted in conjunction with the existing stops limiting the travel of the foot pedals; this is necessary in order to obtain the correct travel of rods and throw of toe piece.

Details which are common to both 6 in., P.VII and 6 in., P.VII\* converted sights, and which have been marked 6 in., P.VII and VII\*, have been used in the conversion of the 6 in., P.VII\* sights from 15 degrees to 20 degrees.

Arrangements have been made for the P.VII marking to be removed before the despatch of any further 6 in., P.VII\* sights from Woolwich Arsenal.

In the case of 6 in., P.VII\* sights already delivered, after conversion to 20 degrees, arrangements are to be made for the P.VII marking to be removed by the yards and ships concerned, to whom issues of these converted sights have been made.

*General*.—Where doubt exists, or full particulars are not available on any point, the matter should be referred to the Admiralty.

The work of refitting and modifying the mountings is not to be taken in hand until definite approval of estimates has been received.

Mountings, when reconditioned, should be reported as such.

(*A.F.O. 1325C/19 and C.A.F.Os. 134/27 and 807/29.*)

### 1603.—Rangefinders—Use of L.A. Rangefinders on H.A. Targets.

(G. 3276/29.—28.6.1929.)

The best type of field image for H.A. and L.A. rangefinders has been under consideration for some time. Opinion is not unanimous, but as a result of reports from sea the following conclusions have been reached:—

- (a) For H.A. Targets.—The strip image with inverted image in the strip is the most suitable. This opinion is unanimous.
- (b) For L.A. Targets.—The single image with divided field with a single separating line is the most suitable.

Certain opinions state that an inverted strip image is equally suitable, but other opinions hold that this is only so when there is no motion on the ship. When there is motion on the ship, and the rangetaker has difficulty in steadying his separating line on the target, then the inverted strip image is definitely at a disadvantage as the appearance of the image in the field is most confusing.

2. It has therefore been decided that rangefinders fitted primarily for H.A. targets shall have divided strip images, and rangefinders fitted primarily for L.A. targets shall have single divided images.

The rangefinders fitted in the 6 in. director control towers of "Nelson," and the 8 in. director towers or director control towers of the latest cruisers are considered as primarily for L.A. targets and are fitted with divided images.

3. When L.A. rangefinders, fitted with divided fields, are required to observe on small H.A. targets, difficulty will probably be experienced in maintaining the separating line on the target.

Under these conditions the rangetaker should insert a certain amount of halving error and obtain the cut by superimposing one image above the other.

The amount of halving introduced should be the minimum essential for the prevailing conditions and should be removed if the rangefinder is diverted to a L.A. target.

### 1607.—Searchlight Indicating Lamps.

*H.M. Leaders and Destroyers.*

(D.E.E./G. 19526.—28.6.1929.)

Leaders and destroyers fitted with fore bridge searchlight breaker control unit should also be fitted with lamp, Pattern 7923, to indicate when current is available at the searchlight, and also when the arc is burning.

2. To provide for this, one feed wire should be connected to the double-pole switch of the searchlight, and the other wire to a suitable part of the searchlight resistance so that the pressure across the indicating lamp is approximately 75 volts when the arc is burning.

3. Vessels not so fitted should include an item for the work to be carried out in the next list of proposed alterations and additions.

### 1608.—“Orbit” Table Fans (Messrs. Verity’s)—Hardening of Lubricating Wicks.

(T. 1802/29.—28.6.1929.)

A report has been received from one of H.M. ships concerning “Orbit” table fans of Messrs. Verity’s manufacture, to the effect that the lubricating wicks harden and wear rapidly.

2. When a defect of this nature is experienced with this type of fan, the wicks should be softened by boiling.

### 1609.—Pressure Hulls—Examination—REPORTS.

*H.M. Submarines prior to “O” Class.*

(D. 8717/29.—28.6.1929.)

The following is an extract from a report which has been received respecting two of H.M. submarines:—

\* \* \* \* \*

*Wear of pressure hull of submarines in wake of anchor cable.*

“Considerable wear was found to have taken place on the inboard sides of both port and starboard chain lockers. The bars fitted to take the wear were badly worn; the heads of the rivets securing these were worn to an extent which would suggest a risk of the rivets being forced out of the plate by the pressure of the sea on diving deep. Between the bars, the plate of the cable locker, which forms part of the pressure hull, was in places grooved to a depth of  $\frac{1}{4}$  in. The bars have been renewed and the plates re-inforced where necessary.”

\* \* \* \* \*

It has been decided that an examination of the pressure hulls in wake of cables, and inboard sides of cable lockers, is to be carried out on all H.M. submarines prior to “O” class, on the next occasion of docking.

The results of the examinations should be reported through the Administrative Authority.

### 1613.—Compass Establishment for H.M. Ships “Folkestone,” “Hastings,” “Penzance” and “Scarborough” and R.I.M. Sloop.

(N.S. 6844/29.—28.6.1929.)

The compass establishment for the vessels mentioned above is as follows:—

Position.	<i>Compass. Binnacle. Spheres. Flinders Bar.</i>			
	<i>Pattern.</i>	<i>Pattern.</i>	<i>Pattern.</i>	<i>Pattern.</i>
Standard ... ..	195	196	407	197
Steering ... ..	195	196	407	197
Hand wheel ... ..	183	—	—	—
<i>Magnets.</i>				
<i>Pattern.</i>				<i>No.</i>
54 ... ..	...	...	...	14
101 ... ..	...	...	...	30
102 ... ..	...	...	...	10

2. Boats’ compasses, Pattern 183, according to establishment of boats.

## 1617.—Apparatus for Estimation of Oxygen in Boiler Feed Water.

(N.S. 6689/29.—28.6.1929.)

A simple type of apparatus for estimation of oxygen in boiler feed water has been devised, and one such instrument will be supplied to each of H.M. Dockyards, Chatham, Portsmouth and Devonport, for use of the trial record staffs in checking the guarantee figures of deaerators fitted to new construction. One of these instruments will also be allowed to H.M.S. "London," and later cruisers if fitted with deaerators.

2. Four of these instruments to meet first supply to Chatham, Portsmouth and Devonport, and H.M.S. "London," have been requisitioned for purchase at an estimated cost of £4 each. The instrument for H.M.S. "London" will be delivered to Chatham for supply to the ship. The three remaining vessels of the class are not affected.

3. *H.M. Dockyards, Chatham, Portsmouth and Devonport.*—The apparatus for yard use should be placed on Loan Tool Store charge and the value charged to Item 21 of Section A of Account No. 88.

4. The Establishment of Naval Stores for Engineering Purposes—Part I. (1927), will be amended in due course.

## 1631.—Director Firing Gear in Store—REPORT.

*Dockyards.*

(G. 3634/29.—28.6.1929.)

Half-yearly returns of director firing gear in store at yards are to be discontinued.

2. A return of all director firing gear in store should be compiled forthwith, and forwarded to the Admiralty as early as possible.

3. The various items should be grouped under headings such as director sights, instruments, operating gear, etc.

4. Care should be taken that the return is a correct statement of stock in store.

5. Gear on deposit as base spares for ships should be shown separately.

6. The ship, or class of ship, now in active or reserve commission for which it is suitable, should be noted against each item.

7. In the case of items of types which are not suitable for ships now in active or reserve commission, notes should be included showing for which ships they could be made suitable, if any, by carrying out relatively minor alterations.

8. Items under paragraphs 6 and 7 should be listed separately.

9. Items for which no further service can be foreseen should be listed separately.

10. If stocks of any particular item are considered to be in excess of probable future requirements, the fact should be noted, and the stock it would be proposed to maintain indicated in the return.

11. The professional valuation, or amount for which it is on ledger charge, should be shown against each item in the return.

12. *Subsequent Procedure.*—The returns having been rendered, a statement should be forwarded thereafter quarterly, *i.e.*, on 31st March, 30th June, 30th September, and 31st December, showing the issues, receipts, or any other alteration in the stock as shown by the report, during the previous three months.

13. "Nil" returns of gear in store are required and "nil" quarterly returns are to be forwarded, excepting from those yards submitting a "nil" return of gear in store. Any subsequent receipt of director firing gear by yards showing "nil" returns is to be reported.

**1632.—Destroyers Building for Royal Canadian Navy—Storing.**

(N.S. 6618/29.—28.6.1929.)

Portsmouth has been allocated as the storing yard for the two destroyers, for which a contract has been placed by the Canadian Government with Messrs. Thornycroft & Co., Ltd., Southampton, and Naval stores required and not covered by the main contract should be demanded from that yard by the Overseer in the usual manner.

2. For the purpose of storing, the vessels should be regarded generally as "A" class destroyers, but certain exceptions will be necessary which will be dealt with separately.

3. Except that the stores supplied will be issued from stock on repayment, or purchased on direct charge, it is desired that the destroyers should be dealt with for storing purposes generally as though they were being built for the Imperial Navy.

(A.F.O. 680/29.)

**\*1637.—Parkes Memorial Prize.**

(C.W. 6254/29.—5.7.1929.)

The Parkes Memorial Prize, consisting of seventy-five guineas in money with a gold medal, is awarded every third year to the writer of the best essay on a subject connected with hygiene. The competition is open to the medical officers of the Royal Navy, Army, and Indian Army, of Executive rank on full pay, with the exception of the Professors and Assistant Professors of the Royal Naval Medical School, Greenwich, and of the Royal Army Medical College, London, during their term of office. The subject for the next prize is the following:—"The Causes and Means of Prevention of Tonsillitis with Special Reference to Naval and Military Service." Essays to be sent in to the Secretary of the "Parkes Memorial Fund," R.A.M. College, Millbank, S.W.1, on or before 31st December, 1931. Each essay to have a motto, and to be accompanied with a sealed envelope bearing the same motto and containing the name of the competitor. The committee reserve the right to withhold the award should, in the opinion of the assessors, no essay attain a sufficiently high standard of merit.

**\*1644.—Acting Sub-Lieutenants—Courses.**

(C.W. 6229/29.—5.7.1929.)

The undermentioned special gear will be required when undergoing the Signal and Divisional Course:—

White flannel shirt and trousers.  
Plain white singlet for P. and R.T.  
White sweater.  
Uniform boots, *not* shoes.

Officers are to be placed on Ships' books for the periods indicated as follows:—

Gunnery Course	...	...	...	...	H.M.S. "Excellent."
Divisional and Signal Course	...	...	...	...	H.M.S. "Victory."
Navigation	} Course	...	...	...	H.M.S. "Dryad."
Torpedo		...	...	...	

Individual appointments will no longer be promulgated in the Daily List of Appointments and personal appointments will not be sent to the officers, unless any deviation from the programmes becomes necessary. Commanding Officers are to take steps to ensure that every officer concerned who is serving in the ship under their command at the date of receipt of this Order is made acquainted with details of the Order.

## GROUP P.

R.N. College, Greenwich.

Name.	Gunnery Course.	Divisional and Signal Course.	Torpedo Course.	Navigation Course.
H. Day ... ..	Begins Monday, 6th January, 1930. Ends Friday, 28th March, 1930. Officers to be accommodated in H.M.S. "Excellent." Officers to join by p.m. Sunday, 5th January, 1930.	Begins Monday, 31st March, 1930. Ends Friday, 2nd May, 1930. Officers to be accommodated in R.N. Barracks, Portsmouth.	Begins Monday, 5th May, 1930. Ends Friday, 13th June, 1930. Officers to be accommodated in H.M. Navigation School.	Begins Monday, 16th June, 1930. Ends Friday, 25th July, 1930. Officers to be accommodated in H.M. Navigation School.
P. M. Bliss ... ..				
A. N. Rowell ... ..				
R. A. B. Michell ... ..				
P. H. Havers ... ..				
T. H. B. Shaw ... ..				
P. E. Foy ... ..				
P. L. Jamison ... ..				
B. Vesey ... ..				
P. G. O. Sydney-Turner ... ..				
T. L. Canning ... ..				
A. H. F. Hunt ... ..				
J. Bowman-Manifold ... ..				
P. J. Milner-Barry ... ..				
G. E. Bingham-Powell ... ..				
J. E. Moore ... ..				
A. N. P. Costobadie ... ..				
N. E. G. Roper ... ..				
R. M. Aubrey ... ..				

## GROUP Q.

R.N. College, Greenwich.

Name.	Divisional and Signal Course.	Torpedo Course.	Navigation Course.	Gunnery Course.
D. E. Mansfield ... ..	Begins Monday, 12th August, 1929. Ends Friday, 6th September, 1929. Officers to be accommodated in R.N. Barracks, Portsmouth. Officers to join R.N. Barracks, by p.m. Sunday, 11th August, 1929.	Begins Monday, 6th January, 1930. Ends Friday, 14th February, 1930. Officers to be accommodated in H.M. Navigation School. To join by p.m. Sunday, 5th January, 1930.	Begins Monday, 17th February, 1930. Ends Friday, 28th March, 1930. Officers to be accommodated in H.M. Navigation School.	Begins Monday, 31st March, 1930. Ends Friday, 27th June, 1930. Officers to be accommodated in H.M.S. "Excellent."
J. M. S. Cox ... ..				
B. T. Simons ... ..				
J. F. Gruning ... ..				
A. Kennett ... ..				
A. F. Hall ... ..				
G. P. Huddart ... ..				
J. W. S. Corbett... ..				
G. F. M. Best ... ..				
J. W. McClelland ... ..				
S. H. Beattie ... ..				
Hon. D. Edwards ... ..				
M. Hare ... ..				
Hon. P. C. Carew ... ..				
H. W. Parkinson ... ..				
G. D. Clarke ... ..				
J. Clutton-Baker ... ..				
J. D. Watson ... ..				
R. F. Whinney ... ..				

GROUP R.  
R.N. College, Greenwich.

Name.	Divisional and Signal Course.	Gunnery Course.	Navigation Course.	Torpedo Course.
G. A. Helps ... ..	Begins Monday, 6th January, 1930. Ends Friday, 31st January, 1930. Officers to be accommodated in R.N. Barracks, Portsmouth. Officers to join by p.m. 5th January, 1930.	Begins Monday, 3rd February, 1930. Ends Friday, 2nd May, 1930. Officers to be accommodated in H.M.S. "Excellent."	Begins Monday, 5th May, 1930. Ends Friday, 13th June, 1930. Officers to be accommodated in H.M. Navigation School.	Begins Monday, 16th June, 1930. Ends Friday, 25th July, 1930. Officers to be accommodated in H.M. Navigation School.
P. A. R. Withers ... ..				
J. G. B. Stratton ... ..				
H. R. Thompson ... ..				
R. D. H. S. Pankhurst ... ..				
R. E. D. Ryder ... ..				
T. E. Donkin ... ..				
L. H. Landman ... ..				
A. S. Webb ... ..				
T. T. Enman ... ..				
E. N. Sinclair ... ..				
R. I. A. Sarell ... ..				
F. E. C. Judd ... ..				
R. M. T. Peacock ... ..				
L. C. B. Ashburner ... ..				
D. P. Little ... ..				
R. F. Acworth ... ..				
I. W. Gwynne-Evans ... ..				
W. O. Shelford ... ..				
J. M. Wintour ... ..				

GROUP S.

Name.	Ship.	Dates of Courses.
H. F. O. Hale ... ..	H.M.S. "Nelson."	<i>Gunnery Course.</i> Begins Monday, 31st March, 1930. Ends Friday, 27th June, 1930. Officers to be accommodated in H.M.S. "Excellent." To join by p.m. Sunday, 30th March, 1930.
C. C. Martell ... ..		
C. P. Coke ... ..		
F. A. Paynter ... ..		
T. D. Hayes ... ..		
J. Denny, R.A.N. ... ..		
A. G. F. Stewart, R.A.N. ... ..		
R. P. C. O'Sullivan ... ..	H.M.S. "Rodney."	<i>Divisional and Signal Course.</i>  Begins Monday, 30th June, 1930. Ends Friday, 25th July, 1930. Officers to be accommodated in R.N. Barracks, Portsmouth.
Sir Michael Culme-Seymour, Bt. ... ..	H.M.S. "Queen Elizabeth."	
Hon. D. C. Cairns ... ..		
Lord W. M. A. Cecil ... ..		
F. M. Bruce ... ..		
D. J. A. Heter-Percy ... ..		
E. O. Bickford ... ..	H.M.S. "Malaya."	<i>Navigation Course.</i> Begins Monday, 28th July, 1930. Ends Friday, 19th September, 1930.
G. T. Cooper ... ..		
G. M. Bennett ... ..	H.M.S. "Barham."	Officers to be accommodated in H.M. Navigation School.
N. T. Tangye ... ..		
B. E. M. Goldman ... ..		
R. H. S. Pemberton ... ..		
R. E. Hardman Jones ... ..	H.M.S. "Royal Sovereign."	<i>Torpedo Course.</i> Begins Monday, 22nd September, 1930. Ends Friday, 31st October, 1930. Officers to be accommodated in H.M. Navigation School.
J. D. Stead ... ..		
W. C. Scoular ... ..		
L. C. D. Godwin ... ..		
W. B. Kellett ... ..	H.M.S. "Royal Sovereign."	Officers to be accommodated in H.M. Navigation School.
A. J. F. Milne Horne ... ..		

## GROUP T.

Name.	Ship.	Dates of Courses.
A. S. Storey, R.A.N. ... R. Rhoades, R.A.N. ... R. C. Robison, R.A.N. ... F. K. Fogarty, R.A.N. ... J. B. Thompson, R.A.N. ... P. van B. Wadlow ... M. C. W. P. Consett ... A. Gracie ... R. M. Sandbach ...	H.M.S. "Royal Sovereign." H.M.S. "Ramillies." H.M.S. "Resolution"	<i>Divisional and Signal Course.</i> Begins Monday, 31st March, 1930. Ends Friday, 2nd May, 1930. Officers to join by p.m. Sunday, 30th March, 1930. Officers to be accommodated in R.N. Barracks.
M. Johnstone ... E. F. A. Dykes ... J. Y. Thompson... R. R. S. Pennefather ...	H.M.S. "Frobisher." H.M.S. "Berwick."	<i>Gunnery Course.</i> Begins Monday, 5th May, 1930. Ends Friday, 25th July, 1930. Officers to be accommodated in H.M.S. "Excellent."
J. R. B. Longden ... J. S. H. Lawrence ... R. A. Ewing ... M. L. Hardie ... J. C. Mason ... R. Tyrwhitt ...	H.M.S. "Suffolk."	<i>Torpedo Course.</i> Begins Monday, 28th July, 1930. Ends Friday, 19th September, 1930. Officers to be accommodated in H.M. Navigation School.
S. R. White ... R. C. Lewis ... E. S. W. Maclure ... E. Mack ... A. B. Kay ...	H.M.S. "Lowestoft."	<i>Navigation Course.</i> Begins Monday, 22nd September, 1930. Ends Friday, 31st October, 1930. Officers to be accommodated in H.M. Navigation School.

**1650.—Ledger Forms and Ledger-keeping Procedure.**

(N.P. (II) 1514/29.—5.7.1929.)

The preparation on board of the list of ships to which persons have been discharged, and from which they have been received, remains suspended until further orders.

2. In order to use up existing large stocks of Form B.606, Alphabetical Index, as used in depôt, all ships and establishments requiring new supplies for the preparation of alphabetical indexes are to demand Form B.606 for that purpose until further orders. The form should be utilised by folding in half, length-wise, sufficient space being allowed when typing the names to leave a central margin for binding purposes.

3. When all existing alphabetical index forms are nearing exhaustion, the question of providing a revised form for use in all ships, etc., will be considered.

**1651.—Admiralty Telephone Circuits provided for use of Contractors—Charges for Rental, etc.**

(C. (II)/D. 6816/29.—5.7.1929.)

When telephone connections are provided for the use of contractors, the scale of charges relating to circuits provided for other Government Departments should apply subject to—

- (i) A minimum payment being made in respect of the period of user sufficient to enable the cost of installation, maintenance, and removal to be recovered.



- (ii) Payment by contractors of the actual cost of calls passed to outside public exchanges ; and
- (iii) Payment of 5s. a quarter or part of a quarter in addition to rental, to cover cost of calls within the dockyard.

1652. }  
 1654. } *Issued Confidentially.*  
 1657. }

### 1660.—Bombs and Fireworks—Stowage.

(G. 0666/29.—5.7.1929.)

It has been decided that bombs and fireworks are not to be stowed in the same compartment in H.M. ships and establishments.

2. The necessary amendment to the "Naval Magazine and Explosives Regulations" is being issued.

### 1662.—Oil Navigation Lanterns—Adaptors, when using Electric Lamps—Modification to Discs.

(D. 6461/29.—5.7.1929.)

It has been found that, due to errors in manufacture, an excessive clearance exists in some cases between the disc which carries the lampholder and the nut used to secure it, allowing possible displacement of the lamp from its correct position.

2. Where this defect exists the present disc should be replaced by one made in accordance with diagram E.F.O. 77/29, the work being carried out by ship's staff in cases of adaptors already installed.

3. Adaptors, Patterns 8630, 8631 and 8632, in store should be examined, and the necessary modifications carried out by yards.

4. *Chatham Yard.*—Schedule drawings should be modified as necessary.

### 1663.—Signal Mast—Removal.

"Oberon" and Submarines of the "Odin," "Parthian" and "Rainbow" Classes.

(S.02641/29.—5.7.1929.)

It has been decided that the signal mast and its equipment are not to be fitted in the above-mentioned submarines, or, if fitted, they are to be removed. The steaming light is to be carried and all necessary flag signalling is to be arranged on the wireless mast.

2. In completed ships the alterations are to be carried out by the dockyards at the first convenient opportunity, estimates to cover the cost of the work involved being forwarded to the Admiralty in due course.

## 1667.—W/T—Heterodyne Units K.5, Patterns 6373A and 6373C —Allocation—REPORT.

(N.S. 6615/29.—5.7.1929.)

It has been decided to revise the allocation of Pattern 6373C heterodyne unit K.5 to ensure the supply of one of these instruments for use as a wavemeter in the main W/T offices of heavy ships, cruisers, aircraft carriers, and flotilla leaders.

2. Some ships of the classes mentioned in paragraph 1 may have been supplied wholly with Pattern 6373A heterodyne units K.5. Commanders-in-Chief afloat are requested to arrange exchanges between ships for which they are responsible, to meet the requirements of that paragraph. If the number of Pattern 6373C instruments is insufficient, a report is to be forwarded stating the number required to complete.

3. The following model-outfits should be supplied with Pattern 6373C heterodyne unit K.5 only:—

Model-outfit CI.  
Model-outfit CK.  
Model-outfit CL.

4. *Storing Yards only.*—Should one or more model-outfits C be required for fitting in the main W/T office of a ship of one of the classes already mentioned, at least one of the model-outfits C is to be supplied with a Pattern 6373C heterodyne unit K.5. Pattern 6373A is suitable for issue to all other model-outfits, except the one model-outfit C quoted above and to model-outfits CI, CK, and CL.

5. The necessary amendments to the W/T establishments will be promulgated in due course.

*Note.*—Pattern 6373C can be either newly purchased articles or Pattern 6373B converted in accordance with A.F.O. 866/27.

(A.F.O. 866/27.)

## 1670.—Clips for Electric Cables—Abolition of Steel.

(N.S. 6297/29.—5.7.1929.)

Steel clips or steel strip are not to be used for the installation of electric cables in new construction. Naval brass only is to be used for this purpose.

2. Future purchases of clips will be of naval brass, but every endeavour is to be made to utilise the existing stocks of steel clips now in store at Dockyards. The use of steel clips is, however, to be restricted to repairs and refits.

## 1673.—Motor Sounding Machines—Disposal, etc., of Silencing Arrangements.

(N.S. 3266/29.—5.7.1929.)

Confusion having been caused through the incorrect or misleading descriptions of certain new pattern numbers recently added, the following action is now to be taken:—

- (a) In silencing arrangements, Patterns 1423 and 1433, the solenoid and core only is to be disposed of, the remaining components being retained and modified as necessary to accommodate the new Pattern 1438 and 1439 solenoid and core, complete in case, including connection to junction box.
- (b) Patterns 1434 and 1435 solenoids and core are to be disposed of.
- (c) The description of Patterns 1440 and 1441 solenoids and core in the Rate Book will be amended by deleting the words "complete in brass case."
- (d) The description of Patterns 1438 and 1439 silencing arrangements will be amended to read "solenoid and core (in metal case including connection to junction box)."

2. The returns D.68 forwarded dealing with the disposal of Patterns 1423 and 1433 are to be considered cancelled, and revised returns forwarded as necessary.

3. The Establishments and Rate Book of Naval Stores will be amended in due course.

### 1674.—Naval Stores Supplied to and Returned from Submarines —Supply and Receipt Notes.

(N.S. 6558/29.—5.7.1929.)

When naval stores are supplied to submarines, the Naval Store Accounts of which are kept by parent ships, the supply notes for the stores are to be sent to the parent ship and *not* to the submarine. A similar procedure is to be adopted in respect of receipt vouchers for stores returned from these submarines.

2. The name of the depôt ship should appear on both supply and return vouchers.

### 1676.—Packing Cases—Condition on Return from Ships.

(N.S. 6795/29.—5.7.1929.)

It has been reported that empty packing cases, especially those that have contained consignments of stationery, have been returned from ships to store without lids and in a damaged condition.

2. It is desired to draw the attention of all concerned to the necessity for exercising care when opening cases in order to preserve them, with the lids, as much as possible for further use.

3. As regards opening stationery cases it is suggested that as the iron bands surrounding the cases are joined on the lids, the bands be lifted with a chisel bar and the nails extracted with a nail extractor, and when empty the bands be turned inside the case before fastening the lid for return to store. It is observed that in many instances where empty cases have been returned to store, the bands have been cut on the sides by a chisel or other tool and the lids apparently forced open by crowbars. If nail extractors were used and reasonable care exercised when opening cases the cases should be fit for further use.

### 1677.—Machines, Singer's, Sewing.

(C.P. 14411/29.—5.7.1929.)

The Singer Sewing Machine Co. Ltd. have agreed to allow a 2½ per cent. discount for accounts paid within 30 days from end of month in which goods are invoiced, on all orders placed with them for sewing machines, parts, needles, etc.

2. Orders should be placed only with the firm at 17, Chiswell Street, London, E.C.1.

1678. }  
1718. } *Issued Confidentially.*

### 1719.—Multiplane Kite Otters.

*Dockyards.*

(T. 1404/29.—5.7.1929.)

When multiplane kite otters are returned from ships on notes of survey in a damaged condition they should be repaired and surveyed in accordance with the drawings and specifications for these articles. Particular care is to be taken that the planes are free from twist and that the planes and sides are true and square in relation to each other.

**\*1728.—Central Clearing House for Naval Officers' Charities—  
Setting up.**

(C.E. 3545/29.—12.7.1929.)

It has been decided to set up a Central Clearing House for Naval Officers' Charities. The Central Organisation will be called—

The Central Bureau, Naval Officers' Charities—

(Brief title, C.B.N.O.C.)

Address—c/o King George's Fund for Sailors,  
1, Devonshire Square, Bishopsgate, E.C.2.

Telephone : Central 6830.

2. The Central Bureau is established solely and exclusively as a centre of *information* for those Naval Officers' Charities co-operating in the scheme, either regarding individual cases or the particular work of the several naval charities, and for no other purpose. In order to carry this into effect all Naval (Officers') Charities are now invited to provide their annual reports together with particulars of their objects and methods, and specimen application forms and case papers. The Bureau will then be in a position to give information, if applied to, as to the work and scope of any particular charity or to suggest which is the appropriate fund to deal with any individual case that may be brought to its notice.

3. The Central Bureau will compile a card index of individual cases and for this purpose special index cards are being issued to the charities concerned, with a request that they may be completed for all cases as they are dealt with until the Bureau is in possession of cards for all current cases. After which cards will only be necessary for new cases.

4. Index cards give the title, Christian and surname, with address, of each beneficiary and the name of the charity concerned, but no further information. They bear the following notice:—

"The information on this card is strictly confidential and may only be communicated on application, to a bona-fide charity, benevolent or welfare institution or fund wholly or partly for naval officers and/or for their dependents."

Space is provided on the back of the card for any additional information which the charity concerned may wish, or think desirable to send.

5. (a) After the bureau system has been started, it is hoped that those co-operating charities which have periodical elections to grants will also send in nominal lists of applicants *before* grants are made. The Central Bureau will then note on these lists whether any of the cases are being relieved from other sources, are known to be doubtful or need further inquiry, and will return the lists to the charity concerned. In order to keep the card index up to date, the charity will send back the nominal lists to the Central Bureau after an allocation of benefits has taken place, with a note against each name stating whether or not a grant has been made, but without mentioning the amount.

When individual cases are dealt with by a secretary, or other official as urgent or requiring immediate assistance without allowing time for inquiry into their bona-fides, it is suggested that the Central Bureau be communicated with before relief is given.

(b) In the cases of certain charities where their benefactions and names of beneficiaries are considered "secret," the Secretary before an election is invited to visit the Central Bureau personally and to consult the card index. This will give him the inside information which he could not otherwise obtain and the secrecy of his candidates list will remain inviolate.

6. As it is not possible in all cases for the fund first taking up a case to carry it through and obtain relief from others for which it appears eligible, it should assist the applicant by giving the names and addresses of those funds to which further application should be made. This information, if there is any doubt, can be obtained from the Central Bureau.

7. In all cases where the initial application for assistance is made to the Central Bureau it will be passed on to the appropriate fund for action. As stated in para. 2 the functions of the Central Bureau are informative only.

8. A naval officer will be appointed by the Admiralty to act as liaison officer in connection with the Central Clearing House. This officer will have no executive powers but will be the connecting link between the Admiralty and the Central Bureau, his functions being to keep the Admiralty in touch with the work of the bureau and the activities and objects of the co-ordinated charities.

1737. }  
 1738. } *Issued Confidentially.*  
 1739. }  
 1740. }

### 1742.—Cartridges, Impulse, Torpedo, Cordite—Defective Fire Tubes—Precautions.

(T. 723/29.—12.7.1929.)

A certain number of cartridges, impulse, torpedo, cordite, have been issued fitted with the old pattern fire tubes. The ends of these fire tubes are liable to blow out and to enter the combustion chamber.

2. Cordite, impulse, charge cylinders, are to be examined after every occasion of firing, and should the fire tube be found to have been shattered, the cordite firing gear of the tube concerned is to be dismantled, and the shattered pieces removed before any further shots are fired from that tube.

### 1743.—Ammunition—Landing of Defective Explosives, Q.F. Cartridge Cases, etc.

(G. 4105/29.—12.7.1929.)

Confusion and unnecessary correspondence has recently been caused by ships—

- (i) landing empty defective Q.F. cartridge cases with the bulk of returned empties,
- (ii) landing defective explosives, including empty Q.F. cartridge cases, without any special identification marks,
- (iii) landing such defective articles without any reference to the paper in which the failure was reported to the Admiralty.

2. The attention of Commanding Officers is called to the provisions of Article 317, Naval Magazine and Explosives Regulations, 1928. From the NOTE at the end of that article it will be seen that these orders apply to such defective stores as fired Q.F. cartridge cases, tubes, fuzes, &c.

### 1744.—Inspection of Selected Electrical Apparatus of H.M. Ships.

(D. 2284/29.—12.7.1929.)

During the final electrical trials of newly-constructed ships, or of ships which have undergone reconstruction or large repair and have been paid off into dockyard control, or in which a complete system has been renewed or installed by the dockyard, a joint inspection by Admiralty and ship's

officers of selected electrical fittings and instruments is to be carried out, in future, as part of the recognised procedure of these trials. Such fittings and instruments are to be opened up and inspected to ensure, as far as possible, that the necessary standard of workmanship as a whole has been attained.

2. It is to be clearly understood that the inspection of these selected electrical fittings and instruments is not to be regarded as a thorough electrical inspection, or as relieving in any way the responsibility of the dockyard officers for the quality of the electrical work done in the ship. Further, the inspection is not to be quoted as having proved that the whole of the electrical apparatus was satisfactory.

### **1745.—Electrical Defects in H.M. Ships—REPORT.**

(D. 2284/29.—12.7.1929.)

The Commanding Officers of newly constructed ships, or of ships which have undergone reconstruction or large repair or in which a complete electrical system has been renewed or installed by the dockyard, are, if final electrical trials have been carried out by Admiralty officers, to report to the Admiralty through their respective Commanders-in-Chief, three months after completion, the electrical defects, other than defects in design, discovered during that period in the installations subjected to trial. A copy of the report is to be sent to the superintendent of the building or refitting yard, should the work have been carried out in one of H.M. dockyards.

2. The report is to be limited to a statement of facts and a suggested explanation of the cause of each defect. It should not include minor defects which may be looked upon as being normal under working conditions.

3. Such reports are not to be made the subject of correspondence between dockyard and Fleet officers, except in special instances in which the superintendent of the dockyard concerned may desire further information.

### **1746.—Twin Screw Minesweepers Carrying Outboard Motor Equipment—REPORTS.**

(D. 5748/29.—12.7.1929.)

The following information is to be furnished in respect of Twin Screw Minesweepers, other than those in the First Minesweeping Flotilla, viz. :—

- (i) Names of vessels on which outboard motor equipments are still carried.
- (ii) What maximum quantity of petrol for the motor is carried.
- (iii) Whether the petrol is stowed in cans or in Pattern 91 drums.

### **1747.—H.M. Ships—Improvements in Habitability in Hot Weather.**

*All Ships and Dockyards.*

(D. 9487/29.—12.7.1929.)

As a result of the Tropical Cruise of H.M. Ships "Ramillies" and "Barham," various observations and proposals regarding the habitability of these ships in hot weather have been received from the Commanding Officers.

2. Certain of these observations and proposals are indicated hereunder, together with Admiralty decisions thereon, which are to be regarded as applying primarily to heavy ships, although some points are applicable also to other ships.

3. Extensive alterations will not, however, be considered for ships which are coming to the end of their lives, or which are not likely to be employed again in hot climates, e.g. "Iron Duke" Class.

4. Commanders-in-Chief and Flag Officers Commanding Squadrons are requested to co-ordinate the proposals from ships of the same class, in order that the best result may be obtained for the least expense.

5. As regards ships in hand for Large Repairs steps should be taken to apply what is desirable by the insertion of items in lists of proposed alterations and additions.

Heading.	Commanding Officers' Remarks or Proposals.	Admiralty Decisions or Remarks.
Movement of air in ship.	H.M.S. "Ramillies."—In hot weather movement of air is essential and must be felt by everyone, both in working and living spaces. This is contrary to cold weather requirements where draughtless ventilation is wanted.	Separate action is being taken (i) to find out the number of cabin fans necessary to fit all Capital Ships (except H.M. Ships "Nelson" and "Rodney" which are of modern design) for work in the tropics, and (ii) to evolve a suitable and cheap form of fan. Circulating fans will not generally be required where punkah louvres are fitted.
	<i>Proposals</i> :—(a) A large number of table fans in living and working spaces. Fans to be simple, with low single speed, large vanes and non-traversing.	Noted for new construction. Items to be inserted in lists of alterations and additions for existing ships.
	(b) Improvements in the airiness of compartments, i.e., enclosed messes should have jalousies or tops of curtains lower.	Will be considered for new construction.
Quality of Air.	(c) To use energy of exhaust gases from engine room, etc., as an inductor to assist exhausting mess decks.	Trials will be carried out in a selected ship in which the supply openings of the ventilation trunks to offices and living spaces that are close to sources of heat will be increased in size so as to secure a larger share in the air supply for such compartments.
	<i>Proposal</i> .—H.M.S. "Barham."—Air supply to be augmented in certain hot compartments.	Locker flats in reconstructed ships are being converted from supply to exhaust. It is approved, in principle, that all living spaces should have fan supply, and all bathrooms and locker flats natural supply and adequate fan exhaust. Items should be inserted in lists of alterations and addi-

<i>Heading.</i>	<i>Commanding Officers' Remarks or Proposals.</i>	<i>Admiralty Decisions or Remarks.</i>
	outlets should be at least the equivalent of a deck higher than the inlets. The outlets should be in clear air—not under awnings.	tions for existing ships to be so fitted as they come in for refit or reconstruction. In bathrooms in heavy ships requiring more powerful exhaust fans a 12½ in. fan should be arranged to exhaust two bathrooms if practicable. It is also approved in principle that exhausts should be a few feet higher than intakes, and above awnings, wherever possible. The Commanding Officers of H.M. Ships should include an item to cover this work in their next lists of proposed alterations and additions. Each ship should be dealt with on its merits.
	The French type head for outlets is disliked. A new form of top which would discharge the air vertically is suggested by H.M.S. "Ramillies."	Arrangements will be made for a detailed design of the type of outlet proposed by H.M.S. "Ramillies" to be prepared by a home dockyard and after manufacture tried on the Mediterranean Station.
<i>Temperature of air.</i>	H.M.S. "Ramillies." Leads of supply trunks to be kept away from hot places, or lagged at such places.	The Commanding Officers of H.M. ships should propose an item for lagging such places, in the next lists of alterations and additions. The places where lagging is considered necessary should be detailed.
	In machinery compartments the fresh air should be directed on to working areas, and not dispersed to stir up hot pockets.	This should be borne in mind.
<i>Fans and Trunking. Shape.</i>	Trunking to be as short and straight as possible, sharp bends being avoided. Flimsy fittings in trunks break and give endless trouble. In supply trunks, dust should be excluded at delivery end. Arrangements should be such that shavings, paper, etc., which clog supply can be readily removed.	Approved in principle that all corners should be easy curves and that improved facilities are necessary for access to trunks.
	"Ramillies" suggests using stockinette instead of gratings. The ship's officers state that stockinette if left to belly out into a long cone is quite effective, and could be removed for washing.	Consideration is being given to fitting portable sections and large access doors to trunks, with a view to improving existing ships.
		With regard to exclusion of dust, H.M. ships may adopt the suggestion put forward by H.M.S. "Ramillies," if they so desire, except where punkah louvres are fitted.
<i>Lagging.</i>	All exhaust trunks carrying heated air should be lagged, or double funnelled.	Approved in principle. Items to be inserted in lists of alterations and additions.



<i>Heading.</i>	<i>Commanding Officers' Remarks or Proposals.</i>	<i>Admiralty Decisions or Remarks.</i>
<i>Fans.</i>	<p>Considered that fans would not stand up to continuous running in hot weather at full speed, and that the factor of safety was barely enough, especially as machines got older.</p> <p>Lubricating oil should be thickened in hot weather.</p>	<p>This matter is being considered at the Admiralty.</p> <p>Approved.</p>
<i>Awnings.</i>	<p>Double awnings are troublesome where they have frequently to be furled, as for gunnery exercises, etc.</p> <p>Could some treatment be devised to make a single awning impervious to the sun's rays ?</p>	<p>Consideration is being given to this.</p>
<i>Bathing.</i>	<p>Ample facilities are wanted for salt water bathing, to be followed by a fresh water douche, to avoid prickly heat.</p>	<p>It is considered that in hot climates temporary washing accommodation for seamen, stokers, etc., could be provided on the forecastle deck, e.g., immediately abaft the breakwater. This could be screened off by canvas, wash-basins on portable stands and a fresh water tank filled by hand from the nearest fresh water supply provided, salt water being available from the wash-deck service. This should greatly relieve the pressure on the bathrooms and improve the conditions both in the bathrooms and on the mess decks above. The above suggestions are promulgated with a view to consideration being given by the C.O.s of individual ships to the provision of temporary washing accommodation on these lines. Materials and stores to be demanded from the dockyards if required.</p>
<i>Radiation.</i>	<p>The sun's rays heat the whole of the ship, and will do so in time even with lagging fitted. Lagging would have the effect of retaining the heat at night, thus keeping compartments at almost constant temperatures. Temperature variation is desirable.</p> <p>Small steam pipes running through living and working spaces to water heaters, hot cupboards and the like, should be reduced to a minimum. Much of this heating could be done by electricity.</p> <p>Bathroom tanks should be lagged.</p>	<p>Lagging of shelter deck over ward room, gun room, etc., has been approved for "Royal Sovereign" class.</p> <p>This matter is under consideration.</p> <p>Approved in principle. Item to be inserted in ship's next lists of alterations and additions.</p>

<i>Heading.</i>	<i>Commanding Officers' Remarks or Proposals.</i>	<i>Admiralty Decisions or Remarks.</i>
	Distilled water always hot—one tank near meat room.	Consideration is being given to the question of fitting more cooling tanks well situated.
<i>Funnels.</i>	Air inlets near funnel uptakes require lagging.	Approved in principle.
	Searchlight positions on funnels require consideration.	When searchlight positions on the funnels in heavy ships are being rebuilt they should be fitted with iron bar gratings top and bottom in lieu of plating, and a thin shield plate at the back to protect personnel from radiant heat from the funnel.
<i>Health.</i>	“Ramillies.”—Sick Bay Staff to be increased in hot weather to cope with larger sick list.	Under consideration.
	“Barham.”—Sick Bay in a bad position and very stuffy at sea.	The provision of artificial exhaust ventilation is approved in principle for the “Queen Elizabeth” Class and items should be inserted in lists of Alterations and Additions.
	Men should take reasonable exercise—this involves clear decks.	Noted, especially for new construction.
<i>General Hygiene.</i>	Men should change into clean dry clothes in the evening—this will involve ample washing facilities.	Attention is being given to the fresh water supply in H.M. ships.
	Men should be encouraged to sleep on deck—this involves provision of hammock hooks.	Noted, and will be borne in mind.
<i>Diet.</i>	Modifications are necessary as follows— Lighter mid-day meal. More fruit, fresh if possible. Rechauffé dishes are a source of danger. Food should be kept covered. Campaign against cockroaches, flies, etc.	Approved in principle.

## 1751.—Lubricants for Gun Mounting and Electrical Machinery.

(N.S. 4045/29.—12.7.1929.)

The instructions contained in A.F.O. 1075/30 are to be regarded as a general guide to the type of lubricants to be used for gun and gun mounting machinery, but the lubricants specified therein may be used for purposes other than those indicated. The use of the special lubricants quoted should, however, be restricted as far as possible, in view of their comparatively high cost.

2. Lubricant, Stauffer's “C” Grade, is to be regarded as a general lubricant for all electrical machinery. Under tropical, or other exceptional conditions, where this brand of grease proves unsatisfactory, H.M.P. (high melting point) grease should be used.

(A. F. O. 1075/30.)

**1752.—Swivel Chair for W/T Cabinet—Introduction.**

(N.S./G. 17056/27.—12.7.1929.)

It has been decided to introduce under Subhead E, Item 4, a new type of swivel chair for the use of W/T operators in flotilla leaders, destroyers, and all small craft, including submarines.

2. This chair, to which Pattern number 722 has been assigned, will be treated as a "sea store" article and will be fitted in all vessels of new construction, but supplies to other vessels will only be made when the existing chairs (which were supplied as "fixtures") require replacement.

3. The allowance will be in accordance with the approved W/T specification.

4. Details of the chair are shown on Portsmouth drawing, Po. C. No. 2716, included in the revised Book of Drawings of Furniture (Schedule 530) recently distributed by Portsmouth Yard. The pattern number, viz. 710, at present shown on this drawing, and in the index to the book of drawings should be amended to read 722.

5. Supplies should, for the present, be obtained by manufacture in the dockyards as required.

6. The necessary amendments to the Authorised List of Naval Stores and Establishments concerned will be effected in due course.

**1754.—Compass Establishment for H.M. Canadian Destroyers "Saguenay" and "Skeena."**

(N.S. 7318/29.—12.7.1929.)

The compass establishment for H.M. Canadian destroyers "Saguenay" and "Skeena" is the same as that for the "Beagle" Class destroyers promulgated by A.F.O. 1556/29.

(A.F.O. 1556/29.)

**1769.—Repayment Services (Vote 10) for other Departments of Government, other Governments, etc.**

(C.E.-in-C. 27412/29.—12.7.1929.)

In connection with claims for Repayment Services for the War Department or the Air Ministry, the actual cost, including Departmental incidental charges, of work performed or materials supplied by Vote 10, either by Contract or Departmentally, is to be subject to an addition of 15 per cent. from 1st April, 1929.

2. In respect of claims for Repayment Services for Government Departments other than those mentioned in paragraph 1, other Governments, Private Individuals, etc., the addition of the percentages laid down in the Appendix to the Memorandum to the current Rate Book for Naval Stores for Vote 8 Services is to be made to the actual cost omitting Department incidental charges.

**1780.—Director Firing Gear—8 in. Elevation Receivers.***"Kent" and "London" Classes, "Dorset," "Norfolk" and "York."*

(G. 4129/29.—19.7.1929.)

A report has been received from one of H.M. ships that, with the 8 in. type of elevation receiver, it is possible to get the mechanism into such a position that a large false correction is applied when setting the M.V. corrector for range even though the M.V. and temperature scales are at normal, when no correction should be applied.

2. Instruction plates have been affixed to these instruments specifically for the purpose of preventing such occurrences, and, if these instructions are followed, the range and M.V. element should be on a coincident centre, and no correction will be applied when setting range.

3. Drawing No. 10441 D, supplied to ships concerned, shows the arrangement of the receiver.

Referring to this drawing, the following observations should be noted :—

- (a) Knob "C" can only be withdrawn when M.V. cam is in normal position. If this knob be withdrawn and rotated, say for setting M.V. or temperature, and is then pushed back, the M.V. cam and scales will be wrongly related one to the other.
- (b) If the scales are brought back to normal by means of the M.V. knob, which simultaneously rotates the M.V. cam, the M.V. and range elements will not be on a coincident centre and a false correction will be applied although scales are at normal.
- (c) It is essential, therefore, that the instructions given on the instrument should be strictly adhered to and that the knob "C" should only be used when changing charges to bring the normal of the scales for charge ordered under the index reader. This knob should not be rotated at any other time.

### 1781.—Star Shell Deflection Gear Boxes—Stop Pieces to be fitted to the Gear Boxes and Types of Adaptor Rings being Supplied.

*H.M. Ships of the "Royal Sovereign," "Queen Elizabeth" and "Repulse" Classes, "Hood" and "Tiger."*

(T. 2372/29.—19.7.1929.)

With reference to the instructions issued in A.F.O. 3093/28 regarding the fitting of the star shell deflection gear boxes, etc., in the above-mentioned ships, three types of adaptor rings are being supplied to suit the types of Evershed transmitters fitted in the various ships as follows :—

<i>Ships.</i>	<i>Transmitter.</i>	<i>Adaptor Ring.</i>
"Hood" ... ..	T.43	} 10½ in. bore × .406 thick.
"Tiger" ... ..	T.39	
"Queen Elizabeth" ... ..	T.1	} 9¾ in. bore × .187 thick.
"Warspite" ... ..	T.1	
"Valiant" ... ..	T.2	} 10½ in. bore × .187 thick.
"Barham" ... ..	T.2	
"Malaya" ... ..	T.2	
"Royal Sovereign" ... ..	T.2	
"Royal Oak" ... ..	T.2	
"Ramillies" ... ..	T.2	
"Revenge" ... ..	T.2	
"Resolution" ... ..	T.2	
"Repulse" ... ..	T.4	
"Renown" ... ..	T.4	

2. These adaptor rings are therefore being marked by Messrs. Evershed & Vignoles for the transmitters and ships for which they are suited, and care should be taken that they are issued accordingly.

3. In the case of the transmitters T.2, T.39 and T.43, it is necessary when fitting the gear boxes by the dockyards, that stop pieces should be provided and fitted to the lower member of the differential in the gear box to engage against the existing stops on the transmitter in order to limit the training of the transmitters as at present, and so avoid the damage to the brush gear, which would otherwise occur.

4. Triplicate copies of the drawing D.T.M. 55/28/1 of the deflection gear boxes, showing coloured red the stop piece and instructions for fitting it, have been forwarded separately, together with a copy of this Order, to Portsmouth, Devonport, Chatham and Malta Yards for information and guidance in fitting the stops.

5. The two worm training attachments which will be released from the transmitters when the deflection gear boxes are fitted are to be retained on board their respective ships pending separate instructions, which will be issued in due course, regarding their further use on other transmitters.

(A.F.O. 3093/28.)

**1787.—Presses, Obturator, B.L., 5·5 in.—Modification.**

(G.255/29.—19.7.1929.)

When the Mark III obturator, B.L., 5·5 in., is issued, a modification will be necessary to the presses obturator to suit the Mark III obturator. The presses on board H.M. ships and in store will be modified by R.N. Armament Depot staff on supply of the Mark III obturators, and Instructional Print N.O.D. 2122/15 is being issued to the depôts concerned for guidance in carrying out the work.

2. The presses when modified will be designated Mark II.

(A.F.O. 2297/28.)

**1788.—H.C.D. Searchlight Lamps, Mark V and VI—Time Gauge.**

(T. 2061/29.—19.7.1929.)

Drawing E.F.O. 81/29 shows details of a time gauge which indicates the number of minutes that the lamp will burn before needing recarboning.

2. To use, the gauge is pushed up the hole in the negative head in the wake of the negative carbon.

When the end of the gauge butts on the end of the negative carbon, the slider is pushed up until it butts on the negative head casting.

The number of minutes of burning remaining can then be read off on the scale below the engraved line on the slider.

3. The gauges required should be made by ship's staff, and remarks on their utility should be forwarded on Form S.316.

**1792.—W/T—Pattern 6207B, Amplifier M3B—Supply.***Divisional Leaders 1st to 6th Flotillas.*

(N.S. 8667/29.—19.7.1929.)

It has been decided to allow the following stores to all divisional leaders of the 1st to 6th Flotillas, in conjunction with the fitting of Patt. 6207B, amplifier M3B.

Patt. 1549	Switch, C.O. unenclosed, 2-pole, 15 amps	...	2	
„ 5427	Valve, wireless, NR7	...	3*	Not if dull emitter valves are supplied already to the ship.
	or			
„ 7406	Valve, wireless, NR14	...	3*	Only if dull emitter valves are supplied already to the ship. '

\* The figure shown indicates the number of valve sockets which require the valve referred to. The number of valves demanded should be in accordance with the existing sliding scale allowance of valves, i.e., if there are fewer than 15 sockets on board which require the same pattern valve, 5 valves per socket should be demanded. If there are 15 or more sockets, 3 valves per socket should be demanded.

2. The two switches, Patt. 1549, will be supplied for changing over the input and output circuits of Patt. 7460, amplifier M5 and Patt. 6207B, amplifier M3B.

3. Ships concerned should demand the stores on their respective storing yards quoting this Order as authority.

### 1804.—Retiring Age for Staff Serving under the Federated Universities Superannuation Scheme.

(C.E. 4072/29.—19.7.1929.)

Officials serving under the Admiralty who are members of the Federated Universities Superannuation Scheme will normally be retired at the age of 60 years. In exceptional circumstances they may be retained for a further period if the Admiralty so desire, but no officer can in any event be retained after the age of 65.

2. Proposals for the retention of these officials after the age of 60 will be dealt with by the Admiralty solely with reference to the interests and requirements of the Public Service and not with reference to the convenience of the individual. Each case will be considered on its merits and no right to an extension of service after the age of 60 can be recognised.

3. The arrangements for the deductions of premiums, investments, etc., are described in paragraph 9 of the F.U.S. scheme.

### 1808.—Hire of Teams—Removal of Item from Wages Subheads of Votes 8/I and 9.

(N.S. 8423/29.—19.7.1929.)

It has been decided that as from 1st April, 1930, the cost of the hire of teams, drivers and vehicles, at present provided under the wages subheads of Vote 8/I and Vote 9, shall be provided under Vote 8/II.E and the contingency item of Vote 9E respectively, and the estimates for 1930 are to be prepared on this basis.

2. As regards Vote 8, the provision in the D.88 account estimate for A.25B should accordingly be made under "materials" instead of "labour" as hitherto.

3. The present arrangements as regards certification and payment locally are to continue. The amounts paid in respect of Vote 8 are to be included in the Expense Accounts, being brought on charge under Item 2A of Part I of Section E of Account No. 88, and issued to Item 25B of Section A of Account No. 88. Entry on Account of Receipt will not be required.

### 1809.—R.I.M.S. "Hindustan"—Storing.

(N.S. 9009/29.—19.7.1929.)

The R.I.M.S. "Hindustan," under construction by Messrs. Swan, Hunter and Wigham Richardson, Ltd., for the Government of India, will be stored from Portsmouth, and Naval stores required and not covered by the main contract should be demanded by the Overseer from that yard in the usual manner.

2. Except that the stores supplied will be issued on repayment, or purchased on direct charge, it is desired that "Hindustan" should be dealt with for storing purposes generally as though she were being built for the Imperial Navy.

3. The classification in the Sea Store Establishments under which the vessel will be stored will be communicated separately.

### 1829.—Fire Control Instruments—P.I.L. Equipment and Communications.

*"Queen Elizabeth," "Royal Sovereign" and "Repulse" Classes, "Tiger" and Cruisers of "Hawkins," "E," "D," "Carlisle," "Ceres" and "Caledon" Classes.*

(G. 1349/29.—26.7.1929.)

The drawing E.F.O. 78/29 (1) shows the P.I.L. instrument, Type S.N.3, which is being supplied to battleships and battle cruisers of "Queen Elizabeth," "Royal Sovereign," "Repulse" classes, and "Tiger," and to cruisers of "Hawkins," "E," "D," "Carlisle," "Ceres" and "Caledon" classes.

2. The operation is as follows:—

Set datum angle and datum distance (working heads 22 and 16 respectively).

Set own range against own range index or set datum range against point of datum distance tape (working head 5).

*Note.*—Own range index represents position of own ship, and the point of datum distance tape represents datum ship.

Range P.I.L. is then shown on the P.I.L. scale against the datum range curve.

Bearing P.I.L. in degrees and fractions is shown by line radiating from left-hand side, but the instrument itself does not determine in which direction the correction is to be applied.

Example as shown by red settings:—

Angle, 120°.

Own range, 4,000 yards.

Datum distance, 1,600 yards.

Datum range, 4,900 yards.

Range P.I.L. correction, 900 yards minus.

Bearing P.I.L., 14°75′.

The range P.I.L. pointer operating handwheel is to enable the range P.I.L. correction to be transmitted mechanically to the fire control table where possible. This is done by traversing the range P.I.L. pointer opposite the datum range curve.

Attention is drawn to the results shown in the example. These have been obtained by applying the settings quoted to the diagram E.F.O. 78/29 (1), which, as stated in its heading, is diagrammatic only.

If the settings given in the text are applied to an actual instrument the result will be:—

Range P.I.L.—1,000 yards.

Bearing P.I.L. 16° 24′.

The sign of the range P.I.L. correction as shown on E.F.O. 78/29 (1) is in accordance with the definition given on page 87 of C.B. 3010. The engraving on the actual instrument may not be in accordance with the diagram in this respect, in which case the engraving on the instrument should be corrected.

3. The diagram (E.F.O. 78/29 (2)) shows the wiring and instruments comprising the system in the battleships and battle cruisers. The wiring and instruments shown in this diagram are embodied in the diagrams which have been prepared and circulated for guidance in fitting the revised main armament fire control system. The diagram (E.F.O. 78/29 (2)) is therefore only to be worked to in ships where the fitting of the P.I.L. communication is taken in hand prior to fitting the revised systems mentioned.

4. The diagrams (E.F.O. 78/29 (3) and (4)) show the wiring and instrument comprising the system for cruisers of the "Hawkins," "Enterprise," "D," "Cairo," "Caledon" and "Ceres" classes.

5. Copies of the diagrams mentioned in paragraph 3 above have been forwarded separately, together with a copy of the original A.F.O. 22/26, to Portsmouth, Devonport and Malta Dockyards for information and guidance in fitting the system.

6. Copies of the wiring diagrams mentioned in paragraph 4 above have been forwarded separately to all dockyards concerned and also to the Commander-in-Chief, East Indies, and Commodore, New Zealand Squadron. Copies of the instructions affecting cruisers, which are now embodied in this Order, were also forwarded to the dockyards and the Commander-in-Chief, East Indies, and Commodore, New Zealand Squadron.

7. The observing position is arranged in the 15 in. spotting top in battleships and battle cruisers where the new spotting tops and revised main and secondary fire control systems are being fitted. In ships where the fitting

of the revised systems are deferred and it is decided to proceed with the fitting of the P.I.L. communications, the observing position is to be selected as best suited to the existing arrangements in such ships, by the ships' officers, and a statement of the position selected is to be included in the list of alterations and additions mentioned hereafter.

8. The navyphone communication shown in the diagram (E.F.O. 78/29 (2)) is not to be fitted in ships where suitable navyphone communication already exists between the transmitting station and the observing position.

9. The wiring for the gyro compass repeater shown in diagram (E.F.O. 78/29 (2)) is to be led to each repeater panel and should be included in multicore cables with other gyro compass repeater wiring, if such is available. The repeater is not to be fed in parallel with other repeaters off existing wiring.

10. The distance of datum ship is to be measured by the Pattern 3442—1 metre base rangefinder allowed for use with landing parties.

11. In cruisers, the spare wiring in the main run cables between the transmitting station and the fore control platform is to be utilised instead of running the 12-core cable, Pattern 2526, in ships where sufficient spare wires are available.

12. The existing gyro compass azimuth repeaters on the fore control platform and the communication between this platform and the transmitting station are to be used to meet the requirements of the P.I.L. communications, except in the case of "Hawkins" class and "Enterprise," where the existing azimuth repeater is not available on the director or director control tower platforms. An azimuth repeater is therefore to be fitted on the director or director control tower platforms of these ships for use with the P.I.L. equipment.

13. The P.I.L. equipment mentioned in this Order is identical for battleships, battle cruisers and cruisers (except in the case of the "Caledon" and "Ceres" classes).

14. The "Caledon" and "Ceres" classes having turret Dreyer tables, are not being supplied with adding dials. To obtain the datum angle in these ships, the gyro bearing of target and datum ship should be read directly from the same gyro repeater on the fore control platform, and the resultant datum angle transmitted to the transmitting station.

15. The accompanying Schedule I shows the instruments required in battleships and battle cruisers and the arrangements made for their supply.

16. The accompanying Schedule II shows the instruments required for cruisers and the arrangements being made for their supply. The instruments mentioned in Items 1, 2, 6 and 7 of this schedule are to be obtained from stocks available at the various yards.

17. Purchase of 20 sets of adding dials for datum angle and 20 transmitters for gyro bearing of target, as mentioned in Items 4 and 5 of Schedule II, has been arranged with Messrs. Elliott Bros. (London), Ltd., under Contract C.P. 32581/26F.830, dated 8.1.27, for delivery and distribution as follows:—

H. M. Ships "Hawkins," "Frobisher," "Vindictive," "Effingham," "Emerald," "Enterprise," "Despatch," "Diomedé," "Danæ," "Dauntless," "Dragon," "Delhi," "Dunedin," "Durban," "Calcutta," "Cairo," "Capetown," "Colombo," "Carlisle" and one spare to be retained at Chatham.

These instruments will be complete with couplings, gear wheels, etc.

18. The mechanical work of fitting the adding dials and the gyro bearing of target transmitters to the gyro director training gear is to be carried out by the ships' staffs in all ships affected. A set of drawings and instructions will accompany each instrument for guidance in this respect.

19. Purchase has also been arranged for the 19 Pattern 6315 gyro bearing of datum ship transmitters mentioned in Item 3 of Schedule II, with Messrs.



Graham & Co. for delivery at Chatham and for distribution, as shown in paragraph 17. No spare instrument is provided. (Under Contract C.P. 3884/27F.245, dated 18.2.27.)

20. The gyro compass repeater azimuth circle and duplicate connection box mentioned in Items 8 and 9 of Schedule II for H.M.S. "Enterprise" and "Hawkins" class, will be supplied from Slough without demand.

21. The junction boxes required for all ships affected are to be made up to suit the arrangements of the diagrams from stocks available at the various yards, and the work of fitting the system complete in the various ships is to be carried out by the dockyards, except as mentioned in paragraph 18 above.

The ships concerned are to insert an item for this work in the next list of alterations to be forwarded, where this has not already been done.

22. Estimates of the cost of the dockyard work involved in fitting the system are to be submitted for approval.

23. Yards abroad should forward demands to the Admiralty to complete the requirements of Items 1, 2, 6, 7, 10, 11 and 12 of Schedule II, stating the ship for which demanded.

#### SCHEDULE I.

"Queen Elizabeth" and "Royal Sovereign" Classes, "Repulse," "Renown and "Tiger."

*Instruments and gear required for Position-in-line Equipment and Communications.*

(E.F.O. 78/29 (2)).

Patt.	Description.	Quantity.		Remarks.
		1 Ship.	13 Ships.	
5268	Datum ship distance transmitter.	1	13	These have been earmarked at Portsmouth (A.L. 22.7.25, N.S. 8536/15990).
5269	Datum ship distance receiver.	1	13	
6315	Gyro bearing of datum ship transmitter.	1	13	Patt. 5268 converted by Messrs. Graham & Co. Under contract 12.9.25, C.P. 24905F.319.
—	Gyro bearing of target transmitter.	1	13	
9247	Adding dial ...	1	13	Ordered from Messrs. Elliott Bros. on 23.6.25, C.P. 16479/25.
1709	*Gyro Compass repeater azimuth.	1	13	
4764	*Gimbal bracket and ring complete.	1	13	If not already on board, will be supplied from Slough.
315	*Duplicate connection box with dimmer.	1	13	
6702	*Azimuth circles for gyro compass repeater.	1	13	
†3330	Navyphone ...	1	13	To be supplied from stocks at the yard.
†3331	Navyphone ...	1	13	
—	Junction and supply boxes, type C.I.	1	13	
—	Junction and supply boxes, type E.I.	1	13	

\* Will be supplied from Slough.

† Not required if communication is available already between the Observing Position and Transmitting Station.

SCHEDULE II.  
 "Hawkins," "Enterprise," "D," "Caledon" and "Ceres" Class Cruisers.  
*Position-in-line Equipment.—Instruments and Gear Required for Position-in-line Communications.*  
 (E.F.Os. 78/29 (3) and (4).)

Item No. 7.	Patt. No.	Description.	"Hawkins," "Enterprise," "D" and "Cairo" Classes.		"Caledon" and "Ceres" Classes.		Grand Total.	Remarks.
			No. per Ship.	Total, 19 Ships.	No. per Ship.	Total, 8 Ships.		
1	5268	Distance of datum ship transmitter (range transmitters).	1	19	1	8	27	To be obtained from stocks at the yards.
2	5269	Distance of datum ship receiver (range receivers).	1	19	1	8	27	
3	6315	Gyro bearing of datum ship transmitters.	1	19	—	—	19	
4	—	Gyro bearing of target transmitter.	1	19	—	—	19	Ordered from Messrs. Graham and Co., 18.3.27, C.P. 3884/27, F.245.
5	9247	Adding dial for datum angle ...	1	19	—	—	19	Purchase arranged with Messrs. Elliott Bros., C.P. 32581/26, 8.1.27 and 1.2.27.
6	3138	Datum angle transmitter (bearing transmitter).	—	—	1	8	8	
7	3139	Datum angle receiver (bearing receiver).	—	—	1	8	8	To be obtained from stocks at the dockyards.
8	1705 or 1707	Gyro compass repeater, azimuth type, and azimuth circle, Patt. 4762.	—	—	—	—	1	For "Hawkins" Class (4 ships) and "Enterprise" only. In addition "Hawkins" class will have two gimbal brackets one for each side of bridge. "Enterprise" will have one gimble bracket only. To be supplied from Slough.
9	314 or 315	Duplicate connection box, with dimmers.	—	—	—	—	1	
10	—	Junction box, type C ...	1	19	1	8	27	To be made up to suit the arrangements of the diagrams from stocks available at the dockyards.
11	—	Supply box, type D ...	—	—	1	8	8	
12	—	Supply box, type E ...	1	19	—	—	19	

**1833.—8 in. Twin Turrets—Marks of Mountings—REPORTS.**

(G. 0449/29.—26.7.1929.)

It has been decided to re-allocate the marks and registered numbers to certain of the 8 in. twin mountings as indicated below :—

	<i>Original Mark.</i>	<i>New Mark.</i>
"Kent" class ... ..	I	I
"London" class ... ..	I	I*
"Dorsetshire" class ... ..	II	II
"York" ... ..	III	II
"Exeter" ... ..	IV	II*
"Surrey" class ... ..	IV	II*

2. Except in the "Surrey" class, the original marks will continue to be used during the manufacturing stage, but all "as fitted" drawings, and handbooks, will show the new marks, together with the name of the ship or class.

In the "Surrey" class the new mark will be used throughout.

3. Certain drawings of the "London" class mountings have already been issued; these should be corrected as regards mark of mounting by the yards affected.

4. The description plates of the 8 in. mountings of the "London" class are to be altered by the ship's staff by adding a star to the mark, removing the existing registered numbers and substituting the following :—

	<i>Registered Numbers.</i>			
H.M.S. "London" ... ..	1	2	3	4
," "Devonshire" ... ..	5	6	7	8
," "Sussex" ... ..	9	10	11	12
," "Shropshire" ... ..	13	14	15	16

5. Similar action is to be taken by Portsmouth Yard in connection with the reserve 8 in. mountings for the "London" class, the new registered numbers being 17 and 18.

Reports are to be rendered by each ship of the "London" class and by Portsmouth Yard when the work has been completed.

**1835.—Demolition Stores—Supply.***Aircraft Carriers employed on the China Station.*

(T. 0262/29.—26.7.1929.)

Aircraft carriers employed on the China Station are to carry a Class D outfit of demolition stores, and are to be supplied with the half-yearly allowance of demolition stores for practice as authorised for Class D vessels.

Other aircraft carriers will not be supplied with demolition stores unless a special demand is made to the Admiralty.

2. The requisite amendments to B.R. 153 and Proportion Book of Naval Armament Stores, Part II, will be issued in due course.

3. Stowage arrangements for the stores are to be made by ship's staff, and the arrangements effected are to be reported by the Commanding Officer through the usual channels.

4. The allowances of Naval store items for this purpose—firing key, battery box, receptacle and cells, are included in the Establishment of Naval Stores for Gunnery and Torpedo Purposes, pages 108/9 and 122/3.

**1836.—Mines, Warheads and Depth Charges.**

(T. 1030/29.—26.7.1929.)

In future a mine, warhead or depth charge, which has been fitted with a primer and detonator is to be described as "Primed and fitted."

2. The use of the term "To prime a mine," meaning to fit the detonator, is to be discontinued. The term "To fit a mine" is to be used instead.

## 1838.—W/T—Model Outfit S.D.—Separate Batteries.

*New Construction and Existing Ships.*

(S.D. 387/29.—26.7.1929.)

In order to obtain the best results with model outfit S.D. (direction finding W/T set), it has been found from sea experience that this outfit should have a separate set of anode and filament batteries, instead of utilising the central battery of any W/T office in which the set may be installed.

2. Their Lordships have therefore approved the installation of a separate battery outfit in auxiliary W/T offices of all new construction ships fitted with model outfit S.D., commencing with "Shropshire"; also in central receiving rooms (where applicable) and auxiliary offices of existing ships when taken in hand for long refit or large repairs. The battery outfit will comprise only anode and filament batteries, as follows:—

- (a) Anode—four Pattern 6034-A-B batteries.
- (b) Filament—four Pattern 1551B cells.

3. When a separate battery outfit is supplied to a model outfit S.D. installed in an office containing other sets, the batteries should be accommodated in a battery cupboard "J," fitted to back against the compartment containing the D/F set. Any other battery cupboard in the W/T office should be well removed from the battery cupboard "J" used for the D/F set.

4. The exact details of the charging circuits are now being worked out, and a further statement, together with a diagram of connections, will be promulgated as soon as possible. Both anode and filament batteries will be charged direct from the mains, via lamps, the stores required per ship being, approximately as follows:—

<i>Pattern.</i>	<i>Description.</i>	<i>Quantity.</i>
6034/A/B	Battery, accumulator, 24 volts, 3 amp. hours ...	4
6036	Bolt, connecting, 2 B.A. for small cells ...	8
3988A	Box for 2 Pattern 1551-A-B cells ...	2
1551B	Cell, accumulator, 2 amps. 20 amp. hours ..	4
6035/A/B	Cell, spare for Pattern 6034-A-B ...	4
6515	Clamp (2 fixing holes) for pillar, 2 in. diam. ...	12
6927	Cradle for 2 Pattern 6034-A-B batteries ...	2
1133	Insulator, porcelain pillar, 1-1/2 in. ...	8
835A	Insulator, porcelain pillar, 1-3/4 in. ...	6
4548	Lampholder on wood base... ..	4
1760	Lamp, incandescent, C.F., 16 c.p. 100 volts ...	4 only to 100-volt ships.
2118	Lamp, incandescent, C.F., 32 c.p. 220 volts ...	} Only to 220-volt ships.
2119	Lamp, incandescent, C.F., 16 c.p. 220 volts ...	
2117	Lamp, incandescent, C.F., 50 c.p. 220 volts ...	
5997	Switch, 4-pole, charge-discharge, 15 amps. ...	2
328	Switch, small, non-watertight ...	2
4546	Terminal block, single pair ...	1

5. Compensation should be provided for topweight in "C" and "D" class cruisers affected.

6. Any dockyard estimate which may be required should be based on the work called for to fit a battery cupboard "J" as described in Specification No. 9528 when circulated. A draft of this specification is now receiving Their Lordships consideration.

**1841.—36 in. Searchlight Carbons—Stowages.**

(T. 2182/29.—26.7.1929.)

The Drawing E.F.O. 82/29 shows an arrangement for stowing ready-use carbons for Marks V and VI searchlight lamps, which should be fitted by ship's staff as may be required.

2. If packed carbons for Mark III lamps require stowage, a somewhat similar arrangement may be adopted.

**1842.—Supply Breakers of Messrs. Whipp & Bourne's Design—Modification to Reverse Current Gear.***Ships earlier than "Nelson" Class.*

(D. 7367/29.—26.7.1929.)

The following extract of a report from a ship on which old pattern supply breakers of Messrs. Whipp & Bourne's manufacture are fitted, is promulgated for the information of officers of H.M. ships earlier than "Nelson" class, in which the type of supply breaker referred to may be fitted.

"Repeated tests on board have shown that the reverse current gear will not function when the reverse is brought on slowly as would happen with a slightly damaged engine or curtailed supply of steam.

"No amount of altering the position of the armature by the adjusting screw has had the effect of making the reverse current gear work at any value in the vicinity of the correct one.

"To get over this, a soft iron nut ( $\frac{1}{8}$ -in. nut tapped out 2B.A.) was screwed on to the projecting brass stop. This has had the effect of reducing the magnetic reluctance of the path when reverse took place.

"It was observed if securing screw "D" was of steel the reverse current gear seldom functioned. This is presumably due to a salient pole being formed on screw head. Brass set screws have now replaced the steel ones.

"The modification, as suggested, has been fitted on all supply breakers, and has been entirely satisfactory in every respect.

"The overload values, contrary to expectation, were not affected by this modification."

2. The armature of the reverse current gear and the suggested improvement are shown on Drawing E.F.O. 76/29.

**1846.—Issued Confidentially.****1848.—A/S—Motor Generators and Armatures, Patterns 7265/A, etc.—"Drying-out."**

(N.S. 5303/29.—26.7.1929.)

It has been decided that all spare motor generators, Patterns 7265/A and 7269/A, and spare armatures are to undergo the "drying-out" process at Portsmouth forthwith, and are then to be packed in suitable air-tight metal lined cases (manufactured in the dockyard as required), and sealed up ready for issue.

2. The spare machines and armatures at present in the Fleets, which have not already been treated as stated above, will be replaced in due course as supplies of the "dried-out" machines become available.

**1850.—Compass Equipment for H.M. Submarines “Rainbow,” “Regent,” “Regulus,” “Rover,” “Royalist” and “Rupert.”**

(N.S. 7139/29.—26.7.1929.)

The following is the establishment of magnetic compasses for the above-mentioned submarines :—

	<i>Compass. Pattern.</i>	<i>Binnacle. Pattern.</i>	<i>Spheres. Pattern.</i>	<i>Magnets.</i>	
				<i>Pattern.</i>	<i>No.</i>
Standard ... ..	184	185	403	153	4
Projector ... ..	28P	R.L.VII type.	406	160	12
				161	12

**1854.—Issued Confidentially.**

**1864.—Gun Mountings, 6 in.—Particulars of Range Dial Graduations on Reconditioning and Conversion.**

(G. 4961/27.—26.7.1929.)

With further reference to A.F.O. 1601/29, the following information is promulgated concerning the range dial graduations for the various marks of 6 in. gun mountings concerned.

(a) *6 in. B.L., Mark VII Guns on P. III and P. IV Mountings.*—Graduations to be in accordance with the approved drawing prepared by Portsmouth Yard in accordance with Admiralty Letter dated 7th July, 1921, G.0821/21, and approved by Admiralty Letter G.01097/21. M.V. 2,500 fs. R.T. No. 26 and 26A. Sight elevation 20 degrees. Range gearing constant 37.677.

(b) *6 in. B.L., Mark VII Guns on P. VIII Mountings.*—Dials to be regradiated for an M.V. of 2,500 fs. using range table No. 26d. Graduations to be arranged for use with a 10-degree super-elevation attachment for a total sight elevation of 22½ degrees. Portsmouth Yard to prepare necessary drawing.

(c) *6 in. B.L., Mark XI Guns on P. V Mountings.*—Graduations to be in accordance with approved drawing G.123 for M.V. 2,800 fs. R.T. No. 26. Sight elevation 20 degrees. Muzzle velocity correctors to be removed.

(d) *6 in. B.L., Mark XI Guns on P. V\* Mountings.*—As the mountings are not being converted to a greater elevation, the sights are to remain as at present.

(e) *6 in. B.L., Mark XI Guns on P. VI Mountings.*—Graduations to be extended to 20 degrees elevation using R.T.'s Nos. LXXIX. and 27. M.V. 2,850 fs. Portsmouth Yard to prepare necessary drawing.

(f) *6 in. B.L., Mark XII Guns on P. VII and VII\* Mountings.*—Dials to be regradiated to approved drawing R.C.D. 13883A/44 for M.V. 2,750 fs. R.T. No. 24.

(g) *6 in. B.L., Mark XII Guns on P. IX Mountings.*—For those sights which require extension of elevation, drawing No. R.C.D. 13870A/4 is to be used.

(h) *6 in. B.L., Mark XVI Guns on P. X Mountings.*—Range dials to be regradiated to 20 degrees, equivalent angle for an M.V. of 2,900 fs., using the range table on p. 110 of O.U. 5268A for elevations up to 15 degrees, and thereafter a special extension table which will be prepared at the Admiralty. The muzzle velocity correctors to be altered to read plus and minus instead of actual M.V.'s. Portsmouth Yard to prepare necessary drawings.

(i) *6 in. B.L., Mark XIII Guns on P. XI Mountings.*—Range dials to be graduated up to an equivalent angle of 20 degrees for M.V. 2,675 fs., using R.T. No. 239. Muzzle velocity correctors to be altered to read plus and minus instead of actual M.V.'s. Portsmouth Yard to prepare necessary drawings.

2. Except where stated above, the existing muzzle velocity correctors are to be retained.

3. The drawings referred to in paragraph 1 (b) (e) (h) and (i) are to be prepared in conjunction with "Excellent" and submitted to the Admiralty.

4. The regradautions of range dials, etc., is not to be taken in hand until the relative estimates have been approved. In the case of mountings not yet converted, the regradaution is to be carried out as part of the conversion.

Estimates for the regradaution of dials of mountings already converted are to be forwarded as soon as possible.

(A.F.O. 1601/29.)

### 1865.—Turret Danger Signal Gear—Head of Charge.

(G. 2603/29.—26.7.1929.)

It has been decided that future supplies of turret danger signal gear are to be purchased as a charge to Vote 8, Section III, Subhead G.

2. Any items of this gear at present in store and on charge as the property of Vote 8, Section II, Subhead F, are to be transferred accordingly (without financial charge) to Vote 8 III G, and included in future electrical equipment reports.

### 1870.—*Issued Confidentially.*

### 1871.—Great Britain and Northern Ireland—Regulations for Visits of Foreign War Vessels and Service Aircraft accompanying them.

(M. 3337/29.—2.8.1929.)

Special permission is not necessary to enable foreign war vessels (including auxiliary vessels and transports) to visit fortified or unfortified ports, harbours, roadsteads, estuaries, or navigable rivers in Great Britain and Northern Ireland (including Channel Islands), but previous notice of such visits should be forwarded through the usual diplomatic channels. Unless there are special circumstances rendering it impracticable, such notice should arrive at least seven days prior to the commencement of the proposed visit. The notice should give the number of vessels paying the visit and the name and class of each. If any of the vessels referred to above carry aircraft, a statement to this effect should be included in the notification of the visit.

2. The above rules do not apply to—

(a) Ships of war and auxiliary vessels on board of which are embarked Sovereigns, Members of a Sovereign's Family, Presidents of Republics, or their suites, or Ambassadors or Envoys to the Court of His Majesty the King.

(b) Ships of war and auxiliary vessels which are obliged by reason of damage sustained, perils of the sea or other unforeseen causes to enter a British port.

(c) Ships of war and auxiliary vessels entitled to enter a British port under the terms of an international agreement which they are engaged in carrying out.

3. Foreign submarines should in no case attempt to submerge in territorial waters or to enter territorial waters in the submerged condition.

4. Shore leave may be given to *unarmed* sailors or soldiers. If it is desired to land large numbers of men or bodies of men in military formation, adequate notice should always be given to the Mayor, Provost or local Police authority, and at naval ports to the Naval Commander-in-Chief in addition, in case special arrangements render it necessary to make any restrictions.

5. Officers landing are permitted to wear their swords.

6. Applications for permission to land *armed* parties should be made through the usual diplomatic channels or at naval ports through the Naval Commander-in-Chief.

7. Torpedo and gunnery practices, mining and searchlight exercises, and exercises with armed boats are prohibited in British territory and territorial waters unless special permission has previously been obtained through the usual diplomatic channels.

8. If the vessels paying the visit are to be accompanied by service aircraft not carried on board the vessels, this fact, together with the number and type of the aircraft, should be stated in the notice of the proposed visit. For flights by such aircraft as may be necessary on their arrival or departure with the vessels they accompany no special permission is required. The conditions stated in (a), (b) and (c) in paragraph 9 below must, however, be observed on such flights.

9. When foreign service aircraft accompanying foreign war vessels wish after arrival to undertake flights for some purpose other than departure with the vessels they accompany, special permission is necessary. Application for such permission should be made to the local Naval Commander-in-Chief, and should state:—

- (1) The purpose of the proposed flight;
- (2) The number and type of aircraft it is desired should undertake the flight;
- (3) The wireless call signs of the aircraft (if fitted with wireless);
- (4) The number of officers and other ranks to be carried;
- (5) The proposed route;
- (6) The names of any aerodromes or ports at which it is desired to land; and
- (7) The proposed date for the flight.

Permission for such flights will only be granted subject to the following conditions (in addition to any special conditions which may be found necessary in particular cases):—

- (a) The aircraft must comply with the provisions of Annex D of the International Convention for the Regulation of Aerial Navigation, dated the 13th October 1919, and with the safety regulations in force in Great Britain and Northern Ireland to prevent injury to the public (*see* Appendix).
- (b) The aircraft must not land in any "prohibited area" and must not fly over any such area at a lower altitude than 6,000 feet.
- (c) No ammunition, bombs, photographic films or plates may be carried.
- (d) No dogs may be carried.

10. Any special local regulations must be complied with.

11. At the Nore, Portsmouth, Plymouth, Milford Haven, Portland, Rosyth and Invergordon, the right of assigning anchorage berths to foreign ships of war, and of directing them to shift berth, should the same become necessary, is vested solely in the Commander-in-Chief or King's Harbour Master of the Port.

At all other ports, harbours, roadsteads, estuaries, and navigable rivers, where there is any constituted Harbour Authority, such right is vested in the Harbour Master acting in conjunction with the Senior Naval Officer, if there be any of His Majesty's ships present.

12. Foreign ships of war are under no obligation to take a pilot when approaching ports, harbours, roadsteads, estuaries and navigable rivers of Great Britain and Northern Ireland; but within the zone of the defences of fortified, or limits of unfortified, ports, harbours, roadsteads, estuaries, and navigable rivers they are subject to the regulations of the port, if any.



13. Should a foreign ship of war fail to comply with the regulations of the port the attention of her Commanding Officer will first be called thereto by the Harbour Master or other authority as above specified, and explicit observance of these regulations will be requested.

Should this course fail, the foreign ship of war may at once be requested to leave the harbour.

14. Upon entering any of the ports mentioned in paragraph 11 or any other port or harbour, etc., where one of His Majesty's ships is present, foreign ships of war will be boarded by an Officer sent by the Naval Commander-in-Chief or Senior Naval Officer, who will offer the Commanding Officer the courtesy of the port.

The Officer will acquaint the Commanding Officer with the anchoring berth that has been allotted to his ship and will obtain information as to the object and the proposed duration of the visit, the name of the Commanding Officer, and the information it is usual to obtain upon such occasions.

15. Should the Officer sent to welcome the foreign ship of war arrive on board after she has already anchored or made fast, the prescribed notification and enquiries will nevertheless be made and the confirmation of the anchoring berth taken up or the assignation of another will be carried out.

16. At other ports or places where there is none of His Majesty's ships present, the above duties will be carried out by the Harbour Master or his representative, or, if there is no Harbour Master, by the Customs Officer, if any.

ADMIRALTY,

*December, 1924.*

APPENDIX.

SAFETY REGULATIONS FOR AIRCRAFT IN FORCE TO PREVENT INJURY TO THE PUBLIC.

The effect of these is as follows:—

1. An aircraft shall not fly over any city or town except at such altitude as will enable the aircraft to land outside the city or town should the means of propulsion fail through mechanical breakdown or other cause; provided that this prohibition shall not apply to any area comprised within a circle with a radius of one mile from the centre of a licensed aerodrome or of a Royal Air Force aerodrome or of an aerodrome under the control of the Secretary of State for Air.

2. A person in an aircraft shall not—

(a) carry out any trick flying or exhibition flying over any city or town area or populous district; or

(b) carry out any trick flying or exhibition flying over any regatta, race meeting or meeting for public games or sports except where specially arranged for in writing by the promoters of such regatta or meeting; or

(c) carry out any flying which by reason of low altitude or proximity to persons or dwellings or for any other reason is the cause of unnecessary danger to any person or property on land or water.

3. A person shall not drop or cause or permit to be dropped from an aircraft in flight any article except ballast in the form of fine sand or water.

LIST OF SALUTING STATIONS IN GREAT BRITAIN AND NORTHERN IRELAND.

Dover.

Leith.

Pembroke.

Plymouth.

Portsmouth.

Sheerness.

NOTE.—Foreign warships entering the Firth of Forth and intending to anchor in Leith Roads should fire their salute off Inchkeith.

**\*1877.—Officers entitled to pre-October 1925 Scales of Pay—  
Method of Distinguishing.**

(N.P.I. 1167/29.—2.8.1929.)

*Officers of the R.N. and R.M.*—For the purpose of enabling Accountant Officers readily to distinguish officers of the R.N. or R.M. entitled to pre-October 1925 scales of pay from those entitled to the new scales then introduced, it has been decided to insert in the Seniority Lists in the Navy List the distinguishing symbol † against the names of those officers of the ranks stated below who are eligible to receive pay under the old scale, *i.e.*, that laid down in Appendix I, Part I, King's Regulations and Admiralty Instructions, thus leaving unmarked the names of those within the stated ranks who are entitled to the new scales under Appendix I, Part II, King's Regulations and Admiralty Instructions. The symbol will remain against the officers' names until they reach a rank (or seniority) for and beyond which no new rates of pay are laid down. Thus, *e.g.*, the symbol against the names of Acting Sub-Lieutenants will remain during the whole of the officer's service as Lieutenant, but will cease to be shown when the rank of Lieutenant-Commander is reached.

The ranks in question are:—

Midshipmen.  
Acting and Confirmed Sub-Lieutenants.  
Lieutenants, R.N.  
Midshipmen (E).  
Acting and Confirmed Sub-Lieutenants (E).  
Acting and Confirmed Lieutenants (E).  
Paymaster Sub-Lieutenants.  
Paymaster Lieutenants.  
Chaplains.  
Instructor Lieutenants.  
Temporary Instructor Lieutenants.  
Lieutenants, R.M.

2. *R.N.R. & R.N.V.R. Officers.*—(a) *Executive Officers of the R.N.R. and all Officers of the R.N.V.R.*—For these officers scrutiny of the Certificate Book (R.V.O.2) or Form R.N.V. 16 respectively will normally enable the correct rate of pay to be determined under R.N.R. Regulations, Officers (Appendices E, E.1 and E.2) and R.N.V.R. Regulations (Appendices M, M.1 and M.2). In any case of doubt only the lower rate should be paid and reference made to the Accountant-General.

(b) *Engineer and Accountant Officers, R.N.R.*—The Accountant-General will communicate the correct rate of pay to the ship to which such officers are appointed for training.

1884. } Issued Confidentially.  
1894. }

**1895.—Gyro Compasses—Scraping and Polishing of Binnacles.**

(C.D. 88/29.—2.8.1929.)

It is a common practice afloat to scrape and polish large parts of the master gyro compass.

2. The constant shaking due to polishing and the use of emery cloth on the binnacle ring are both most undesirable and may be at the root of otherwise unexplained errors in the behaviour of the compass.

3. Master compasses are carefully painted by a special process before issue and the practice of scraping the binnacle ring, bowl, cover and other parts is to be discontinued, those parts which have been so treated are to be repainted forthwith. Anti-sulphuric paint is suitable for this purpose as a temporary measure.

### 1897.—H.M. Ships—Permanent Fittings on which Safety of Life Depends—Periodical Examination.

(D.10453/29.—2.8.1929.)

Attention is drawn to the importance of the periodical examination for maintenance of the fittings permanently attached to the hull of a ship, and on which the safety of life depends.

2. Whenever cables are periodically surveyed or tested, the eyeplates for securing the anchors at the catheads are also to be thoroughly examined for flaws, or defects, and in cases of doubt fire-proved and tested and the result noted on the authorised forms S.194 and D.786B. The examination of eye plates, etc., during periodical surveys of cables, should be done by ship's staff, assistance from the dockyard being obtained, if necessary, to remove fittings for fireproof and test.

3. When catting anchors, ships should avoid putting an undue strain upon the catting chain.

(K.R. and A.I., Articles 681 and 1963, and Chapter XLII, Sections I, II and III, will be amended accordingly.)

### 1904.—I.I. Blocks with Beckets—Return and Repair.

(N.S. 3604/29.—2.8.1929.)

1. When I.I.B. blocks, fitted with beckets, are returned ex H.M. ships, the shackles and thimbles (which are normally regarded as a component part of such blocks) should, in the following circumstances, *not* be returned with the block portions:—

- (a) if the same or similar blocks are eventually to be refitted, and
- (b) if also the shackles and thimbles are serviceable and their return would involve the cutting of tackles.

2. In other circumstances the shackles and thimbles *should* be returned.

3. When blocks referred to at 1 above have to be repaired for store, they should be repaired to the pattern numbers of corresponding sized blocks without beckets, but the becket legs should not actually be removed and they should be re-issued as far as possible to H.M. ships which already have the corresponding shackles and thimbles fitted on board.

### 1945.—R.I.M.S. “Hindustan.”—Admiralty Services in connection with Construction.

(S. 5190/29.—2.8.1929.)

The Admiralty have undertaken the work of supervising the construction of R.I.M.S. “Hindustan” and it has been agreed to charge a fixed amount for these services. This amount is intended to cover the pay and pension liability of the inspecting officers and their assistants; travelling expenses; the cost of supplying drawings and specifications prepared in Admiralty Establishments (but not the cost of drawings and specifications prepared by Contractors, the cost of which will be additional); the carrying out of necessary investigations and research; the use of instruments and plant; and the cost of services rendered by Head Office Staff and other Head Office and overhead charges. In addition the Government of India will be required to pay the cost of any special purchases or other specific items of expenditure specially necessary in connection with the overseeing of the vessels.

2. The charges for armament and naval stores supplied by the Admiralty and work executed in H.M. Dockyards for R.I.M.S. "Hindustan" will be at the normal rates applicable to repayment services which include the cost of inspection and all other overhead charges.

### 1946.—Night Periscopes ex Submarines.

*Home and Foreign Dockyards.*

(N.S. 2784/28.—2.8.1929.)

The instructions to suspend action in regard to bringing to produce the C.N. type night periscopes and raising and lowering gear, *ex* the "L" and "L.50" type submarines, are cancelled and the articles should now be brought to produce.

2. *Portsmouth only.*—Four of the periscopes referred to in Admiralty letter N.S.C.P. 4797/29/5105, dated 13th March, 1929, should still be retained in their present condition pending further instructions as to their disposal.

### 1948.—Commanders for Royal Naval Reserve Duties and for Liaison Duties with the Mercantile Marine.

(M. 4080/28.—9.8.1929.)

It has been decided to rearrange the areas for which Commanders for R.N.R. and M.M. duties are responsible and the new areas are as follows :—

(a) *North Foreland to Newport, Mon.*

Commander L. R. Palmer, D.S.O., R.N.,  
Rooms 13 and 14,  
Prudential Buildings,  
Above Bar,  
Southampton.

*Honorary Assistant :—*

Commander J. W. Gracey, R.D., R.N.R. (Retd.),  
Havenmaster,  
Avonmouth.

(b) *Newport (Mon.) to Bennane Head and Northern Ireland (Belfast Area).*

Commander R. N. Suter, D.S.O., R.N.,  
30, Canning Place,  
Liverpool.

(To be relieved on 23rd September, 1929, by Commander A. E. H. Wright, D.S.O., R.N.)

*Honorary Assistants :—*

Lieut.-Commander J. D. Keatinge, R.N.R. (Retd.),  
Board of Trade Examination Hall,  
Bute Place,  
Cardiff.

Commander W. A. Williamson, R.D., R.N.R. (Retd.),  
C/o "City" Line, Ltd.,  
Messrs. G. Smith & Sons,  
75, Bothwell Street,  
Glasgow.

(c) *St. Abbs Head to North Foreland.*

Commander E. W. Buchanan, D.S.C., R.N.,  
R.N. Office,  
Port of London Authority Buildings,  
Tower Hill, E.C.3.

*Honorary Assistants :—*

Commander W. B. Clementson, R.D., R.N.R. (Retd.),  
Marine Superintendent, L.M.S.R.,  
Goole.

Commander T. L. S. Garrett, R.D., R.N.R. (Retd.),  
Chief Assistant Harbour Master,  
Gateshead-on-Tyne.

In *Scotland (Bennane Head to St. Abbs Head)*, the duties connected with the protection of the Mercantile Marine in war will be performed by the Staff Officer on the staff of the Commanding Officer, Coast of Scotland, and the duties connected with the R.N.R. by the Commander for M.M. and R.N.R. duties resident at Liverpool, who has a honorary assistant resident in Glasgow (*see above*).

1955. } *Issued Confidentially.*  
1961. }

**1962.—Low Power Supply—Ventilation of Batteries—REPORT.**

(D. 5746/29.—9.8.1929.)

Reports have been received to the effect that the exhaust fans fitted to the L.P. batteries in ships recently completed are powerful enough to draw off a considerable amount of electrolyte from the cells when "gassing," and that frequent topping up is necessary, and in some cases the acid has eroded the trunking.

2. In some ships this difficulty has been overcome by cutting a hole and fitting a louvre in the blank ends of the trunking. This method is considered objectionable, as it will permit of acid fumes entering the compartment when the fan is stopped, and when running, dirt will be drawn into the system.

3. In new construction the defect referred to will be overcome by fitting smaller (5 in.) exhaust fans.

4. Attention will also be paid to the following points:—

(a) Trunking to be so arranged that the branches exhausting from the cells are equidistant from the suction to the fan.

(b) All trunking between the fan and the batteries will be immersed in rosbonite or other acid-resisting composition.

5. One ship has fitted a cone disc to each cell (E.F.O. 89/29). The disc is of ebonite and rests on a cone seating at the top of the nipple for the rubber tube. The underside of the disc is fluted at the edges. It is claimed that these discs prevent the electrolyte being drawn into the trunking and metal dust and other impurities falling into the cells.

No objection is seen to these discs being fitted by ship's staff, provided that they are examined and cleaned as necessary. If fitted, a report should be forwarded through the Administrative Authority after six months' experience, indicating whether the discs are recommended for adoption.

**1965.—Automatic Searchlight Lamps—Burning and Adjustment.**

(T. 2871/29.—9.8.1929.)

The following remarks on the burning and adjustment of Mark VI H.C.D. lamps are promulgated for the information of ships fitted with motor generators for their searchlight supply.

2. The Mark VI lamp was designed to burn at 80 volts and to take 150 amperes.

3. The motor generators now in service were designed to give an output of 70 volts, 150 amperes. It may be possible to obtain 80 volts, 150 amperes, from some of them, but there are three different designs in service, and individual machines of the same design may actually differ in their maximum output, and therefore in some cases it may be necessary to accept a reduction in input to the lamp.

4. This reduction will necessitate a re-adjustment of the current setting of the lamp. It is pointed out that owing to the nature of the current control employed, if the setting of the current coil is maintained at a figure beyond the capacity of the generator, the negative carbon must feed in continuously. This will result in a very short arc length and very unsteady burning, with the danger of the carbons eventually touching.

5. The lamp will burn quite satisfactorily at a lower current than 150, provided the voltage at the terminals is kept up to 68 volts, and the setting of the current coil is reduced to a suitable figure.

6. In ships where the output of the motor generators is found to be inadequate, the shunt regulator should be set to the maximum voltage position, and the current coil of each lamp adjusted to the maximum setting which will maintain 68 volts across the arc. A reduction of current to 140 or even 130 may be necessary. The lamp will burn quite well at even 100 amperes.

The reduction of current will of course diminish the candle power of the lamp. Ships should remark in Form S. 316 on the actual current settings used.

7. It is not considered desirable to increase the output of the generators by modifications to the connections, as increase in output will involve risk of overheating.

8. These remarks apply in principle also to the Mark IV and V lamps, but the difficulties are less liable to occur, owing to the smaller voltage for which the lamp was designed.

### **1967.—Refits or Repairs to H.M. Ships—Procedure to be followed as regards Supplementary Work.**

(C.P. 6210/29.—9.8.1929.)

Where a contract has been placed with a private firm for refitting or repairing one of H.M. ships, and additional work, involving extra cost, is subsequently found to be necessary while the contract is in progress, the following procedure is to be followed:—

- (i) Where practicable, and the delay is not likely to cause additional sums for dock dues, etc., supplementary specifications are to be prepared and tenders obtained for the extra work and submitted for Admiralty approval;
- (ii) Where this is not practicable, the order for the additional work is to be placed with the firm dealing with the refit, provided that the local responsible officers are of the opinion that the sum asked for the supplementary work is fair and reasonable, that it is in the best interests of the Crown to accept it, and that there are no more economical means of dealing with the situation.

In the latter case, full details should be furnished forthwith to the Admiralty, stating the additional amounts involved, and furnishing a certificate as to (ii) above.

A supplementary tender is to be scrutinised with special care, and the local responsible officers must be satisfied that the supplementary repairs were not wholly or partially covered by items in the original contract and are absolutely necessary.

These instructions are to apply both at home and abroad, and are also to govern repair, etc., of Steam and Motor Boats and Battle Practice Targets.

**1968.—Bulges—Examination—REPORTS.**

(D. 7500/29.—9.8.1929.)

On all occasions when bulged ships are docked a careful examination of the connections of the bulge plating to the armour is to be made, and any studs, bolts, nuts, rivets or other securities showing appreciable signs of deterioration are to be renewed.

2. The nature and extent of the defects discovered are to be reported to the Admiralty in a summarised form, together with the steps taken to make them good.

**1970.—Lobby to Mess Deck Ladderway—REPORTS.***“ Peterel,” “ Gannet,” “ Seamew,” “ Tern.”*

(D. 10777/29.—9.8.1929.)

With a view to the avoidance of draughts in the crew's mess space in these vessels during the colder months of the year, ship's officers should forward proposals as necessary for an addition to include the fitting of a portable lobby either to enclose the ladderway from upper to mess deck or on the mess deck. The lobby to be fitted with a swing door and arrangements made so that during hot weather the portable lobby and door can be unshipped and stowed conveniently.

**1972.—Gyro Bearing Indicators—Surrender—REPORTS.**

(N.S./G. 1687/29.—9.8.1929.)

According to office records, gyro bearing indicators to the number shown should have been returned from the ships mentioned on the occasion of the alterations indicated having been carried out, and reports should be forwarded by the various ships stating when and to whom the instruments were returned.

<i>H.M. Ships.</i>	<i>When revised main and secondary armament was fitted.</i>	<i>When bridges were reconstructed (Originally used for Star Shell control.)</i>
“ Barham ” ... ..	1 No.	-
“ Malaya ” ... ..	1 „	2 No.
“ Queen Elizabeth ” ... ..	1 „	2 „
“ Valiant ” ... ..	1 „	-
“ Warspite ” ... ..	1 „	2 No.
“ Ramillies ” ... ..	1 „	-
“ Resolution ” ... ..	3 „	-
“ Revenge ” ... ..	1 „	-
“ Royal Oak ” ... ..	1 „	-
“ Royal Sovereign ” ... ..	3 „	-
“ Renown ” ... ..	1 „	-
“ Repulse ” ... ..	1 „	-

**1976.—W/T—Supply of Model Outfit Q.L. to certain Sloops, River Gunboats, etc.**

(N.S. 5996/29.—9.8.1929.)

It has been approved for the stores comprising a Model-Outfit Q.L. (Receiving Apparatus for Transmitter-outfit 5 C) as shown in Signal School's List E.148, together with 2 Pattern 6230 boxes for 40 Pattern 4976 cells and 100 Pattern 4976 cells, to be supplied from Portsmouth, without demand, to the following vessels, as soon as supplies are available from contractors, viz. :—

*H.M. Ships “ Delphinium,” “ Wistaria,” “ Heliotrope,” “ Bryony,” “ Daffodil,” “ Petersfield,” “ Iroquois,” “ Herald,” “ Scarab,” “ Gnat,” “ Aphis,” “ Ladybird,” “ Peterel,” “ Seal,” “ Mantis,” “ Cicala,” “ Moorhen ” and “ Widgeon.”*

2. If and when it is approved for Transmitter-outfit 5 C to be supplied to the above vessels, no further supplies of Patterns 6230 and 4976 will be made.

3. Copies of Signal School Lists E.148 and E.152 will be forwarded to the ships concerned at an early date.

### 1978.—Governors, Pattern 317, for Walker Logs—Fitting of Brass Hooks.

(N.S. 15537/28.—9.8.1929.)

Pending receipt of further instructions the directions contained in A.F.O. 1164/29 to fit all governors, Pattern 317, for Walker Logs with brass hooks should be suspended. For the present no action is being taken in respect of any demands or D. 68's forwarded in connection therewith.

(A.F.O. 1164/29.)

### 1981.—Air Cones for Oil Fired Pinnaces.

(N.S./C.P. 15976/29.—9.8.1929.)

A stock of 62 mild steel air cones suitable for use with oil fired boilers of steam pinnaces has been purchased for delivery at Chatham. That yard should take them on charge under Subhead B, Item 12, Part D, and include them in the periodical returns accordingly.

2. Ships requiring any of these articles should send demands direct to the Superintending Naval Store Officer, Chatham. Home dockyards should arrange transfers direct with Chatham as necessary. Yards abroad should forward demands to Admiralty when requirements arise.

### 1993.—Douglas Fir and Pitch Pine Mast Pieces.

(N.S./C.P. 12145/29.—9.8.1929.)

Shippers on the Pacific Coast have intimated that they will not in future be prepared to ship Douglas fir and pitch pine mast pieces during the winter months in view of statutory shipping restrictions. Consequently requirements of mast pieces which are not demanded in time to enable shipment to be made during the summer months, i.e., to arrive in England before the end of October, will not in general be obtainable until the end of May of the following year at the earliest.

2. Requirements of mast pieces hitherto included in the Home Yard Review Demands and in Foreign Yard Annual Demands, Subhead A, should in future therefore be included in special supplementary demands which should be forwarded so as to arrive in office by the end of April of each year. This Order is not intended to disturb the arrangement by which certain yards abroad obtain their requirements of this material locally.

1997. }  
2000. } —*Issued Confidentially.*

### \*2002.—Institution of Electrical Engineers—Admission of Naval Officers.

(C.W. 7428/29.—16.8.1929.)

The Council of the Institution of Electrical Engineers have recently revised the A.M.I.E.E. Examination Regulations, which now include the following provisions:—

#### *Royal Navy.*

Officers who have taken the normal Greenwich Course and have passed the examination qualifying them for promotion to the rank of Lieutenant are exempt from Part I of the A.M.I.E.E. Examination.

Officers who have qualified for T. or S. by taking the Advanced Course are exempt from the whole examination.

Officers who have qualified for S. or T. and have completed the Long Course and a further period of two years' experience as a Specialist Officer are exempt from the whole examination.



2. Subject to the examination requirements, officers carrying out electrical duties in the Navy are eligible for Associate Membership of the Institution provided they are over 25 years of age and satisfy its Council that these duties are equivalent to their having had two years' experience in a responsible position as Electrical Engineers.

3. If desired by any Officer of the Royal Navy who is qualified, the Director of Electrical Engineering, Admiralty, would be pleased to assist in the matter of the personal support required by the regulations and as embodied in the forms of application for membership.

4. Forms of application for admission, together with copies of the Examination Regulations, can be obtained from the Secretary of the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2.

### \*2007.—Trade and Vocational Training Certificates.

(N. 1086.—16.8.1929.)

The following establishments of trade and vocational training certificates have been approved for sea-going ships, subject to review after one year's experience.

(i) S.1233, S.1233a, S.1233t :—							
Battleships and battle cruisers in full commission	...	...	...	...	...	...	15
Destroyers	...	...	...	...	...	...	3
Other sea-going ships	...	...	...	...	...	...	5
(ii) S.1233b, S.1233e, S.1233f, S.1233g, S.1233h, S.1233j, S.1233k, S.1233r :—							
Destroyers	...	...	...	...	...	...	3
Other sea-going ships	...	...	...	...	...	...	5
(iii) S.1233c, S.1233d, S.1233l, S.1233m, S.1233n, S.1233p, S.1233q, S.1233s :—							
All sea-going ships, except destroyers	...	...	...	...	...	...	5

2. Sea-going ships now in commission are authorised to demand the above forms up to the establishments indicated. Ships commissioning in future will be supplied without demand.

3. Shore and Harbour Establishments at the three Home Ports may maintain a reserve of these forms based on the estimated numbers of trainees, or the estimated number of discharges from each branch, whichever is the greater, during the preceding three months. "Malabar," "Egmont," "Tamar" and "Flora" should maintain a six months' reserve.

4. The note, "This certificate holds good for two years from the date of issue or endorsement," is to be deleted from vocational training certificates issued in future, and will be omitted on the next reprint.

### \*2008.—Vocational Training—Revised List of Series "A" Courses.

(N. 1147.—16.8.1929.)

The following is a complete list of Series "A" courses, i.e., those approved to be conducted by local Vocational Training Committees. (Series "B" comprises those held by Municipal Technical Schools or the International Correspondence Schools.)

2. Detailed syllabuses have not been included, as conditions vary at the different ports, but information regarding all courses available at each centre, their length, fees charged, etc., is communicated as requisite by local committees to ships and establishments concerned.

## I.

*Handyman Course.*

This consists of training in subjects of a general nature which, while acceptable and attractive to men, will increase the extent of their usefulness to employers and will, in addition, aid the men themselves in the upkeep of their own homes.

The instruction given includes painting, paperhanging, general house decorating, plumbing and tinkering, carpentry (including general house joinery), bricklaying and plastering.

Men eligible ... Ratings of any Branch, but the course is primarily intended for the ordinary unskilled Naval rating or Royal Marine.

## II.

*Bricklaying and Plastering.*

This gives the necessary training required to enable a man to enter the building trade as a bricklayer's improver.

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## III.

*Handyman about the Estate Course.*

This comprises instruction in poultry, pig and bee keeping, care of horses, dogs and other animals and birds, stable work, care of gardens, hot houses, lawns and sports grounds.

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

*Note.*—(The course is only held at Portsmouth.)

## IV.

*Pig and Poultry Farming.*

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## V.

*Gardening Course.*

This includes fruit, flower and vegetable growing, and use of glass-houses.

Its object is to help men to make the best of their own allotments and gardens and increase their usefulness to employers.

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## VI.

*Motoring Course.*

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

*Note.*—At Portsmouth, this course is held at the Royal Naval Benevolent Trust's School of Motoring, and is under the control of the Royal Naval Benevolent Trust.

## VII.

*Electric Light Plant Course.*

This includes instruction in the care and running of a country house electric lighting plant and of electrical bell and house telephone installations, and may be given as a separate course, or included in the Handyman or Motoring Courses if desired.

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## VIII.

*Cinema Operators' Course.*

This includes instruction in machine and electrical equipment, running films, projection, etc., safety arrangements in case of fire, re-winding and repairing of films.

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## IX.

*Butler and Valeting Course.*

This includes instruction in house and scullery work; boots; care and cleaning of silver and glass; care of clothes; pressing and cleaning; cabin and bed-making; packing luggage; laying of tables; waiting, serving of wines, folding serviettes, and general glossary of terms.

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## X.

*Barbering Course.*

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## XI.

*Boot Repairing Course.*

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

*Note.*—A boot-making course is held at the Royal Marine Barracks, Eastney, for which only men who have qualified in boot-repairing or who have previous knowledge are eligible.

## XII.

*Elementary Cookery Course.*

Men eligible ... Ratings of any branch (other than cooks) preference being given to unskilled or semi-skilled ratings.

Additional practical experience, without extra charge, can be obtained by men undergoing this course by working in galleys.

## XIII.

*Bookkeeping, Typing and Shorthand Course.*

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## XIV.

*Foreign Languages Course.*

Men eligible ... Ratings of any Branch, preference being given to unskilled or semi-skilled ratings.

## XV.

*Canteen Work Course.*

This is conducted by the Navy, Army and Air Force Institutes, and forms a good training for any retail trade, especially grocery.

Men eligible ... Primarily for members of Writer, Supply and Regulating Branches and Officers' Stewards (C.S.). Local vocational training committees may permit ratings of other Branches to undergo this Course where they are satisfied that real benefit will be conferred on the rating concerned.

## XVI.

*Physical and Recreational Training Course.*

This includes instruction in teaching, organising and judging all games, athletics, swimming, gymnastics, and physical drill.

Men eligible ... C.P.Os., P.Os. and Leading Rates of all Branches (preference being given to unskilled or semi-skilled ratings) who are medically fit to undergo the course and are recommended by their Commanding Officers. In making recommendations Commanding Officers should bear in mind the type of man required. He should be athletically inclined, well built, physically fit, still active and not running to fat, and have good power of command and "V.G." character. It will be advantageous if he is a good football player, gymnast, swimmer, oarsman or fencer; in particular, applicants for this course, who are not already P. and R.T. instructors, must be good at games, as otherwise they will stand little chance of employment in competition with fully qualified instructors.

*Note.*—This course is only held at Portsmouth.

## XVII.

*Internal Combustion Engine Course.*

This may be divided into two sections, viz. : (a) "Mechanical" and (b) "Non-mechanical."

Men eligible ... For (a) Engine Room Artificers, Electrical Artificers, Ordnance Artificers and Mechanicians.

For (b) Chief Stokers, Stoker Petty Officers, Higher Torpedo ratings and other ratings with slight previous mechanical knowledge.

## XVIII.

*Steam Waggon Driver Course.*

This provides instruction in driving and engine maintenance, including sufficient practical training at a steam wagon manufacturer's works to qualify a man for employment as driver.

Men eligible ... E.R.As., Mechanicians, Chief Stokers and Stoker P.Os.

All arrangements regarding this course are made by Portsmouth.

## XIX.

*Acetylene Welding Course.*

Men eligible ... All Artisans and Artificers.

## XX.

*Electrical Installation Course.*

This includes practical work in connection with shore wiring, together with the necessary theory, and is intended—

(a) To enable a candidate, after a local examination in the Torpedo School to obtain a vocational training certificate in this subject.

- (b) To prepare candidates to take the City and Guilds of London Institute's examinations in electrical installation work, held annually in May. A certificate from this institute is of considerably more value to an ex-naval rating seeking employment ashore than one issued by the Port Vocational Training Committee, and E.As. and higher torpedo ratings should have very little difficulty in passing after completing the course.

Men eligible ... Electrical artificers and higher torpedo ratings.

*Note.*—At Portsmouth, ratings of any branch are eligible for this course; the Commanding Officer, H.M.S. "Vernon" may, however, terminate the course for any candidate if, after four weeks' experience, he considers him unsuitable for further instruction.

#### XXI.

##### *Electric Power Plant Course.*

This is intended to equip ratings of mechanical branches with the electrical knowledge necessary to qualify them for charge of power stations.

Men eligible ... E.R.As., Mechanics, Ordnance Artificers.

#### XXII.

##### *Sounder Reading Course.*

This is intended to train men to pass an examination in the subject, with the object of fitting them for employment in the Post Office.

It should be impressed on applicants that no guarantee of employment under the Post Office is attached to the course.

Men eligible ... Ratings of the Signal and Telegraphist Branches.

#### XXIII.

##### *Radio-Communication Course.*

This is to prepare candidates to take the annual examinations for City and Guilds certificates in this subject.

Men eligible ... Ratings of Telegraphist Branch.

#### XXIV.

##### *Chemistry and Practical Pharmacy Course.*

This qualifies members of the Sick Berth Branch to sit for the examination for Dispensers (Assistant's Examination), Society of Apothecaries.

Men eligible ... Members of the Sick Berth Branch.

#### XXV.

##### *Food and Cookery Course.*

This qualifies a rating for the Board of Trade Certificate of competency in cooking (*see* Section 27 of the Merchant Shipping Act).

Men eligible ... All Cook ratings.

(*The necessary amendments to Vocational Training Instructions will be promulgated in due course.*)

### **\*2012.—Tuberculosis—Examination of Newly Entered Ratings.**

(N. 2525/29.—16.8.1929.)

All naval ratings and recruits, Royal Marines, are to be examined carefully at least twice within 6 months after entry into the Royal Navy or Royal Marines, with a view to the detection of incipient tuberculosis of the lungs. The results of the examinations are to be entered on the medical history sheets.

2. Continuous service men and boys will be examined as a rule in the establishments where they receive their training. Continuous service ratings whose training does not last so long as 6 months should be examined once during their training and again at the end of 6 months' service, in the ship or establishment in which they are then serving. Non-continuous service ratings, such as officer's stewards, officer's cooks, seedies, kroomen, musicians and Chinese ratings should be examined twice within 6 months of engagement in the ships or establishments in which they are serving.

**2014.—Grazing Rights and Sale of Grass Cuttings—Receipts.**

(C.(I) 3034/28.—16.8.1929.)

Sums taken on charge in respect of the letting of grazing rights over land owned or leased by the Admiralty, or from the sale of grass cut from such land, should be credited to the Appropriation-in-Aid Subhead of the Establishment Vote concerned (in the case of Fleet Establishments, to Vote 11, Subhead Z.Z.).

2. Receipts accruing from land not assigned to particular Establishments should be credited to Vote 10, Subhead N.

**2020.—Torpedo Tubes and Torpedoes—Top Stop.**

(T. 2502/29.—16.8.1929.)

Some confusion has arisen as to the correct nomenclature for the top stop in the torpedo tubes and top stop on the torpedoes.

2. It should be noted that the names "top stop" and "top lug" should be applied to the top stop in the torpedo tube and torpedo respectively in future correspondence.

2022. }  
2023. } *Issued Confidentially.*

**2027.—Q.F. 4 in. Tracer Fitted Ammunition in Submarines—  
Future Supply Arrangements.**

(A.S. 1695/29.—16.8.1929.)

It has been decided to discontinue the supply of tracer fitted ammunition for Q.F. 4 in. guns in submarines, and no more ammunition will be made up to designs embodying night tracers.

2. When outfits are landed in future, or other favourable opportunities offer, S.A.P.N.T. and H.E.N.T. ammunition will be replaced by similar quantities of non-tracer S.A.P. and H.E. ammunition when available from stocks.

3. In order to avoid the expense of conversion of existing stocks of practice N.T. ammunition, the remaining stocks afloat and ashore are to be used up for day practice firings, and tracer and non-tracer rounds may therefore be issued indiscriminately by Armament Supply Officers until the stocks of practice N.T. ammunition are exhausted.

4. For the present, any Q.F. 4 in. S.A.P.N.T. and H.E.N.T. ammunition in store or subsequently withdrawn from outfits of submarines must be held in lieu of similar non-tracer ammunition for reserves.

5. Tracer fitted ammunition is not being provided for 5.2 in. or 4.7 in. guns in submarines.

2031.—*Issued Confidentially.*

**2032.—Gyro Compasses—Rotor Bearings.**

(C.D. 98/29.—16.8.1929.)

It appears to be the custom in some ships to remove the rotor bearings of the gyro compass periodically with the object of cleaning and examining them.

2. This practice is most undesirable and is almost certain to interfere with the efficient working of the gyro compass. These bearings are fitted in place when the wheel is balanced at Slough, and it is almost impossible to take the bearings out and replace them without upsetting the running balance of the wheel.

3. Attention is called to the instructions in the Gyro Manual, pages 66 (footnote), 68 (XI-c) and 72 (1).

4. These bearings should only be disturbed when it is certain that they are at fault, as it is by no means certain that on replacing them or on substituting the spare that the compass will function accurately.

**2033.—A.I.V. Gear—Fitting.***“ L ” and “ L.50 ” Class Submarines.*

(T. 884/29.—16.8.1929.)

It is found that in some of the submarines of the “ L ” and “ L.50 ” classes, the lead of the trimming line through the torpedo tube compartment fouls certain fittings in connection with the A.I.V. gear. In such cases the trimming line is to be modified as necessary to clear the A.I.V. fittings.

2. The trimming lines in “ L.25 ”, “ L.54 ” and “ L.56 ” are clear of the A.I.V. fittings.

3. The arrangements as fitted in these vessels meet requirements and may be regarded as typical of what is required in the respective classes of vessel.

2035. } *Issued Confidentially.*  
2036. }

**2038.—Commutator Type Transmitters for Gyro Compasses—REPORT.**

(N.S. 7589/29.—16.8.1929.)

Reports are to be forwarded through the respective administrative authorities by all ships carrying two Master Gyro Compasses fitted with *commutator type transmitters*, pattern 1504, as to whether any difficulty has been experienced in maintaining these transmitters in a state of efficiency. The reports should state also whether it is considered necessary to supply any parts of the transmitters, and if so what parts, as spares, regard being paid to the fact that it is undesirable to add to the list of spare parts carried for gyro compasses anything that is not essential.

**2041.—Packing Materials for Stores shipped to Canada.**

(N.S. 9574/29.—16.8.1929.)

Straw, hay and fodder packing materials are not to be used for packing stores for shipment to Canada, and the Department of Agriculture, Ottawa, has decided that *second-hand* or used bags, used hessian or similar coverings will not be permitted entry into Canada.

2. If it is necessary to use bags, hessian or similar materials for packing purposes *new materials* only should be used and this should be indicated on issue vouchers.

## 2057.—Steel Sheets—Packing for Shipment.

(N.S. 16124/28.—16.8.1929.)

It has been decided to provide in the schedules named for the methods of packing certain steel sheets for shipment from contractors' works to home and foreign yards, as described below, and future contracts will be made accordingly.

### *Schedule 163. Planished and Surfaced Steel Sheets.*

*Packing and Preservation.*—Sheets of both descriptions, if for delivery to foreign yards, shall be oiled and packed in close cases.

If for delivery to home yards, planished sheets shall be packed in close cases and not oiled. Surfaced sheets shall be packed in skeleton cases and oiled.

### *Schedule 152C and 152D. Steel Sheets.* (Tensile tested 152C, non-tensile tested 152D.)

Steel sheets below five pounds when for delivery to foreign yards shall be packed as follows :—

If galvanised	...	...	...	...	...	In close cases.
If black	...	...	...	...	...	In skeleton cases.

Steel sheets below five pounds if for delivery to home yards shall be packed in skeleton cases whether galvanised or black.

*Expanded Sheets.*—Sheets for shipment abroad shall be packed in skeleton cases, and those for home yards bundled with hoop iron.

*General.*—(Applicable to all schedules.)

*Weight of Package.*—The weight of individual packages shall not exceed 10 cwts.

*Close Cases.*—These are to be made of 1 in. timber strengthened by 2½ in. by ¾ in. battens, and secured with iron strip.

*Skeleton Cases.*—These are to be made of ¾ in. timber, strengthened by 2½ in. by ¾ in. battens, and secured with iron strip.

2. Inter yard shipments should generally follow the same lines.

## 2060.—Electrical Installation in Ships—Responsibility of Torpedo and Engineer Officers.

(C.W. 11920/28.—23.8.1929.)

In view of the increasing use of electrical power for machinery purposes on board ship and the necessity of relieving Torpedo Specialist Officers of the additional duties connected therewith, it has been decided in principle that the Engineer Officer is in future to have entire charge of the electric motors driving machinery within his department, that is, he will be responsible for the electrical efficiency and electrical repairs of all electric motors driving such machinery as is mentioned in the Engineering Manual, Article 15, Paragraph 1, Clauses (a) to (p), with the exception of certain items which will be specified at a later date.

2. The Engineer Officer's responsibility will commence at the power supply terminals of starters or controllers, and will include starters and controllers and their control wiring, except as regards control wiring from the main switchboard.

3. The Torpedo Officer is to be responsible for the provision and maintenance of the power supply up to these terminals.

4. The above decision will relieve the Torpedo Officer and his staff of a part of the responsibility for the maintenance of electrical machinery on board ship, and will, in most ships, lead to some reduction in the number of Torpedo Ratings required, both for normal maintenance duties and for electrical duties in action. This will be balanced by a corresponding increase in Engine Room personnel.

5. Instructions will be issued in due course giving further details as regards effect on complements, training of Engine Room personnel, the necessary alterations to the King's Regulations and Admiralty Instructions, Torpedo Handbooks and Engineering Manual and the date when the change is to take place.

(A.F.O. 2982/29.)



**\*2065.—Advancement—Form B.13.**

(N. 2467/29.—23.8.1929.)

If in exceptional cases a Commanding Officer, on receipt of Form B.13 from a depôt, is in doubt whether the rating concerned is in all respects suitable for advancement, he may postpone his decision for a period not exceeding four weeks. If he should then decide that the rating is fit for advancement, the postponement of the decision is not to affect the date of advancement which is invariably to be the date on which Form B.13 is sent from the depôt.

**2081.—Pressure Gauges for Bow and Stern Torpedo Tubes—REPORTS.***H.M. Submarines "Odin" Class.*

(T. 2775/29.—23.8.1929.)

A pressure gauge, Pattern No. 2004E, is to be fitted to each torpedo tube to indicate the tube pressure.

2. The gauges are to be obtained from Chatham Dockyard and are to be fitted by ships' staffs.

3. Reports should be forwarded through the Administrative Authority when the gauges have been fitted.

**2082.—Presses, Obturator, B.L., 8 in., Mark II—Tommies.**

(G. 2530/29.—23.8.1929.)

When the tommies supplied with presses, obturator, B.L., 8 in., Mark II, require replacement, the ship's outfit is to be replaced by tommies, press, obturator, B.L., 16 in. to 6 in., and the presses will be modified to suit in accordance with sketch E.F.O. 92/29.

2. The work should be carried out when occasion arises by Royal Naval Armament Depôt staff.

3. Tommies, press, obturator, B.L., 16 in. to 6 in., issued in lieu will be in proportions laid down in A.F.O. 752/29.

(A.F.O. 752/29.)

**2083.—W/T Instruments—Design and Marking—Use of the Term "Kilocycles/Second."**

(S.D. 749/29.—23.8.1929.)

In the present design of condensers and inductances, an increased scale reading, by right hand movement, gives an increase in inductance or capacity, and an increase in wavelength. Similarly, instruments are marked in increasing wavelengths, thus—450–5,000 metres.

2. In accordance with the Washington Convention of 1927, the term "Kilocycles/Second" has now been adopted instead of wavelength in metres. Thus in all existing instruments an increase of scale reading gives a decrease in "kc/s." The inconvenience of this is obvious.

3. It has therefore been decided that in all future designs of W/T instruments for Naval purposes, an increase of scale reading, by right hand movement, shall give a decrease in inductance or capacity, and an increase in kc/s. Similarly, instruments shall be marked in increasing kc/s, thus—60–700 kc/s.

4. No alterations will be made to existing instruments, as the expense would not be justified. Any inconvenience during the transition period from old to new instruments must therefore be accepted.

**2084.—Echo Sounding Gear—Selection of Position.**

(S.D. 709/29.—23.8.1929.)

To enable advance information to be obtained regarding suitable positions for echo sounding gear in ships which will eventually be supplied with this apparatus, it has been approved for a representative of the Captain A/S to visit such ships, as convenient, for this purpose in anticipation of their being fitted.

2. When such visits are made, the positions are to be selected in consultation with ship's officers and a representative of the Constructive Department of the dockyard concerned.

3. Generally, more than one position should be selected, and the proposals forwarded to the Admiralty by the dockyard for final decision.

### 2089.—Sockets, Switch Sockets and Plugs of Obsolescent Type—Replacement.

(N.S. 4065/29.—23.8.1929.)

It is desirable to replace all sockets, switch sockets and plugs, of obsolescent types, as and when defective on H.M. ships, by later patterns in order to dispense with the multiple provision of stocks, schedule drawings, and gauges at present necessary, as well as to obtain uniformity in equipment of ships.

2. Rewiring should not be necessary in effecting the change, unless it is found that the lengths of in-going and out-going cables left inside the existing fittings are too short to permit of a satisfactory connection being made to the terminals of the new fittings and it is impracticable to alter the position of the fittings.

3. Any alterations which cannot be carried out by ships' staffs should be dealt with at the dockyards as opportunity offers, when ships are taken in hand for refit.

4. Particulars of the obsolescent types and suitable alternatives are shown below :—

<i>Description.</i>	<i>Obsolescent Pattern.</i>	<i>Alternative Pattern.</i>
Switch socket ... ..	2347	7916 or 7917
	2800	
	4381	
	7074	
	5207	
Socket ... ..	324	7918 or 7919
	404	
	5212	
	7072	
	401	
	4552	
Plug ... ..	6928	8104
	403	8105
	4553	
	6929	
	406	7920
	2348	
	5208	
	7073	
4382		
	7075	

### 2094.—Picking-up Ropes, 4 in., Extra Special Flexible Steel Wire—Supply.

*Battleships, Battle Cruisers, and Aircraft Carriers.*

(N.S. 12708/28.—23.8.1929.)

It has been approved to supply 4 in. extra special flexible steel wire picking-up ropes, with 4 in. flexible steel wire strops and Pattern 2098A spring hooks to all battleships, battle cruisers and aircraft carriers in lieu of the 4½ in. flexible steel wire picking-up ropes at present carried.

2. Supply should only be arranged as the existing picking-up ropes require replacement, Boatswains' Fixture Lists and Rigging Warrants being amended as necessary.

(C18807)

M M 2

## 2096.—A.E.C. Lorries—Unladen Weights—Amendments— REPORTS.

(N.S.M.T. 29/29.—23.8.1929.)

Instances have been brought to notice where the unladen weights of A.E.C. lorries have differed from those shown on the licences.

2. Reports are to be forwarded from yards and depôts to which Admiralty M.T. vehicles are allocated, giving particulars of the revised weight where amendment of the unladen weight of any vehicle is necessary.

## 2100.—Air Work in Aircraft Carriers and Ships carrying Aircraft—PERIODICAL REPORTS.

(M. 01395/29.—23.8.1929.)

Commencing with the report to be rendered on 1st December, 1929, periodical air reports are to be rendered by aircraft carriers, in future, in the revised form shown below. Ships carrying aircraft, other than aircraft carriers, should render their reports under such of the headings as are applicable to them. In all cases the paragraphs of the report are to be numbered consecutively from beginning to end without regard to the lettered sections.

2. The reports are to be forwarded through the Administrative Authority at the end of the following periods :—

1st April (or termination of Spring Cruise).

15th August (at end of Summer Cruise for Atlantic Fleet carriers, and at end of first part of Summer Cruise for Mediterranean Fleet).

1st December (or end of Autumn Cruise).

3. A copy of each report is to be sent to the Commanders-in-Chief, Mediterranean, Atlantic Fleet, and China, and Secretary, Navy Office, Melbourne, for circulation to aircraft carriers on their respective stations. In addition, eight copies are to be forwarded for transmission to Admiralty.

4. For the above purpose, H.M.S. "Vindictive" is to be regarded as an aircraft carrier; the return rendered by H.M.S. "Resolution" will be included in the report of H.M.S. "Courageous." In the case of other ships carrying aircraft, the report should be forwarded in triplicate through the Commander-in-Chief to Admiralty only.

### REVISED FORM OF REPORT.

<i>Section.</i>	<i>Heading.</i>	<i>To include.</i>
A	Aircraft exercises ... ..	Short reports on Fleet exercises in which aircraft took part, but not reports of individual practices or routine training.
B	Tactical ... ..	Tactical consideration affecting aircraft and carriers.
C	Training ... ..	Items of special interest not occurring in the usual routine training.
D	Fighter ... ..	Operation and tactical training.
E	Fighter reconnaissance ... ..	" " "
F	Torpedo/bomber ... ..	" " "
G	Spotter/reconnaissance ... ..	(i) Reconnaissance, other than navigation. (ii) Spotting. (iii) Miscellaneous duties.
H	Navigation ... ..	Progress and development.
J	Armament ... ..	Information on guns, torpedoes, sights, ammunition, bombs, smoke or gas curtains.
K	Communications ... ..	Operations, material.
L	Photography ... ..	—
M	Meteorology ... ..	Progress, etc.
N	Personnel ... ..	Establishments, etc.
O	Ship's fittings ... ..	Reports on alterations and suggestions for improvement.
P	Catapult ... ..	General remarks on operation and statistics of launches, etc.
Q	Aircraft and engines ... ..	Material, casualties.
R	Stores, workshops ... ..	Auxiliary services generally. Matters of particular interest only.
S	W/T ... ..	—

## APPENDICES.

## APPENDIX I.

Statistics of flying carried out during period.

## APPENDIX II.

Pilots trained in deck landing during period.

## APPENDIX III.

Best landing-on times of flights.

Results should be tabulated as under :—

No. of aircraft.	Flight.	Date.	<i>Affirmative out to wheel of last aircraft touching deck.</i>		<i>Wheel to wheel.</i>	
			Mins.	Secs.	Mins.	Secs.

## APPENDIX IV.

*Aircraft and Engine Defects.*

The inclusion of information under this heading does not preclude the rendering of the defect reports (R.A.F. Forms 1022 and 1023).

## APPENDIX VI.

Analysis of air navigation exercises.

To be rendered under headings shown in C.A.F.O. 1453/29.

## APPENDIX VII.

Deck landings and casualties to aircraft deck landing training.

To be rendered on the lines of A.F. Form 29.

## APPENDIX VIII.

Deck landings and casualties to aircraft other than deck landing training.

To be rendered on the lines of A.F. Form 30.

Any additional information should be included in subsequent appendices.

(C.A.F.O. 1453/29.)

**2109.—36 in. Searchlights—Mark II Mirror Frames.**

*All Dockyards.*

(T. 3019/29.—23.8.1929.)

Approval has been given that when expensive repairs to the Mark I mirror mountings, approximating to the cost of the Mark II frames, are involved, Mark II frames are to be made up in lieu.

2. The necessary drawings are to be issued by Portsmouth Yard to the remaining dockyards to enable this to be done.

**2111.—Textiles—Inspection and Tests at the Dockyards.**

(N.S./C.P. 11062/29.—23.8.1929.)

Certain of the Government Department specifications issued by the Technical Co-ordinating Committee on Textiles and Clothing provide for tests of tensile strength to be carried out on dead weight testing machine with a constant rate of travel.

2. There is no suitable testing machine at any of the dockyards, but there is a "Goodbrand" machine at each victualling yard, and it has, therefore, been decided that any necessary tensile tests on materials supplied to H.M. dockyards under Government Department specifications which are normally examined at the dockyards shall be carried out at the nearest victualling yard. The test pieces of the materials are to be provided by the Surveyors of Stores at the dockyards, who will continue to be responsible for the examination of the fabrics.

3. Form D.297, adapted as necessary, should accompany the test pieces.

## 2115.—Administration of Ships at Home Ports.

(M. 422/27.—30.8.1929.)

The following is to be the division of responsibility for certain ships and vessels arriving at or based on home ports, other than submarines.

*Note.*—This division of responsibility may be varied by Admiralty Order when necessary.

### A.—Ships to be directly under the Commander-in-Chief of the home port :—

- (a) Ships under orders to pay off and recommission, except ships under order to recommission in Reserve Fleet, which come under Reserve Fleet organisation as from date of arrival or date of receipt of orders to recommission in reserve, whichever is the later.
- (b) Ships formerly belonging to Reserve Fleet, from date of recommissioning for other service.
- (c) Ships (other than those of Reserve Fleet) paying off for "large repair" to be started within one month of paying off, to be under the Commander-in-Chief till paid off, then under dockyard control.
- (d) Emergency destroyers.
- (e) Ships in commission for trials.
- (f) Ships in dockyard hands whilst in commission, except ships of Reserve Fleet.

### B.—Ships to be under dockyard control :—

- (a) All ships (whether in full or reserve commission) paying off for "large repair" which will be commenced within one month of paying off, will be under dockyard control from date of paying off until date of commissioning for trials. This is irrespective of whether machinery is in charge of engineer officers of the ship or of dockyard officers. They will revert to dockyard control on completion of trials, until commissioned for service.
- (b) Ships under construction.
- (c) Ships for sale, as from date of paying off for preparation for sale.

### C.—Ships to be administered by Reserve Fleet :—

- (a) Ships of Reserve Fleet, whether in commission or not, except for A (b).
- (b) All ships under orders to commission in reserve, as from date of arrival at port or date of receipt of orders to commission in reserve, whichever is later.
- (c) Ships of any fleet under orders to pay off for "large repair," when—
  - (i) Refit will take place at another port.
  - (ii) Port of refit not yet decided.
  - (iii) Refit not to be taken in hand within one month of paying off.
- (d) Ships for sale or disposal, until taken over by dockyard (*see* B (c) ).

2. Ships of the Reserve Fleet employed as turret drill ships will be administered by the Reserve Fleet.

3. Vessels attached to Instructional Establishments will be administered by the Captains of those establishments under the Commander-in-Chief.

## 2129.—Guns, 2 pdr., Sub-calibre, 3 in. H.A. Single Gun Units—Supply.

(G. 3592/29.—30.8.1929.)

One Q.F. 2 pdr. sub-calibre, for Q.F. 3 in., 20 cwt., H.A. guns, is to be supplied to each of the undermentioned ships. The requirement is to be met by the withdrawal of one sub-calibre gun from each of the ships indicated at (b), viz. :—

<i>H.M. Ships to be supplied (a).</i>	<i>One sub-calibre gun to be withdrawn from each of H.M Ships (b).</i>
" Douglas."	" Cardiff."
" Mackay."	" Calliope."
" Stuart."	" Ceres."
" Broke."	" Caledon."
" Keppel."	" Cairo."
" Sandhurst."	" Carlisle."
" Campbell."	" Canterbury."
" Wallace."	" Cambrian."
" Bruce."	" Castor."

2. The allowance of sub-calibre ammunition for these guns to ships in column (a) is to be 200 rounds per parent gun. There is to be no reduction in the allowance of sub-calibre ammunition for these guns for ships in column (b).

3. Arrangements as regards ammunition are to be made as necessary by Naval Armament Depôts concerned.

4. Amendment to the Naval Proportion Book will be promulgated in due course.

5. The transfer of guns should be arranged on the stations concerned, through the Armament Supply Department, except in the case of the gun from H.M.S. " Carlisle," from which ship the gun should be landed at the nearest Naval Armament Depôt and forwarded to Malta.

(C.A.F.O. 1266/29.)

## 2130.—Issued Confidentially.

## 2131.—B.L. 8 in., Marks VIII and VIII\* Guns on Marks I and I\* Mountings—Failure of Spring Operating No. 14 Interlock.

(G. 5065/29.—30.8.1929.)

Owing to the failure of the spring which operates No. 14 interlock during a recent firing in an 8 in. turret, it was possible to open the chopper door in the cordite handing room before the cordite cage had reached the bottom, and injury to personnel resulted.

2. It is, therefore, essential that this spring be examined frequently, and that No. 1 of the cordite handing room crew sees the tell-tale to " Cage Down " before attempting to open the chopper door.

3. The necessary amendment to O.U. 5388/27, Turret Gun Drill for 8 in. guns, will be issued in due course.

## 2132.—Breech Safety Change-over Contacts—Modification.

(G. 18081/28.—30.8.1929.)

Earlier supplies of breech safety change-over contacts were manufactured with recesses 0.025 in. deep in the cam bar, whereas later supplies have recesses 0.05 in. deep.

2. It has been found that the shallow recess is liable to lead to miss-fires, due to the bar jumping on discharge of the gun and resulting in the circuit being broken, thus causing the next round to miss-fire.

3. All breech safety change-over contacts should be examined and modified where necessary in accordance with E.F.O. 97/29. The work on contacts on board ships should be carried out by ship's staff, and to those in store by Royal Naval Armament Depôt staff.

### 2134.—Gun Mountings, 4·7 in. H.A., Mark XII—Replace Parts for V.S.G. Elevating and Training Motors.

(G. 3895/29.—30.8.1929.)

As the result of reports received respecting defects in the V.S.G. elevating and training motors of the 4·7 in. H.A., Mark XII mountings, on service, arrangements have been made for the supply to Devonport of the undermentioned sets of replace parts for these machines; also phosphor bronze washers as spares, the parts to be distributed by Devonport to the ships and establishments shown. The work of fitting is to be undertaken by the ships' staffs and establishments referred to:—

Ship or Service.	Each set comprising 1 Ball Bearing and 2 P.B. Washers.			2 Spare P.B. Washers for each Elevating and Training Motor.	Devonport to arrange Delivery to
	Elevating and Training Motors on Mountings.	Elevating and Training Motors "C" Spare Parts.	Total.		
	Sets.	Sets.	Sets.	No.	
"Glorious" ...	—	—	—	68	Devonport for "Glorious."
"Adventure" (four mountings).	8	2	10	20	C.O., "Adventure."
"Nelson" (six mountings).	12	2	14	28	C.O., "Nelson."
"Rodney" (six mountings).	12	2	14	28	C.O., "Rodney."
"Courageous" (sixteen mountings).	32	2	34	68	C.O., "Courageous."
Devonport Gunnery School (one mounting).	2	—	2	4	Devonport Gunnery School.
Portsmouth Gunnery School (one mounting).	2	—	2	4	Portsmouth Gunnery School.
Chatham Gunnery School (one mounting).	2	—	2	4	Chatham Gunnery School.
One reserve mounting, Portsmouth.	2	—	2	4	Portsmouth Yard.
One reserve mounting on loan to P. & E.O., Woolwich.	2	—	2	4	Portsmouth Yard.
Two reserve mountings at Malta.	4	—	4	8	Malta Yard.

2. The roller bearing shown at A on sketch E.F.O. 91/29 is to be replaced by the ball bearing, and the phosphor bronze washers fitted in lieu of the existing hardened steel side washers, centre block, universal joint.

3. The replace phosphor bronze washers are being supplied slightly thicker than the existing steel washers to allow for fitting and dressing up the inside yoke of the shaft if found necessary.

### 2135.—Practice Projectiles, 15 in. and 13·5 in.—Types for supply for Concentration Practices and other Firings.

(A.S. 3860/29.—30.8.1929.)

In order to ensure that practice projectiles with the same ballistic properties are used by each ship for 15 in. and 13·5 in. concentration practices, shell A.P.C., weighted H.E.S., will be supplied for these firings.

2. For other practice firings, shell A.P.C., weighted H.E.S., or other types of practice projectiles will be issued by Armament Supply Officers as available.

3. When forwarding demands for practice projectiles for 15 in. and 13.5 in. guns, Commanding Officers of H.M. ships should, therefore, state requirements in the following terms :—

Practice projectiles—	No.
For concentration practices (shell A.P.C., weighted H.E.S.).	
For other firings (shell A.P.C., weighted H.E.S., or other type of practice projectiles available).	

### 2138.—Depth Charge Pistols, Mark IV\*\*—REPORT.

(T. 3054/29.—30.8.1929.)

The following amendment is to be made to A.F.O. 478/29 :—

Paragraph 10. *Delete.*

*Substitute* :—“All ships which are supplied with Mark IV\*\* pistols are to render a special report through the Administrative Authority on all charges fitted with this pistol, which are fired for exercise before 1st July, 1930.

The report should contain the following information :—

Ship.  
Squadron or flotilla.  
Date.  
State of sea.  
Speed of ship.  
Depth set.  
No. of pistol.

Time taken to fire (from time of charge entering water).”

(*A.F.O.s. 478/29 and 2355/29.*)

2141. } *Issued Confidentially.*  
2142. }

### 2144.—Handcarts for Transport of Vickers Machine Guns.

(N.S. 2581/29.—30.8.1929.)

Handcarts for transport of Vickers machine guns for use of Royal Marines have been under trial in the Mediterranean Fleet with satisfactory results, and further supplies of these carts have now been approved as follows :—

<i>Fleets and Squadrons.</i>	<i>Allocation of Carts.</i>		<i>Supplying Yard.</i>
	<i>For</i>	<i>For Reserve</i>	
	<i>Distribution</i>	<i>(to be stored</i>	
	<i>as</i>	<i>at the</i>	
	<i>necessary.</i>	<i>Dockyard).</i>	
	<i>No.</i>	<i>No.</i>	
Atlantic ... ..	4	—	Chatham.
Mediterranean ... ..	4	4	Malta.
China ... ..	2	2	Hong Kong.
East Indies ... ..	1	1	Trincomali.
North America and West Indies...	1	1	Bermuda.
Africa ... ..	1	1	Simonstown.

2. Pamphlets dealing with maintenance, packing, etc., of the carts will be distributed by the Adjutant-General, Royal Marines.



3. *Mediterranean only*.—The carts now approved for supply are additional to the 4 No. already supplied, and embody certain modifications recommended in the reports forwarded with Mediterranean Fleet letter, dated 13th February, 1929, No. 249/385/28.

4. *Chatham Dockyard only*.—The carts will be supplied in the first place to Chatham, under order C.P. 13068/29/E. p. 378/9, dated 12th July, 1929 (Subhead E, Item 2), placed with Messrs. C. Roberts & Co., and on receipt should be issued to the supplying yards as detailed in paragraph 1 of this Order. The axles, wheels, tyres, inner tubes, bushes and shields for the 22 carts are being supplied separately by the Air Ministry, and will be invoiced to Chatham at the following rates, plus the cost of packing and transport :—

	£	s.	d.
Avro 504K axles ... ..	1	0	0 each.
Wheels, 700 by 100 mm. ... ..	2	7	9 „
Tyres ... ..	3	9	7 „
Tubes ... ..	0	5	9 „
Bushes ... ..	0	6	7 „
Shields, inner ... ..	0	6	8 „
„ outer ... ..	0	7	0 „

5. The necessary amendment to the Establishment of Naval Stores for Gunnery Purposes will be made in due course.

### 2145.—Alcohol Supply Fittings, Pattern 4230—Condemnation.

(N.S. 9340/29.—30.8.1929.)

Relatively considerable numbers of alcohol supply fittings, Pattern 4230, are condemned as unserviceable on return.

2. This fitting is a gunmetal casting, complete with glass fittings, rubber washers, and a solenoid coil, all of which parts are separate pattern articles. It is probable that, in most of these fittings which may come up for survey, the only repair necessary, beyond cleaning, is the replacement of the rubber washers and glass components.

Care is therefore to be taken to ensure that these articles are not condemned when the replacement of components only is necessary.

3. Consideration should also be given to the desirability of obtaining these fittings from Pattern 4225 arcs on sale charge, provided that thereby the probable sale price of the arc is not reduced more than the contract price of a new alcohol supply fitting, Pattern 4230.

### 2146.—Indian Tarred Cordage—Trials—REPORTS.

(N.S. 8796/29.—30.8.1929.)

Issues of 2½ in. and 3 in. Indian tarred cordage for trial in accordance with A.F.O. 150/28 have been made in some instances without the accompanying trial forms D.366.

2. Attention is called therefore to the marking of this cordage as detailed in paragraph 1 of A.F.O. 150/28, and 2½ in. and 3 in. tarred cordage in use should be examined to ascertain whether it is Indian cordage and has been issued for trial.

3. Any adverse reports on this cordage (in accordance with paragraph 2 of above-mentioned Admiralty Fleet Order) should be forwarded through the Administrative Authority not later than 31st December, 1929.

4. *Dockyards only*.—No further issues of 2½ in. and 3 in. Indian tarred cordage in store are to be made pending further instructions.

(A.F.O. 150/28.)

**2158.—Torpedo Davits and Hand Winches—Disposal.**

(N.S./D. 7680/29.—30.8.1929.)

Any torpedo davits and hand winches available on store charge at yards ex destroyers should be reported for disposal in special Returns D.68, and not brought to account pending Admiralty approval.

2. No more of these davits and winches are to be removed from destroyers brought forward for sale.

**2160.—A/S Apparatus—Manufacture and Fitting—Accounting.**

(D. 7973/29.—30.8.1929.)

It has been decided that the cost of manufacture of A/S apparatus at the dockyards shall be accounted for under the "Conversions" heading, whether for stock or for a particular ship.

2. The expenditure in respect of fitting such apparatus in a ship should be dealt with as a direct charge to the vessel.

**\*2171.—Settlement of Retired Officers in the Dominions—Overseas League Migration Bureau.**

(C.W. 7689/29.—6.9.1929.)

The Migration and Oversea Settlement Bureau is maintained by the Overseas League for the purpose of assisting persons of moderate means to settle in the Dominions. Its primary object is to advise and help retiring officers of the Services who, finding it difficult to live on their pensions in Great Britain, may contemplate settling in other parts of the Empire where there are better prospects for themselves and their families and lower cost of living.

2. The activities of the Bureau are under the control of a Migration sub-committee of the Overseas League. The central office at Vernon House collects and collates reliable information concerning the various Dominions. It also interviews and registers applicants, makes necessary enquiries for them, furnishes them with letters of introduction to members of the League overseas, and when desired, arranges accommodation for settlers on first arrival.

Small advisory sub-committees exist in various parts of the Dominions composed of members of the Overseas League (which has a membership of 30,000 throughout the Empire) and other prominent citizens, who have no commercial interests in the settlement of newcomers and who undertake the work in an entirely patriotic and voluntary spirit. These committees make comprehensive reports to the London office, covering all points likely to interest the prospective settler in their district. They also collect information of available properties or other openings, make enquiries for individual cases, secure temporary options where possible, and advise and assist settlers after arrival.

3. The scheme has the approval of the Oversea Settlement Committee of the Dominions Office. No commissions of any description are charged; there is no commercial element in the work, neither are subscriptions required of officers who wish to avail themselves of the organisation.

4. Copies of a leaflet giving fuller particulars are being issued with this Order with a view to their being distributed to all ships for circulation in wardroom messes and for the information of officers who may be interested, and distributing authorities are to arrange for their distribution accordingly.

Any further enquiries should be addressed to the Hon. Secretary, Migration Bureau, Overseas League, Vernon House, Park Place, St. James's Street, London, S.W.1.

## 2174.—Entertainment Funds—Regulations and Procedure— REPORT.

(M. 4591/28.—6.9.1929.)

The following regulations governing the entertainment funds and rules of procedure to be observed in applying for grants therefrom are promulgated for information and guidance:—

2. Grants may be made from either the Flag Officers' Fund or the Ships' Entertainment Fund for the cost of entertainments given by Flag Officers or ships respectively, to officers or officials of the colonies or of foreign countries only. In this connection it must be recognised that the casual entertainment of such officers has always been regarded as the exercise of hospitality which is in accordance with the custom of the Service; these funds are only intended to be used in cases in which the hospitality exercised by fleets or ships become a matter of international or imperial policy involving an expenditure beyond which an officer might properly be expected to incur.

3. Grants cannot be made from these funds towards expenses incurred in the entertainment of civil officials at Home Ports in return for hospitality which they have extended to the Fleet.

4. The following procedure is to be observed in making applications for grants from these funds. When the necessity for an entertainment which comes within the scope of either of the funds is evident, the circumstances should be reported to the Admiralty—by telegraph if necessary—together with a comprehensive estimate of the cost involved. This must be done before any liability is actually incurred, and care is to be taken that due economy is observed so that the cost should not extend beyond what friendly intercourse may demand. It is essential that prior Admiralty approval should be obtained before any expenditure is incurred and applications for the repayment of expenses of entertainment when such approval has not been obtained will not be considered save in very exceptional circumstances.

5. Details of the expenditure actually incurred should be submitted as soon as possible thereafter and should include the following particulars:—

- (i) Date of entertainment.
- (ii) Place of entertainment.
- (iii) Nature of entertainment.
- (iv) Number of guests present.
- (v) Names, rank, etc., of important guests.
- (vi) Expenses incurred on—
  - (a) Catering, wines and tobacco,
  - (b) Miscellaneous charges.

6. Care should be taken to ensure that the expenditure is brought to account in the financial year during which it was incurred.

## \*2175.—Attachment of Officers to Army Units—Miscellaneous Expenses.

(C.W. 10680/28.—6.9.1929.)

With reference to A.F.O. 1308/29, the following arrangements have been approved in connection with miscellaneous expenses incurred by R.N. officers and officers of Dominion Navies who are attached to Army units:—

*Mileage Allowance.*—Payment of mileage allowance, under the provisions of Article 1663, King's Regulations and Admiralty Instructions, will be made for the necessary use of private motor cars on duty during the period of attachment, and Government rate rail fares will be paid for the journey from the last place of duty to Army Headquarters. In view of the complicated nature of the cross-country journeys involved, a certificate must be furnished by the Commanding Officer of the Military Unit to which an officer is attached as to the Service necessity for the journeys performed and the accuracy of the mileage claimed.

*Servant's Allowance.*—In the event of an officer in receipt of servant's allowance being provided with a Military servant, this allowance will not be payable during the period when such a servant is appropriated to him.

*Living under Canvas Allowance.*—This allowance will continue to be paid under Article 1640, King's Regulations and Admiralty Instructions, pending further announcement.

*Hire of Camp Equipment.*—All necessary arrangements with regard to hire of camp equipment and its transport to and from camp are to be made by the officers concerned. Reasonable expenses incurred in this connection will be refunded. Claims should be supported by receipts.

*Charges for Use of Mess Furniture.*—Any additional charges levied by the Army Authorities for the use of mess furniture, etc., will be refunded, pending a further announcement.

Claims in connection with the foregoing are to be sent through the usual channels to the Accountant General of the Navy.

(A.F.O. 1308/29.)

## 2179.—Torpedo Firing Pistol, Type M—Modification.

*Ships concerned.*

(T. 2171/29.—6.9.1929.)

It has been reported that the "Angle Set" and "Tube Ready" lamps in the above pistols are liable to confusion, owing to the screen between the two halves of the windows permitting the light to diffuse from one side to the other.

2. The defect can be overcome by the arrangement of screens shown in E.F.O. 90/29, and any ships in which this trouble has occurred are to carry out this modification.

## 2180.—Director Firing Gear—Modification without Admiralty Approval—REPORT.

(G. 5096/29.—6.9.1929.)

A report has been received from one of H.M. ships that the fitting of the dial sight bracket on a director sight prevented the sight being elevated more than 10 degrees when the bracket was shipped. The foremost lug of the trainer's telescope carrier arm was accordingly cut off to enable the requisite elevation to be obtained.

2. As a result of this action the trainer's telescope cannot now be shipped, nor can the Aldis unit magnification telescope be fitted.

3. Modifications or alterations of this nature are not to be carried out without previous Admiralty approval. Should difficulties of the nature described be found in other ships they should be reported through the Administrative Authority, but meanwhile it must be accepted that the trainer's telescope and the Aldis telescope will have to be removed before fitting the dial sight bracket.

It must also be accepted that with the dial sight bracket in place it will not be possible to get more than about 10 degrees elevation on the sight.

## 2183.—Gun Mountings, 8 in., Mark I—Increase in Thickness to 0.75 in. of the Bell Crank Levers, Items 124 and 125 of Drawing M.70511.

*"London" and "Kent" Classes.*

(G. 5213/29.—6.9.1929.)

The cam plates for cordite cage cut-off valves of the 8 in., Mark I, gun mountings in "London" Class are a modified form of the cam plates fitted in "Kent" Class.

2. The modified form of cam plates as fitted in "London" Class are approved to be fitted in "Kent" Class.

3. The modification to the cam plates has been found to impose an increased stress on the bell crank levers for the cut-off valves operated by the cam plates. The bell crank levers in question are shown as items 124 and 125 on drawing M.70511.

4. To meet this increased stress, it has been found by experience that the bell crank levers should be 0.75 in. thick, as shown on drawing referred to in paragraph 3 of Order.

5. From reports received from ships it is evident that a large percentage of the levers are below 0.75 in. in thickness.

6. A careful examination of all levers should, therefore, be made by ships of the "London" and "Kent" Classes, and an item included in the list of alterations and additions for the replacement of any levers which may be appreciably below 0.75 in. in thickness.

7. In the "Kent" Class, replacement should not be effected until the modified cam plates have been fitted.

8. Admiralty Item No. 50 has been assigned to this alteration and addition.

9. *Portsmouth Dockyard*.—Estimates for modifying the spare mountings for "Kent" and "London" Classes should be forwarded if this alteration is applicable.

10. *All Dockyards*.—Items 124 and 125 of drawing M.70511 will not be supplied by contract, but are to be made locally.

### 2185.—Rangefinders—Adjustment for Coincidence.

(G. 01629/29.—6.9.1929.)

Correcting rangefinders of FT, UB and UD types for coincidence by altering the coincidence adjustment whilst observing an object, either at a known range or on a celestial body, with the scale set to the known range or infinity is not satisfactory, and this method of adjustment is to be discontinued.

2. The method of adjustment in future is to be as follows, irrespective of whether the instrument is fitted with external markings to denote the amount of adjustment that has been applied or not:—

- (i) Establish the fact that the instrument needs adjusting and the amount of adjustment required in the manner laid down in Chapter VIII of O.U. 5242, pages 136, 137 and 138.
- (ii) Move the adjusting head a definite amount in the required direction, carefully noting—
  - (a) The amount of movement, either by the scale provided or where a scale is not provided, as in the case of the UB or UD types, by noting the amount of movement by turns or parts of a turn.
  - (b) The direction of the movement. This is important, as the last movement of any adjustment should always be made in the same direction, in order to neutralise any backlash that may be present.
- (iii) When adjusting FT type instruments, the direction of the last movement should always be to move the pointer to the RIGHT.  
When adjusting UB or UD types, the direction of the last movement should always be to turn the screw CLOCKWISE.
- (iv) Carry out further tests in order to establish the true effect of the adjustment that has been applied.
- (v) Make a further adjustment, if found necessary, using the data obtained as above to determine the amount and direction necessary.

3. As regards Types UB and UD, it should be noted that:—

- (a) Moving the adjusting screw clockwise will usually increase the scale reading, but, as no stop gear is fitted, it is possible to revolve the adjusting prism through more than 90 degrees, in which case the scale reading will be decreased by moving the adjusting screw clockwise.
- (b) The amount of coincidence adjustment applied by each turn of the screw depends on the position of the adjusting prism, varying as the cosine of the angle between the plane through the prism apex and the plane of the triangulation. Hence the number of turns of the screw to alter the adjustment by one division will not be a constant; it will probably vary largely between different instruments, and will change at any one particular instrument if large adjustments are made.

4. The above will be incorporated in the addenda to O.U. 5242 now in course of preparation.

5. Amendments to Handbook for Height and Rangefinder UB3 (late O.U. 6103) and Handbook for Height and Rangefinder UB4 (late O.U. 5344) will be issued in due course.

**2187.**—*Issued Confidentially.*

### **2193.**—**W/T—Masts and Yards—Painting with Aluminium Paint to Prevent Burning—REPORT.**

(S.D. 791/29.—6.9.1929.)

The question of the burning of wooden masts and yards in H.M. ships, due to W/T transmission, has been receiving consideration.

2. The existing system of earthing screws, bolts, etc., although a safeguard against high floating potentials, and consequent risk of shock, does not prevent brushing from their points and consequent burning of the wood.

3. Experiments have shown that it is possible to prevent such burning by painting masts and yards with two good coats of aluminium paint, thus, in effect, enclosing the woodwork in an aluminium sheath, and it is approved for trials of this method to be carried out at sea. Commanders-in-Chief, Atlantic and Mediterranean Fleets, are therefore each to detail a ship fitted with Type 36 to carry out these trials.

4. It is essential that all metal in the spars should make good electrical contact with the aluminium paint, and the heads of all bolts, screws, etc., and the exposed surfaces of all metal-work should therefore be well scraped before applying the paint. Provided this is done there is no objection to the aluminium paint being applied over the existing paint on the wooden portions of the spars. Two coats of aluminium paint should be applied.

5. Ships selected to carry out these trials are to report through their Administrative Authorities when three months' experience has been gained. The reports should include remarks as to the visibility of the aluminium painted masts as compared with the usual practice.

### **2196.**—**Lead of Cables into Turrets.**

*“Kent” Class and Yards concerned.*

(T. 1480/29.—6.9.1929.)

With reference to A.F.O. 653/29, Drawing E.F.O. 94/29 indicates the approved arrangements for fitting junction boxes on the cordite trunk in the cordite handing rooms.

2. Care should be taken to avoid, as far as possible, clipping the high power and low power cables together.

3. All gland nuts should be of steel (blued).

4. A separate communication will be made regarding the arrangements made for the supply of the junction boxes.

(A.F.O. 653/29.)

**2197.—Cable Holder Brakes—Instructions for use.**

(D. 1706/29.—6.9.1929.)

Attention is drawn to the risk of damage to the capstan gear of a ship in using the main engines to break out the anchor unless the brakes are applied, and to the following instructions:—

2. Whenever it is necessary to manœuvre a ship with an anchor on the bottom, or to attempt to break out the anchor by the use of the ship's main engines, the cable holders should be free of the spindles, so that any severe pull on the cable may be taken by the brakes, and not be transferred to the vertical cable holder spindles.

3. In any other working conditions when the cable holders are not free and when it is anticipated a severe pull may, from any cause, come on the cable, the brakes should be applied.

**2198.—Bottom Compositions—Thorough removal of old Compositions on Change of Brand.**

(D. 12357/29.—6.9.1929.)

When a change of coating of the outer bottom of a ship is authorised, and the composition to be applied is of different make to that formerly used, the old compositions are to be completely removed and the bottom plating thoroughly cleaned before the new compositions are applied.

**2202.—Star Shell Deflection Calculators and Gear Boxes, etc.**

(N.S. 4993/29.—6.9.1929.)

Star shell deflection calculators and gear boxes, etc., have been purchased for delivery and distribution as follows:—

		<i>Sets.</i>	
Deflection calculators, Patt. 9814	Chatham	10	} H.M. Ships "Vindictive," "Frobisher," "Effingham," "Hermes," "Valiant."
Deflection gear boxes, control elements and shafting.	Chatham	5	
Deflection calculators, Patt. 9649	Devonport	2	

2. The deflection gear boxes, etc., for H.M.S. "Exeter" are provided for in the Evershed equipment.

3. The contracts are dated 18th July, 1929, and 2nd August, 1929, C.P.12537/F897 and C.P.14211/F912, with Messrs. Vickers, Armstrong, Ltd., and Evershed & Vignoles, Ltd., respectively.

4. The work of fitting the gear is to be carried out by the dockyards to which the ships are attached, and, except in the case of H.M.S. "Exeter," an item for this work is to be included in the next list of alterations and additions submitted by the ships concerned.

5. Diagram E.F.O. 137/28, issued with A.F.O. 3093/28, applies to all ships except H.M.S. "Exeter," for which separate diagrams will be circulated.

(A.F.O.'s 3093/28 and 2454/29.)

**2208.—Local Purchases of Equipment.***Fleet Air Arm.*

( N.S. 9573/29.—6.9.1929.)

It has been reported by the Air Ministry that direct action was recently taken by an aircraft carrier with a contractor for the supply of a new rudder for a machine.

Attention is therefore called to paragraph 142 of Air Publication 830, directing that "purchases of equipment for the Royal Air Force by means of local purchase orders are *only* to be made by stores depôts," and steps are to be taken to ensure compliance therewith.

**\*2268.—Subsistence Allowance Payable to Civil Staffs—  
Regulations.**

(C.E. 4670/29.—6.9.1929.)

Attention is drawn to the following report, dated 11th June, 1929, on *per noctem* rates of subsistence allowance, which has been presented by the Joint Committee on Subsistence Allowances, etc., appointed by the National Whitley Council for the Administration and Legal Departments of the Civil Service and has been accepted by the National Council.

2. The provisions of this report are to be applied as from 1st September, 1929, to all officers falling within the several categories set out in paragraph 7 of the report. The rates provided for Class A will apply to all officers with scales or salaries equal to or in excess of those defined in the report.

3. Pending further orders, the question as to whether the standard rate or apartment rate is applicable should be decided by local paying officers with reference to the terms of paragraphs 5 and 9 of the report, any doubtful cases being reported for decision.

4. With reference to paragraph 11 of the report, the rates for daily absences will be as follows:—

	<i>s. d.</i>
Class A ... ..	7 10
Class B (i) ... ..	6 2
Class B (ii) ... ..	5 8
Class C ... ..	5 2
Class D ... ..	4 2

The conditions under which payment for daily absences is made remain as stated in A.F.O. 2042/25 and, for Overseers and Assistant Overseers, in paragraph 9 of A.F.O. 1463/26.

5. The application of the new rates to grades not covered by the report is under consideration, and further Orders will be issued in due course. In the meantime, these grades will continue to receive subsistence allowance at their present rates and under existing conditions (A.F.O. 1463/26) with the exception that grades at present entitled to the initial rate of 25*s.* or 18*s.* 9*d.* a night will conform to the rates and conditions recommended in paragraphs 7 and 8 of the report for Classes A and B respectively.

6. The classification of Temporary Clerical, etc., Classes, on inclusive rates of pay common to the Service will be as follows:—

Class C.—Male Temporary Graded Clerks, Grade I.

Class D.—Male Temporary Graded Clerks, Grades II and III.  
Temporary Women Clerks, Grades I, II, III and IV. Temporary Shorthand Typists and Temporary Typists.

7. The revised rates of subsistence allowance will apply, as from the date of their introduction, to the calculation of the maximum limits of lodging allowance payable.



8. A.F.O. 1463/26 is cancelled only in so far as it relates to the rates of allowance and periods of absence which regulate their payment for those grades which will be immediately assimilated to the new scales. The allowances payable for prolonged periods in excess of one month will, however, continue to be governed by clause (d) of paragraph 3 of this Admiralty Fleet Order for all grades pending further Orders.

### CIVIL SERVICE NATIONAL WHITLEY COUNCIL.

#### FIFTH REPORT OF THE COMMITTEE ON SUBSISTENCE ALLOWANCES, ETC.

##### *Being a Report on per noctem rates of subsistence allowance.*

1. We were appointed as a result of discussion at the meeting of the National Whitley Council on 23rd March, 1923; and our terms of reference were subsequently determined by the General Purposes Committee as follows:—

“To consider the rates and conditions of payment of subsistence allowances as affecting the Civil Service generally, and further to deal with like questions in regard to removal expenses and cycling allowances, and to make recommendations.”

2. Our first report, dated 2nd August, 1924, stated that we were unable to agree on *per noctem* rates of subsistence allowance. Our second report dated 24th October, 1925, dealt with removal expenses on transfer within Great Britain and Northern Ireland. Our third report dated 30th March, 1927, related to certain questions of interpretation arising on the recommendations in our second report. Our fourth report dated 30th July, 1928, dealt with removal expenses on transfer to and from stations abroad.

By direction of the Council we resumed meetings to consider afresh the matters upon which disagreement was recorded in our first report. We have held 16 further meetings mainly on the subject of *per noctem* subsistence allowances and in the course of our deliberations we have made use of an agreed schedule of hotel charges for a very large number of towns prepared by a Joint Sub-Committee of this Committee. We have agreed upon the following recommendations:—

3. We are agreed that subsistence allowance should be adequate to cover reasonable extra expenses for food and accommodation incurred when an officer is necessarily absent from home and headquarters on official business. The rates of *per noctem* allowance set out in the following paragraphs are for continuous absence in one place in Great Britain and Northern Ireland. They are intended to cover a period of 24 hours' absence from home and headquarters, and any additional absence at the end of the period which does not of itself qualify for a day allowance.

4. After very careful consideration of the question of rates of *per noctem* subsistence allowance for classes not rising to a maximum of £400 per annum, we have come to the conclusion that it is not practicable to fix a series of rates whose application over the whole Service would be determined solely with reference to the officer's scale or salary. The number of classes throughout the Service on scales of salary not rising to £400 per annum is very large, and the differences in the official conditions and consequent requirements in the matter of subsistence allowance between classes in this area are such as to make the settlement of uniform rates very difficult. Our recommendations, in so far as they relate to officers on scales not rising to a maximum of £400 per annum, are confined to the Clerical, Departmental Clerical, Typing and Writing Assistant classes. We think that the question of appropriate rates for the classes not dealt with in this report is one for settlement by the appropriate Departmental Whitley or Association machinery, and we recommend accordingly.

5. A distinction is already drawn for the purpose of subsistence allowance between occasions when officers are employed for instance on visits of inspection or inquiry and when employed for periods of detached duty, e.g., as substitutes for absentees or to assist during pressure. We think that such distinction is justified in so far as such officers may reasonably be expected to avail themselves of apartment accommodation in view of their previous experience, or that of similar officers engaged on like duties, and

that lower rates than those appropriate for visits such as those of inspection or inquiry should be paid in respect of absences of five nights or longer; (a) on duties which properly fall to the staff of the office or district in which such officer may be temporarily attached, *e.g.*, as substitute for an absentee, for relief during pressure or for training, or (b) in certain cases, which will require to be considered on their merits, on tours of duty in the nature of a regular circuit.

A more detailed enumeration of all these duties or possibly a schedule of duties falling under category (b) may be desirable in Departments where appropriate conditions prevail; proposals for any such classification and for the treatment of doubtful cases, if any arise in a particular Department, should be referred to the appropriate Whitley body or discussed with the appropriate Association.

6. We are agreed that the principle of differentiated rates should apply also to officers on salary scales above that of Clerical Officers in so far as the duties make it of practical importance, but we leave over for the present the question of fixing for such classes apartment rates for the first seven nights, in respect of which period the standard rates recommended in paragraph 7 will accordingly apply meantime.

7. We accordingly recommend the following rates of subsistence allowance:—

	Standard Rate.		Apartment or Detention Rate.
	First 3 Nights.	Next 4 Nights.	First 7 Nights.
<b>Class A :</b>			
Officers on scales rising to a maximum of not less than £600, or with salary over £550 per annum, or with salary of £550 when that is the minimum of a scale ... ..	23/6	21/-	—
<b>Class B :</b>			
Officers of Higher Clerical, Executive, Inspectorial and other Directing grades and analogous classes, with minima of £100 per annum or over and rising to maxima of £400 per annum or over—			
(i) on salary of £150 per annum up to £550 per annum ... ..	18/6	17/6	—
(ii) on salary less than £150 per annum ...	17/-	16/-	—
<b>Class C :</b>			
Clerical and Departmental Clerical classes and Shorthand Typists on salary between £100 and £250 ... ..	15/6	14/6	10/-
<b>Class D :</b>			
Clerical and Departmental Clerical classes, Shorthand Typists, Typists and Writing Assistants on salary below £100 ... ..	12/6	11/9	10/-

With the proviso that the standard rates will apply to all absences of less than five nights in one place, and that the total payment when the apartment or detention rates are applicable will be subject to overriding minimum payments as follows:—

	Absence of ... ..	5 nights.	6 nights.	7 nights.
		s. d.	s. d.	s. d.
<b>Class C</b> ... ..	...	65 0	70 0	75 0
<b>Class D</b> ... ..	...	60 0	65 0	70 0

Apart from the differences in overriding minima, which are related to the amounts payable for less than five nights under the above proviso, we have not considered it necessary to make any distinction as regards apartment or detention rates between the classes for which we have recommended rates C and D.

8. Pending our further consideration of the question of the subsistence allowances payable for the two types of absence after the first seven nights, and accordingly without prejudice to any changes which may be recommended in a further report, our recommendations as regards such subsequent periods follow the rates and periods of subsistence and detention allowance at present generally in force with such modification as is required to adapt them to the more uniform system of classification in this Report. We recommend that the standard rates should remain as follows, and that the undermentioned apartment or detention rates should apply.

Class.	Standard rate.		Apartment or detention rate.
	For nights over 7 up to 14 nights in one place (except where a stay of more than 14 nights in one place is foreseen).	For nights in excess of 14 nights in one place (or for nights in excess of 7 nights where a stay of more than 14 nights in one place is foreseen).	After the first 7 nights up to one month in one place.
	Per night.	Per night.	Per night.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
A	20 0	15 0	10 0
B	15 0	10 0	8 6
C	10 0	7 6	6 0
D	7 6	6 0	6 0

In adopting the words "is foreseen" instead of "can be foreseen" in the phrase "except . . . foreseen" we are agreed that officers, particularly those responsible in some degree for framing their own programme of work, must exercise due foresight in estimating the probable duration of stay.

9. We have indicated in paragraph 5 above the conditions in which apartment or detention rates should normally be payable. In special circumstances, where, for example, the period of absence at a particular place occurs during the height of the season when the cost of accommodation is materially increased, or coincides with some local event which has caused a similar scarcity of accommodation, some relaxation of the rule may be necessary. We consider that if in these or other special circumstances the application of apartment or detention rates would involve hardship the grant of a higher rate (within the amount of the subsistence allowance payable at the standard rates for the same period) would be reasonable and that such cases should be considered accordingly.

10. Our recommendations have throughout been stated in terms of basic scales or salaries of male officers. We recommend that officers whose scales are based on London rates, subject to provincial differentiation, should receive the same *per noctem* rates as those on the corresponding London scales, and that women officers falling within the area dealt with should

receive the subsistence rate attaching to the corresponding scale for men. For example a Woman Clerk, Higher Grade, in a provincial office on scale £207—9—£270 would be eligible for Class B (i) subsistence allowance.

11. We reserve for further consideration the question of day subsistence allowance payable in respect of absences not extending overnight. We recommend that the amounts of the day allowances should for the present be calculated on the same proportion of the initial night rates and that payment of day allowances should otherwise continue to be governed by the existing regulations.

12. We recommend that the changes in the rates of subsistence allowance indicated in this report should take effect from 1st September, 1929.

J. H. McCUTCHEON CRAIG,  
*Chairman.*

W. EWART LLEWELLYN,  
*Vice-Chairman.*

F. A. BARRETT.  
R. ELRICK.  
H. A. LEGGETT.  
W. W. MARSH.  
H. PARKER.  
J. S. SUTTON.  
H. D. WAKELY.

GEO. BALCHIN.  
A. J. T. DAY.  
A. L. N. D. HOUGHTON.  
C. L. LEESE.  
T. W. ROGERS.  
GEO. R. SPEED.  
J. CRAIG WALKER.

B. KING,  
*Secretary.*

A. C. WINYARD,  
*Secretary.*

11th June, 1929.

(A.F.Os. 2042/25 and 1463/26.)

## 2270.—Storing Yards—New Construction, 1928 Programme.

(N.S. 5967/29.—6.9.1929.)

Storing yards for naval stores for the ships of the 1928 programme have been allocated as follows :—

<i>Chatham.</i>	<i>Portsmouth.</i>	<i>Devonport.</i>
	<i>Flotilla Leader.</i>	
“ Keith.”	—	—
	<i>Destroyers.</i>	
“ Brilliant.”	“ Blanche.”	“ Basilisk.”
“ Bull Dog.”	“ Boadicea.”	“ Beagle.”
	“ Boreas.”	“ Brazen.”
	<i>Sloops.</i>	
“ Scarborough.”	“ Folkestone.”	“ Hastings.”
		“ Penzance.”
	<i>Submarines.</i>	
“ Rainbow.”	“ Regent.”	—
	“ Regulus.”	
	“ Rover.”	
	<i>Gunboat.</i>	
“ Falcon.”	—	—

**2276.—Navigation and Pilotage Course for the Rank of Lieutenant—Syllabus.**

(C.W. 6429/29.—13.9.1929.)

The following revised Syllabus for the course in "Navigation and Pilotage" (Navigation School), including in Section II the Syllabus for "Astronomical Navigation" (R.N. College, Greenwich), for Acting Sub-Lieutenants and Acting Mates qualifying for the rank of Lieutenant has been approved; marks for the various sections being apportioned as follows:—

**SCHEME OF INSTRUCTION AND EXAMINATION.**

Sect.	Subject.	Acting Mates.			Acting Sub-Lieutenants.		
		No. of Days Instruction.	Examination.	Marks.	No. of Days Instruction.	Examination.	Marks.
I	Compass ... ..	7	2 hour paper.	150	6	2 hour paper.	150
*II	Astronomical navigation.	—	—	—	—	—	250
	Sights at Navigation School.	2½	—	100	—	—	—
III	Chronometer work ...	1	¾ hour paper.	50	1	¾ hour paper.	50
IV	Meteorology ... ..	2	1 hour paper.	50	2	1 hour paper.	50
V	Surveying ... ..	2	1½ hour paper.	50	2	1½ hour paper.	50
VI	Tides ... ..	5	1½ hour paper.	100	4	1½ hour paper.	100
VII	Ship and Fleet Work	8	1½ hour paper.	50	6	1½ hour	50
			Viva voce.	50		Viva voce.	50
VIII	(a) Charts, buoyage, etc.	8	Viva voce, 50	250	8	Viva voce, 50	250
	(b) Fixing ... ..		½ hour paper, 50			½ hour 50	
	(c) Anchoring, mooring, etc.		Under way, 100			Under way, 100	
	(d) Instruments ...		Viva voce, 50			Viva voce, 50	
	Former Service Examination ... ..	3	—	—	3	—	250
	<b>Total ... ..</b>	<b>38½</b>		<b>850</b>	<b>32</b>		<b>1,250</b>

The course will occupy the following periods:—

Acting Sub-Lieutenants ... .. 6 weeks (less one day to be devoted to submarine instruction).

Acting Mates ... .. 7 weeks.

Note.—To qualify, 50 per cent. must be obtained in each section.

For a 1st Class Certificate, 85 per cent. of the total marks.

" 2nd " " 70 " " "

" 3rd " " 60 " " "

\* Acting Mates are marked and classed separately at R.N. College, Greenwich.

## SECTION I.

## (COMPASS, MAGNETIC.)

*Magnetism and Magnets.*—Properties of magnets. Magnetic induction. Hard and soft iron. Effect of temperature. Terrestrial magnetism. Dip. Horizontal force. Vertical force. Variation and its changes—A.M.N., Vol. I, Ch. XXIII. Comparison of earth's magnetic forces at two places on earth's surface. Directive force. Magnetism of ships. Permanent magnetism and its resolution into the components P, Q, and R. Induced magnetism and its resolution into the components *a*, *e*, *c* and *k*. Semi-circular and quadrantal deviation. Cause, effect and resulting curves. Separation of P and *c*. Sub-permanent magnetism of a ship. Its effect on standard and lower conning tower compasses. Effect of lightning. Nature and causes of heeling error. Correction of heeling error at sea. Ship's multiplier. Heeling error instrument. Combined effect of all causes of deviation. Change of deviation due to a change of magnetic latitude.

*Analysis and Correction of Deviation.*—Expression of component parts of deviation by the approximate coefficients A, B, C, and D. To find the approximate coefficients. Their correction. The approximate expression for the deviation. Criteria of a good deviation table. The mechanical correction of the deviation.

*Swinging Ships.*—Three methods of swinging ships :—Reciprocal bearings ; bearings of a distant object ; azimuths of heavenly body. Precautions before swinging. Deviation of between decks compass. A.M.N., Vol. I, Ch. XXIV.

Method of determining variation at sea.

*Compasses.*—Chetwynd's improved liquid. Binnacle. Appliances supplied. Care and management. Precautions as to proximity of electrical instruments.

*Compass, Gyro.*—Local effect on earth's rotation. Its resolution into turntable and tilting components. Behaviour of a freely mounted gyro. Precession. Rules for ascertaining direction of precession. Behaviour of a gravity controlled compass. Curve described by north end of axis. Explanation of damping to reduce oscillations and to make compass north seeking. Construction of gravity controlled compass, showing method of damping. Settling positions. Principle and construction of Admiralty gyro compass. Causes and correction of damping error. Course and speed errors. Rolling error. Ballistic deflection and ballistic tilt effect. Purpose of latitude levelling dial.

Use of east and west levels. Outline of electrical system including alarm bell. Starting and stopping. Setting of corrector dials. Taking speed of wheel. Synchronising and checking repeaters.

## SECTION II.

## ASTRONOMICAL NAVIGATION.

Sub-Lieutenants.—Nil.

Mates.—

*Sights for Error of Chronometer.*

By absolute altitude of Sun, mean of upper and lower limb ... 20 marks.

*Sea Sights.*

Obtaining index error by Sun and Horizon methods ... ..	10	„
Observation of altitudes of the Sun ... ..	35	„
Finding and observing altitude of Pole Star and observations of altitudes of bright stars and planets ... ..	20	„
Observing and working out Sun and Star Azimuths ... ..	15	„

Total ... .. 100 marks.

## SECTION III.

## CHRONOMETER WORK.

Supply, establishment, moving, stowage. Safe distances from electrical instruments. Winding. Transferring. When unfit for use. Returning. Packing and transmission. Unpacking. Starting. Comparing. Value of daily comparisons. Obtaining errors. Mean comparison. Comparison of deck watch and chronometers when obtaining errors. Rating chronometers. Calculation of epoch. Time zone system. A.M.N., Vol. I, ch. XXII.

## SECTION IV.

## METEOROLOGY.

Meteorological instruments. Barometers, mercurial and aneroid. Barograph. Construction, errors and action. Care and maintenance. Corrections applied by gold slide. Thermometers, ordinary, maximum, minimum. Hygrometer.

Distribution of atmospheric pressure over the earth's surface, and causes of variation in pressure. Cause of wind and effect of earth's rotation on its direction.

Permanent winds. Trades and Westerlies. Periodic winds. Land and sea breezes. Monsoons. Diurnal variation of barometer.

Causes of dew, cloud, fog and rain. Hail and snow. Description of the four fundamental types of cloud—Cirrus, Cumulus, Stratus, Nimbus. Synoptic charts. Seven fundamental forms of isobars and consequent weather. General knowledge of weather of British Isles. British storm signals. British weather bulletins. Decoding, construction of synoptic chart and inferences obtained. Reports from ships at sea, coding and decoding.

Revolving storms. Indications of approach. Rules for determining path and avoiding the storms.

Currents. Causes. Principal currents of the world.

Ice as affecting the North Atlantic Routes. Indications of the proximity.

Meteorological, wind and current charts.

## SECTION V.

## SURVEYING.

Use of instruments. Sextant and landing compass.

Detailed, sketch and running surveys. Selection and measurement of simple base. Selection of main stations, secondary stations, and marks. Extension of base. Triangulation by quadrilaterals. Long side. Natural scale. Triangulation sheet. Plotting by chords and station pointer. Plotting sheet. Field board. Method of coast lining. Use of 10 ft. pole. Sounding. Recording results. Examining shoals. Setting up and observing tide pole, connecting with datum mark. Levelling staff. Reduction of soundings. Measuring strength and direction of tidal stream. Methods employed in topography. Collector tracing and fair chart. Brief description of how to find true bearing and variation.

Reducing a plan. Fixing and cutting in objects. Amendment to a chart. Hydrographic note.

## SECTION VI.

## TIDES.

Theory of Tides as given in A.M.N., Vol. I, ch. XXV, omitting the exact periods of constituent waves. Age of tide (omitting numerical examples), tidal definitions, and tidal peculiarities. A.M.N., Vol. I, ch. XXVI.

Use of Admiralty Tide Tables, Part I (omitting Table II).

To find the height of the tide at any moment and the time of intermediate heights at standard ports. To find the time and height of high water and low water at any place by differences and by non-harmonic constants. To find the height of high water and low water by ratio of ranges or rises. To find the height of tide at an exact hour by harmonic constants.

Method of finding the time of high water on any day by harmonic constants, omitting numerical examples.

Use of "Tides and Tidal Streams of the British Isles," tidal charts, tidal atlases and tidal information on Admiralty charts.

Calculation of rate and direction of tidal streams at any time. A.M.N., Vol. I, ch. XXVII.

## SECTION VII.

## SHIP AND FLEET WORK.

Types of rudders and propellers. Effect on turning powers of ships. Screw effects. Turning circle and conditions influencing it. Gaining and losing speed. Method of carrying out turning trials. Keeping dead reckoning during manœuvres. Plotting of ship's track by (a) intermediate course and distance; (b) distance to new course.

Interaction between passing ships. Definitions, as given in "Remarks on Handling Ships." Distance apart of ships. Management of ships in a fleet. Weighing and proceeding to sea in company. Inverting the line. Station keeping. Anchoring and mooring.

Torpedo craft, handling and navigation, weighing and anchoring. Station keeping.

Description and use of Battenberg Course Indicator and Mooring Board. Solution of the following problems:—

- Anchoring and mooring on a given ship.
- Changing Station (by Battenberg).
- Use of speed and helm signals.

Strategical plot. Objects of the plot and by whom carried out. Reference positions and system of reporting enemy positions. Necessity of synchronising the reckoning. Procedure. (An exercise to be actually plotted.)

Tactical plot. General objects and principles.

Signals (*Acting Mates only*).—Manœuvring signal instructions. Manœuvring signals. Equal speed signals. Equal speed diagrams and instructions for performing equal speed manœuvres. Such special signals as are connected with manœuvring or navigation generally.

## SECTION VIII.

## GENERAL NAVIGATION AND PILOTAGE.

(a) Supply, arrangement and correction of charts and sailing directions.

Use of all hydrographical publications supplied to H.M. ships.

System of lights, buoyage and fog signals. Rule of the road.

(b) All methods of fixing by terrestrial objects. Laying off courses. Allowance for tidal streams.

(c) The track of the ship and avoidance of dangers in pilotage waters. Navigation in fog. Anchoring and mooring in a predetermined spot. Conning the ship.

(d) A complete knowledge of the use of all navigational instruments in general use in H.M. ships.

A slight knowledge of taut wire gear, leader system, echo sounding gear, course recording instruments, radio acoustics.



## 2277.—Gunnery Course for the Rank of Lieutenant—Syllabus.

(C. W. 6020/29.—13.9.1929.)

The following syllabus has been approved for the course of instruction and examination in Gunnery of Acting Sub-Lieutenants:—

Subject.	Length of Course (Days).	Marks.
Gun drill ... ..	5	80
Stripping ... ..	4	80
Field training (parade ground) ... ..	7½	} 100
"  " (musketry) ... ..	2	
"  " (machine gun) ... ..	1½	
"  " (field gun) ... ..	½	
"  " (section leading) ... ..	1½	} 40
Ammunition ... ..	2½	
Hydraulics ... ..	6	60 Paper.
Turret drill ... ..	4	80 Paper.
Rangefinder ... ..	1	50
Shooting instructional appliances ... ..	¼	40
	(In ½ hour periods.)	—
Fire control... ..	8+(½)	} 80 Paper.
H.A. control ... ..	2½	
General gunnery ... ..	(3)	20 60 Paper.
Theory ... ..	(2)	80 Paper.
Director and sighting ... ..	5	50 Paper.
Note book ... ..	—	50 30
Firings ... ..	2	30
Examinations ... ..	4	—
Former service ... ..	—	240
Total (gunnery only) ... ..	57+(5½)	1,200
Anti-gas course ... ..	3	—
Total ... ..	60+(5½)	—

Days shown in brackets are carried out in dog watch lectures.

**2278.—Torpedo Course for the Rank of Lieutenant—Syllabus.**

(C.W. 6429/29.—13.9.1929.)

The following is the syllabus of the Torpedo Course for Acting Sub-Lieutenants qualifying as Lieutenants :—

## DURATION OF COURSE—30 days.

<i>Subject.</i>	<i>Days.</i>	<i>Marks.</i>
Whitehead ... ..	5	Paper 150 Oral 50
Torpedo Control ... ..	10	Paper 150 Oral 100
Electrical ... ..	9	Paper 150 Oral 100
Examinations in above subjects ... ..	2	
Explosives, Depth Charges, Mines, P.Vs. and Minesweeping (including examina- tion).	4	Oral 100
Former Service ... ..	—	200
<b>Total ... ..</b>	<b>30</b>	<b>1,000</b>
For a first-class Certificate ... ..		85 per cent.
„ second-class „ ... ..		70 „
„ third-class „ ... ..		60 „

A minimum of 50 per cent. must be obtained in each subject.

## WHITEHEAD—5 days.

<i>Day.</i>	<i>Lectures, a.m.</i>	<i>Practical, p.m.</i>
1	General description of Mark IV torpedo. Heads, pistols and pioneers. Roll and depth recorders. Construction of fore body. Lead of cold air. <i>Note.</i> —Mark IV torpedo is taught as standard.	Practical demonstration and working of subjects of forenoon lectures.
2	Lead of air. Heater system. Propelling machinery. After body and tail fittings.	
3	Depth keeping mechanism. Gyros and steering mechanism. States of readiness and routines to be carried out on torpedoes.	
4	Methods of discharges. Submerged and A.W. tubes.	
5	Practical. Prepare torpedoes for running.	<i>Lecture.</i> —Main difference between later torpedoes and Mark IV. Precautions with E.A. torpedoes. <i>Practical.</i> —Examine tubes, E.P. gear and tube drill.

## TORPEDO CONTROL—10 days.

<i>Day.</i>	<i>a.m.</i>	<i>p.m.</i>
1	<i>Lecture.</i> —Definitions. Simple theory. The three - bar director. The deflection sight. Sights worked off gyro compasses. Type " B " sight. Care and maintenance of sights. Torpedo control discs.	Plotting director triangles. Deflection scales. Construction of discs.
2	<i>Lecture.</i> —Errors in firing torpedoes. Restrictions in torpedo fire. Clear range indicators.	Sights, clear range indicators and T.C. discs.

TORPEDO CONTROL—10 days—*continued.*

<i>Day.</i>	<i>a.m.</i>	<i>p.m.</i>
3	<i>Lecture.</i> —Capital ship organisation and control procedure. Divisional control. Zones produced by a division. Night action by capital ships. Tactical plotting.	} Attack table and practical use of sights and discs.
4	<i>Lecture.</i> —Destroyer organisation and control procedure. Methods of control. Avoiding action.	
5	<i>Lecture.</i> —Duties of flotillas in attack. Manceuvring of a flotilla in combined attacks. Notes on destroyer attack instructions.	
6	<i>Lecture.</i> —Cruiser organisation and control procedure. Methods of control. Night action by cruisers and destroyers. Orders for exercises. Analysis of records.	A/S lecture.
7		Running in tenders.
8		Running in tenders.
9	Analysis of records.	Construction of a tactical plot.
10	<i>Lecture.</i> —Use of smoke. T.C. signals and general résumé.	Attack table and résumé.

## ELECTRICAL—9 days.

<i>Day.</i>	<i>Lectures, a.m.</i>	<i>p.m.</i>
1	Elementary principles of dynamos and alternators. Uses of A.C. at sea. Characteristics of dynamos in service. Dynamo fittings. Principles of motors. Types of Service motors with their characteristics. Speed regulation and brakes.	} Practical demonstration and working of subjects of forenoon lectures.
2	Ring main distribution. Incandescent lamps. Lighting. Magazine lighting. Emergency and alternative arrangements.	
3	Searchlight lamps and mountings. Night action procedure and S/L control.	
4	Low power supply and distribution. Secondary batteries, theory, construction, care and maintenance.	
5	Fire control instruments, Barr & Stroud, Vickers, Graham and "M" motor types.	
6	Director installation. Synchronous system.	
7	Gun circuits. Local, director firing, and Henderson circuits. Responsibility for gun circuits.	
8	Telephones. D.III. Navyphones and two-wire telephones. Navyphone exchange and manipulation of two-wire exchange.	
9	Evershed systems. Power Evershed. Dreyer table circuits.	

EXPLOSIVES, DEPTH CHARGES, MINES, PARAVANES, AND MINESWEEPING—  
4 days.

<i>Day.</i>	<i>Lecture, a.m.</i>	<i>Lecture, p.m.</i>
1	Explosives, properties, transport, stowage, testing, supply. Demolitions. Methods of fitting charges. Creeping.	Depth charges. Release gear and throwers. Practical testing of pistols.
2	Non-controlled mines and sinkers, preparation for, and methods of, laying.	Controlled mines and sinkers. Outline of loop system. E.C. net mine.
3	Paravanes. Protector and explosive. H.S.M.S. and T.S.D.S. handling and tests.	Minesweeping. "A" and Oropesa sweeps. Handling of gear. Capabilities of sweeping craft. Inspect minesweeping material.
4	Résumé.	Oral examination.

**\*2279.—Acting Sub-Lieutenants' Courses—REPORT.**

(C.W. 8422/29.—13.9.1929.)

The undermentioned midshipmen, who are due for promotion to Acting Sub-Lieutenant on 1st January next, are to be examined in seamanship and discharged to undergo the Educational Course at the R.N. College, Greenwich, commencing on Thursday, 2nd January, 1930. (Officers are to join by p.m. on 1st January, 1930.) Midshipmen serving in ships on foreign stations are to be discharged to England in sufficient time to take a fortnight's leave before joining the College.

2. Attention is particularly drawn to the instructions contained in King's Regulations and Admiralty Instructions, Article 263.

3. On being discharged from their ships, the private addresses of all officers are to be reported to the Admiralty (C.W. Branch).

4. Individual appointments will not be promulgated in the Daily List of Appointments, nor will personal appointments be sent to the officers except when deviation from the programmes becomes necessary. Commanding Officers are to take steps to ensure that every officer concerned, who is serving in the ship under his command at the date of receipt of this Order, is made acquainted with details of the Order.

5. Officers are to be placed on ships' books for the periods indicated, as follows:—

Greenwich Course ... ..	H.M.S. "President."
Gunnery Course ... ..	„ "Excellent."
Divisional and Signal Course ... ..	„ "Victory."
Navigation and Pilotage Course ... ..	} „ "Dryad."
Torpedo Course ... ..	

6. The undermentioned special gear will be required when undergoing the Divisional and Signal Course:—

- White flannel shirt and trousers.
- Plain white singlet for P. and R.T.
- White sweater.
- Uniform boots, *not* shoes.

## GROUP "U."

<i>Name.</i>	<i>Ship.</i>
H. F. O. Hale ...	"Nelson" ...
R. P. C. O'Sullivan ...	" " ...
P. C. Meyrick ...	" " ...
K. W. Michell... ..	" " ...
J. H. Wallace ...	" " ...
H. C. B. Coleridge ...	"Renown" ...
R. K. Hudson ...	" " ...
J. C. Stopford... ..	" " ...
R. S. Blacker ...	" " ...
V. C. Begg ...	"Marlborough" ...
P. G. Merriman ...	" " ...
E. V. St. J. Morgan ...	" " ...
H. C. D. Maclean ...	" " ...
W. S. Clouston ...	" " ...
G. W. Hawkins ...	" " ...
G. C. Carter, R.A.N. ...	" " ...
A. G. L. Seale ...	"Emperor of India" ...
H. C. J. McRea ...	" " ...
J. Casson ...	" " ...
E. W. Finch-Noyes, R.C.N.	" " ...
J. C. Hibbard, R.C.N.	" " ...
J. B. Thompson, R.A.N.	"Resolution" ...

*Courses.*

## R.N. COLLEGE, GREENWICH.

Begins Thursday, 2nd January, 1930.

Ends Thursday, 24th July, 1930.

Officers to join by p.m., 1st January, 1930.

## GUNNERY COURSE.

Begins Monday, 11th August, 1930.

Ends Friday, 31st October, 1930.

Officers to join by p.m. 10th August, and to be accommodated in H.M.S. "Excellent."

## TORPEDO COURSE.

Begins Monday, 3rd November, 1930.

Ends Friday, 12th December, 1930.

Officers will be accommodated in H.M. Navigation School.

## NAVIGATION AND PILOTAGE COURSE.

Begins Monday, 15th December, 1930.

Ends Friday, 6th February, 1931.

Officers will be accommodated in H.M. Navigation School.

## DIVISIONAL AND SIGNAL COURSE.

Begins Monday, 9th February, 1931.

Ends Friday, 6th March, 1931.

Officers will be accommodated in R.N. Barracks, Portsmouth.

## GROUP "V."

<i>Name.</i>	<i>Ship.</i>
R. G. Norfolk ...	"Cumberland" ...
J. Hopkinson ...	" " ...
T. Emanuel ...	" " ...
A. N. G. Campbell ...	" " ...
W. E. C. Lowndes ...	" " ...
A. A. F. Talbot ...	" " ...
D. V. Garde ...	"Sussex" ...
G. H. Greenway ...	" " ...
R. M. E. Pain ...	" " ...
A. H. Terry ...	" " ...
R. C. Tillard ...	" " ...
R. E. P. Miers ...	"Warspite" ...
E. J. Lee ...	" " ...
G. S. Lamb ...	" " ...
V. C. F. Clark ...	" " ...
M. Bruce ...	"Revenge" ...
P. G. Newton ...	" " ...
G. S. Lloyd-Owen ...	" " ...
G. W. W. H. Paine ...	" " ...
L. C. Smith ...	" " ...
R. C. G. Smith ...	"Royal Oak" ...
J. M. A. Ennion ...	" " ...
E. A. Nicholson ...	" " ...
A. W. Iles ...	" " ...
H. H. Mackeown ...	" " ...

*Courses.*

## R.N. COLLEGE, GREENWICH.

Begins Thursday, 2nd January, 1930.

Ends Thursday, 24th July, 1930.

Officers to join by p.m., 1st January, 1930.

## GUNNERY COURSE.

Begins Monday, 11th August, 1930.

Ends Friday, 31st October, 1930.

Officers to join by p.m. 10th August, 1930, and to be accommodated in H.M.S. "Excellent."

## NAVIGATION AND PILOTAGE COURSE.

Begins Monday, 3rd November, 1930.

Ends Friday, 12th December, 1930.

Officers to be accommodated in H.M. Navigation School.

## TORPEDO COURSE.

Begins Monday, 15th December, 1930.

Ends Friday, 6th February, 1931.

Officers will be accommodated in H.M. Navigation School.

## DIVISIONAL AND SIGNAL COURSE.

Begins Monday 9th February, 1931.

Ends Friday, 6th March, 1931.

Officers will be accommodated in R.N. Barracks, Portsmouth.

## GROUP "W."

		<i>Courses.</i>	
			R.N. COLLEGE, GREENWICH.
			Begins Thursday, 2nd January, 1930.
			Ends Thursday, 24th July, 1930.
			Officers to join by p.m. 1st January, 1930.
			DIVISIONAL AND SIGNAL COURSE.
			Begins Monday, 11th August, 1930.
			Ends Friday, 5th September, 1930.
			Officers to join R.N. Barracks, Portsmouth, p.m., 10th August, 1930.
			GUNNERY COURSE.
			Begins Monday, 8th September, 1930
			Ends Friday, 28th November, 1930
			Officers to be accommodated in H.M.S. "Excellent."
			TORPEDO COURSE.
			Begins Monday, 1st December, 1930.
			Ends Friday, 23rd January, 1931.
			Officers to be accommodated in H.M. Navigation School.
			NAVIGATION AND PILOTAGE COURSE.
			Begins Monday, 26th January, 1931.
			Ends Friday, 6th March, 1931.
			Officers to be accommodated in H.M. Navigation School.

## 2280.—Educational Course for Acting Sub-Lieutenant—Syllabus.

(C.W. 6020/29.—13.9.1929.)

The following is the syllabus of the Educational Course for Acting Sub-Lieutenants, held at the R.N. College, Greenwich:—

## DURATION OF COURSE—TWO TERMS.

<i>Subject.</i>	<i>Marks.</i>
Mathematics ... ..	200
Applied Mechanics ... ..	200
Physics ... ..	200
Chemistry ... ..	100
English ... ..	75
History ... ..	125
French ... ..	100
Total for Greenwich Course ... ..	1,000
Navigation—Paper I ... ..	150*
"    Paper II ... ..	100*
Introductory War Course ... ..	—
Physical Training.	

\* These marks will be included in the marks obtained later at the Navigation School.

## MATHEMATICS.

1ST TERM. LECTURES—4 periods per week.

*Algebra.*—Simple algebraic manipulation. Indices and logarithms; use of slide-rule. Simultaneous equations, illustrated by graphs. Graphical solution of equations by successive approximation. General considerations about graphs (symmetry, even and odd functions, asymptotes parallel to axes); parabolic graph. Use of binomial expansion in approximation.

*Trigonometry.*—Functions of the general angle. Addition formulæ. Circular measure; angular velocity; small angles. Graphs to illustrate periodicity, frequency, wave-length, amplitude, phase. Combination of simple harmonic waves, small phase-difference, beats. Solution of triangle; problems. Graphical solution of trigonometrical equations. Inverse trigonometrical functions.

*Calculus.*—Differentiation and integration of powers of  $x$ , in so far as this can be done without introducing a logarithmic function. Application of these processes to maxima and minima; small increments; rate of increase; velocity and acceleration; points of inflexion; areas; volumes of revolution.

2ND TERM. LECTURES—4 periods per week.

*Algebra and Graphs.*—Equation of circle; some of the simpler properties of the conic sections, to illustrate such applications as parabolic reflector, sound-ranging, Boyle's law—ellipse as projection of circle. General forms of the graph of  $y=ax^n$ ; determination of laws from experimental data. Further practice in algebraic manipulation.

*Calculus.*—Treatment of simple trigonometrical functions. Differentiation of products and quotients. Integration by parts, change of variable. Definite integrals, centre of gravity, moment of inertia, centre of pressure, mean values. Treatment of binomial and exponential series, in so far as is required to integrate  $\frac{1}{x}$ ; differentiation and integration of  $e^{kx}$ . Solution of equation  $\frac{dy}{dx} = ky$  with applications to mechanics, physics and chemistry. The standard integrals. Graphical integration; Simpson's and Dufton's rules. Newton's rule for approximate solution of equations.

## APPLIED MECHANICS.

1ST TERM. LECTURES—4 periods per week.

*Statics.*—The actions of forces exerted in different ways. Measurement of forces, and their representation by vectors. Vector addition applied to find the resultant of forces. Link polygon. Moment of a force about an axis; couple. Centre of gravity. Equilibrium of a body subject to 2, 3, 4 or more forces. Conditions of equilibrium expressed graphically and analytically. Limits of equilibrium under frictional forces. Stable and unstable equilibrium.

*Hydrostatics.*—Force of buoyancy; centres of buoyancy and flotation. Tons per inch immersion. Change of draught due to change of density of water. Metacentre and metacentric height. Stability of a submerged body.

*Machines.*—Speed and force ratios. Mechanical advantage and efficiency. Linkworks. Toothed gearing of different types. Simple and differential purchases.

*Structures.*—Stresses in frames, derricks and wire ropes. Deficient, simply-firm and redundant frames. Clerk-Maxwell diagram.

*Elasticity and Strength of Materials.*—Yield and fracture of ductile metals. Hooke's law; Young's modulus. Bending moment and shear force. Equilibrium of beams; strength and stiffness of geometrically similar structures.

## 2ND TERM. LECTURES—4 periods per week.

*Theory of Dimensions.*—Derivation of units in M, L, T systems. Dimensional equations; conversion of units in formulæ.

*Kinematics.*—Speed and acceleration; graphic and algebraic treatment. Use of vectors to represent velocities. Circular motion and trajectory of unresisted projectile. Instantaneous centre; angular velocity and acceleration.

*Kinetics.*—Inertia;  $\text{mass} = \text{force}/\text{acceleration} = W/g$ . Conservation of momentum. Work and kinetic energy. Conservation of energy; frictional forces of different kinds. Torque and moment of inertia. Centrifugal force and stress. Whirling of shaft carrying an eccentric mass. Precession of a gyro-axis.

*Periodic Motion.*—Period, frequency, amplitude, displacement and acceleration. Application of the phase diagram. Oscillations of pendulum, and of masses on springs. Resonance; fatigue of metals.

## PHYSICS.

## 1ST TERM. LECTURES—2 periods per week.

*Structure of Matter.*—General properties of matter; elementary molecular and atomic theory; elements, compounds and isotopes; cohesion and crystalline structure. Discharge of electricity through gases. Electrons, protons, positive particles and ionisation. X-rays: their production, properties, nature and uses. Radioactive substances: nature and properties of their emissions. Disintegration theory; structure of the atom.

*Heat.*—Various forms of energy (including heat) and their transformation. Measurement of high and low temperatures. Conduction, convection and radiation. The infra-red rays.

*Laws of Gases and Vapours; Meteorology.*—Laws of gases; absolute zero of temperature. Adiabatic and isothermal expansion; indicator diagrams. Vapours; elementary meteorology.

*Wave Motion.*—Waves in various media and factors that govern their speed. Propagation of energy by waves. Applications.

*Sound.*—Nature and velocity of sound in various media; production of sound; musical notes; pitch, wave-length; resonance. Reflection and refraction. Vibrations of strings, plates and pipes. Instruments for the generation and detection of sound waves. Elements of sound ranging.

## 2ND TERM. LECTURES—2 periods per week.

*Optics.*—Nature and sources of light; speed of light in various media; rays; diffraction; reflection and refraction. Prisms and dispersion. The visible spectrum; continuous, line and absorption spectra. The complete spectrum with special reference to ultra-violet and infra-red radiation. Thin lenses. The eye. Telescopes, binoculars and the rangefinder.

*Electricity and Magnetism.*—Nature of electric induction in metals, gases, electrolytes and in vacuo. Effects of electric current. Units. Ohm's law. Specific resistance and temperature coefficient. Heating effects and electric lighting. Magnets and the laws of magnetism. Electromagnets. Faraday's laws of electromagnetism. A.C. circuits; lag and lead; capacity and inductance; resonance. A.C. instruments. Elementary theory of D.C. dynamo and motor.

## 1ST AND 2ND TERMS. LABORATORY WORK—2 periods per week.

Elementary experiments on heat, light, sound, magnetism and electricity; characteristics of D.C. dynamos and motors.

## CHEMISTRY.

## 1ST AND 2ND TERMS. LECTURES—1 period per week.

*Introduction to Chemistry.*—Chemistry and its military aspects. Chemistry in relation to other sciences; scope and definition.

*Chemical Change, Cause and Effects.*—Conservation of energy in chemical changes. The composition of matter; mixtures, compounds, elements; types of chemical compounds; oxides and salts.



*The Solid Crust of the Earth.*—Formation of plutonic and sedimentary rocks; chemical rocks; organically derived rocks; limestones, corals, peat, lignite, coal.

*Water.*—Composition and physical properties; circulation of water in nature; natural waters, hardness and softening. Water for drinking purposes—purification, use of chlorine compounds, ozone, etc. Water as a typical solvent and solutions.

*The Atmosphere.*—Composition; oxygen; nitrogen; minor gases in the atmosphere; maintenance of the constant composition; purification of air in closed spaces.

*Combustion.*—Ignition point and explosive limits of vapours and gases in relation to internal combustion engines. Spontaneous combustion; fire-proofing materials; chemical fire extinguisher.

*Explosives.*—Potential energy; requirements of different classes; development of propellant explosives; smoke, flash and erosion; initiating explosives; shell fillings.

*Carbon.*—Absorption power for gases, etc.; application in gas warfare; hydrocarbons; petroleum.

*Fuels.*—Coal, its composition in relation to suitability for different purposes; coal gas and coal tar.

*Liquid Fuels.*—Sources; liquid fuels for steam raising, etc., liquid fuels for internal combustion engines.

## HISTORY AND ENGLISH.

### NAVAL HISTORY.

1ST TERM. LECTURES—1½ periods per week.

The art of naval warfare in the Middle Age. The evolution in England of the sailing man-of-war. Rise of the British Navy under the Early Tudors. Anglo-Spanish War of 1585-1604. Failure of the Elizabethans to follow up the successes of 1587-8. Decline and fall of naval power under the early Stuarts. Efforts of Charles I to regenerate British naval power, and reasons for his failure. Revival of naval power under the Commonwealth, and work of Blake. Growth of Dutch maritime world-power between Elizabeth's time and Cromwell's. Causes of hostility between the Commonwealth and the Dutch. First Dutch War and resultant changes in tactics and administration. The Navy of the Restoration and establishment of modern condition. Second Dutch War and Invasion of the Medway.

2ND TERM. LECTURES—1½ periods per week.

The Third Dutch War, Britain's first participation in a continental struggle. Growth of tactical ideas. Formalism; the curse of codes; tactical stagnation under the Fighting Instructions. Extension of British Naval Bases; England in the Mediterranean. The Austrian Wars of the eighteenth century; the Parallel Battle and Battle of Manœuvre. The early reverses during the War of American Independence. Evolution of signalling, 1066-1782. Rodney; the revival of British prestige. The Classic Age. Nelson and Trafalgar. Naval warfare during the nineteenth century. Growth of material between the "Victory" of 1803 and the "Dreadnought" of 1908.

### GENERAL HISTORY.

1ST TERM. LECTURES—1 period per week.

*The Near Eastern Question.*—Rise and decline of the Turkish Empire. Deliverance of Serbia and Greece from the Ottoman yoke; and first intervention of Russia in Balkan affairs. The Russo-Turkish War of 1877-78; Congress of Berlin. The Young Turk Movement; rise of Bulgaria. The Balkan Wars of 1912-14.

*The Great War (1914-19).*—Causes; the opening moves and Battle of the Marne. The Russian collapse of 1915 and the efforts of the Allies to effect a rescue. The Campaigns of 1916 and 1917 on land and sea. Withdrawal of Russia from the war and effect of this on the western front. Turn of the tide in 1918 and reasons for eventual allied success.

*Pacification.*—The treaty-making at Versailles and elsewhere. The League of Nations and methods of procedure. Institution of Mandates. The new map of Europe; and revision of treaties. Locarno; and admission of Germany to the League.

. 2ND TERM. LECTURES—1 period per week.

*The United States of North America.*—The Peace of 1783 and early difficulties confronting the Republic. The Constitution and the way in which it works. Growth of Territory and expansion of the Republic to the shores of the Pacific. The Monroe Doctrine, and how it came to be formulated; the Treaty of Vienna and liberationist movement in South America. Slavery and State Rights in North America. The Great Civil War of 1861-5. Presidency of Abraham Lincoln. The Cuban Question, and naval war with Spain in 1898.

*The Far East.*—Early history of China and physical conditions governing for political stability. The Macartney Mission of 1793. Abolition of East India Company's monopoly and opening of Anglo-Chinese trade. Wars of 1840 and 1860 and settlements which terminated them. Treaty Ports, Extra-territoriality, and the Tsung Li Yamen. Japan under the Shogun and Samurai. "The knock at the door"; early relations with foreign states. The Chino-Japanese War of 1894 and its sequel. The Russo-Japanese War; the problem of the Pacific. Effect of Great War on the Far East. Japanese conquest of Tsing Tao and intervention in China. Difficulties arising therefrom and surreptitious introduction into China of surplus munitions and Soviet teaching. The Washington Conference. Quadruple Entente and nine-power understanding.

#### ENGLISH.

1ST AND 2ND TERMS—1½ periods per week.

Formal debates, the subject being chosen by the officers themselves under the correction of the Chair. Informal discussions; collection and comparison of arguments "for" and "against" a given proposition. Lectures delivered by officers: one each per session; the subject being chosen by the officer concerned or picked by him from a select list; the time allowance being about half-an-hour. Reading and criticism of essays written by officers in their own time; five such being demanded from each officer per term. Addresses on classic literature and books of approved value; especially those with subject-matter vital enough to stimulate thought and provoke criticism. Addresses of a like nature on modern literature and the drama; with special reference to the better class of plays running in London.

#### FRENCH.

1ST AND 2ND TERMS. LECTURES—2 periods per week.

The standard aimed at is that required in the examination for Interpreter.

#### NAVIGATION.

1ST TERM. LECTURES—2 periods per week.

Explanation of terms in coastal navigation; conversion of courses and bearings; allowance for set and drift for tidal streams. Rhumb line; approximate formula; limitations; working the D.R. by traverse and plotting. Mercator's chart; meridional parts; accurate formula for rhumb line. Spherical trigonometry; fundamental formulæ, rule of sines (no proof); deduction of nat. hav. and log hav. formulæ; Napier's rules for right-angled triangles (no proof); great circle distance and true bearing by calculation; vertex of track. Approximate great circle sailing; general principles of construction of Gnomonic chart; methods of plotting the great circle track on a Mercator's chart; composite sailing. Complete theory of sextant; fixes by bearings and sextant angles. Explanation of terms in astronomical navigation; projection of celestial sphere on planes (a) observer's

meridian, (b) observer's horizon, (c) equator; zone time; H.A.M.S. and H.A.T.S.; S.M.T.; the quantities E and R; proof of H.A.X.+R.A.X.=R.A.Mer.=S.M.T.+R ( $\pm 24$  hrs. if necessary). Geographical position; general theory of position lines, and assumptions made in transferring same to Mercator's chart; value of a single position line; general theory of corrections to sextant altitudes of a heavenly body. Position line by observation of a heavenly body on the meridian; maximum altitude; zone time of sun's meridian altitude. Position line by observation of a heavenly body not on the meridian; use of ex-meridian tables. Fix by one observation of a heavenly body and simultaneous land bearing.

#### 2ND TERM. LECTURES—2 periods per week.

Position line by observation of Polaris; proof of  $l = a - p \cosh + \frac{1}{2} (p \sin h)^2 \tan \alpha \sin 1''$ ; explanation and use of Pole Star tables. True bearing and deviation by altitude azimuth and time azimuth; use of azimuth tables; setting and rising amplitudes. Position by two simultaneous astronomical observations, both by plotting and by calculation. Position by two successive astronomical observations, both by plotting and by calculation. Approximate time of visible sunrise and sunset; time of moonrise and moonset; duration of twilight. Finding approximate zone or D.W. time of meridian passage of any heavenly body; finding what bodies suitable for observation cross the meridian between two given times, and finding their approximate altitudes. Choice of a heavenly body by which to fix the ship at any given time; determination of a star from its altitude and true bearing. Maximum azimuth (explanation without calculation); change of true bearing of a point when moving along a great circle; "convergency"; application to finding position by W/T bearings.

#### INTRODUCTORY WAR COURSE.

##### 1ST AND 2ND TERMS. LECTURES—1 period per week.

1. Introductory lecture.
2. War.
3. Principles of war.
4. Principles of war (*continued*).
5. Preparation for war.
6. Appreciations. A scheme for appreciation is given.
7. Orders and instructions. An appreciation of the scheme given in No. 6 is handed in.
8. Discussion of scheme.
9. Admiralty manuals.
10. Strategy.
11. Tactics.
12. Admiralty organisation.
13. Attack and defence of trade.
14. Attack and defence of trade (*continued*).
15. Blockade.
16. Blockade (*continued*).
17. Freedom of the seas.
18. Combined operations. A scheme for appreciation is given.
19. Combined operations (*continued*). An appreciation of the scheme given in No. 18 is handed in.
20. Air lecture.
21. The Battle of Jutland.
22. The Battle of Jutland (*continued*).
23. Specialisation open to Executive Officers.

**\*2282.—Income Tax on Colonial and Foreign Dividends—  
Conditions of Repayment during Foreign Service.**

(N.P. (I) 2762/29.—13.9.1929.)

With reference to paragraph (9) of the Admiralty Income Tax Circular, 1928-29 and 1929-30, consequent on further discussions with the Board of Inland Revenue, the following should be substituted for the sub-paragraph commencing "*Where he does maintain a residence . . .*":—

"*Where he does maintain a residence* in the United Kingdom he may claim to be regarded, during a period of foreign service as above, as *not resident* in the United Kingdom and as entitled to exemption from United Kingdom Income Tax accordingly on income from Foreign or Colonial sources, subject to the condition that exemption is lost for any complete Income Tax year, or part of an Income Tax year (*i.e.*, the period after departure in the year of departure or before return in the year of return) during which he visits the United Kingdom, however short the visit may be. (*See, however, paragraph 10.*) It should be noted that, although *not resident*, he is still regarded as *ordinarily resident* in the United Kingdom, unless the foreign service extends over a period of three years or more, and is therefore liable to United Kingdom Income Tax on any income from the British Government securities referred to above."

**2287.—"M" Type Fire Control Transmitters—Spring Balance  
for Testing Brush Pressure.**

*Ships concerned.*

(T. 2393/29.—13.9.1929.)

E.F.O. 88/29 shows a spring balance designed for testing brush pressure of "M" type fire control transmitters.

2. This balance may be found useful at sea for testing brush pressures of D.C. motors as well as transmitters and may be made by ship's staff if desired.

**2289.—Breech Mechanisms, 7.5 in. B.L., Mark VI—Modification.**

(A.S. 3311/29.—13.9.1929.)

Carriers, B.L., 7.5 in., Mark VI, component and spare, on board H.M. ships and in store are to be modified in accordance with Instructional Prints N.O.D. 2101/15 and N.O.D. 2101/16 by the staff of Royal Naval Armament Depôts as early as possible. Copies of the prints are being distributed.

2. The parts required for the modification are at present on order, and intermediate demands for the quantities required should be rendered by officers in charge of Naval Armament Depôts.

**2290.—Turrets—Training Arcs of "B," "Q" and "X" Turrets  
when H.A. Guns' Crews are "Closed up."**

*"Iron Duke" Class.*

(G. 3507/29.—13.9.1929.)

The blast pressures likely to be experienced at the 3 in. H.A. guns in "Iron Duke" class when "B," "Q" and "X" turrets are firing have been under consideration, and it has been decided not to impose any restrictions on the training arcs of these turrets, either by fitting semi-permanent stops or otherwise.

2. Diagram E.F.O. 103/29 shows the scope of 5 lb. blast curves (with full charges).

3. For peace practices, arrangements are to be made locally to impose such arbitrary limits on the training arcs of these turrets, as may be required by circumstances, nature of charge in use, etc., at the time.

(C18807)

NN 3

### 2291.—Gun Mountings, 6 in. C.P., Mark XIV—Modification to Loading Tray.

(G. 15194/28.—13.9.1929.)

In order to increase rapidity of operation, the existing tray catch gear on 6 in. C.P. XIV mountings is to be replaced by the gear shown in sketch E.F.O. 107/29.

2. The fitting up of the gear is to be carried out by ships' staffs.
3. The new parts will be available at Portsmouth Yard in due course.

### 2292.—Gun Mountings—Lewis, Tripod, Anti-Aircraft—REPORT.

(G. 5404/29.—13.9.1929.)

It has been approved to issue anti-aircraft Lewis tripod mountings, Mark I, to Royal Marine detachments as follows:—

	<i>No.</i>
Atlantic Fleet... ..	6
Mediterranean Fleet ... ..	9
China Squadron ... ..	4
America and West Indies Squadron ... ..	2
East Indies Squadron ... ..	2
Africa Squadron ... ..	2

2. The disposal of these mountings is left to the discretion of the Commanders-in-Chief.

3. *Portsmouth.*—Arrangements should be made for the mountings to be despatched to the respective flagships, and for despatch to be reported.

### 2294.—*Issued Confidentially.*

### 2296.—Gun Sighting and Drill Telescopes—Issue of Component and Spare Instruments—Stocks to be Maintained at Dockyards Abroad and at Sydney for Imperial Services.

(G. 10979/28.—13.9.1929.)

Arrangements have been made to replace all gun sighting telescopes in the Fleet by others which have undergone a process to render them watertight and, in most cases, airtight in addition.

2. The process consists of fitting a watertight gland at the eyepiece end, and of rendering all other joints watertight by special methods. Just previous to final sealing, the existing air in the instruments is withdrawn and replaced by air specially dried, after which they are subjected to special tests at the National Physical Laboratory.

3. All instruments which pass the required tests are marked:—

$$W \frac{A}{T} \text{ or } \frac{W}{T}$$

$W \frac{A}{T}$  signifies that the instrument has been watertightened and airtightened.  $\frac{W}{T}$  that it has been watertightened only.

4. The type of gun sighting telescope to be used for any particular service has been laid down.

5. Existing instructions that no gun sighting telescopes are to be parted on board ship apply with still greater force to those telescopes which have been treated as described above. Disregard of these instructions will render these telescopes unserviceable.

6. *Spare Telescopes.*—The establishment of spare telescopes is 1 in No. for every ten telescopes carried as components for gun mountings and directors, with a minimum of one of each type in leaders, destroyers and submarines, and two of each type in other vessels. In cases, however, where not more than four of a type are carried as component, only one is to be carried as spare.

This proportion applies to armed merchant cruisers, when commissioned.

Sloops, minesweepers, trawlers, auxiliary patrols, fast liners, and defensively equipped merchant ships will not carry spare gun sighting telescopes, but a stock of these will be kept at bases, from which replacements should be demanded when necessary.

7. All reserve mountings issued to yards abroad are to be complete with appropriate telescopes.

8. The following numbers of gun sighting telescopes are to be maintained as stock at the yards stated :—

*For Fleet purposes.*

		<i>Straight Telescopes.</i>		<i>Patterns.</i>		
		<i>G.327, G.333,</i>		<i>G.328</i>		
		<i>G.327Y, or</i>		<i>or</i>		
		<i>G.333Y.</i>	<i>G.333A.</i>	<i>G.328Y.</i>	<i>G.343.</i>	<i>G.344.</i>
Gibraltar	... ..	30	6	30	6	6
Simonstown	... ..	25	6	25	6	6
Malta	... ..	30	6	30	6	6
Bombay	... ..	20	6	20	6	6
Bermuda	... ..	12	6	12	6	6
Hong Kong	... ..	30	6	30	6	6
Sydney	... ..	6	6	6	6	6

*For Sloops, Minesweepers, Trawlers, Armed Patrols, Armed Merchant Ships, Fast Liners, Defensively Equipped Merchant Ships, etc.*

*Straight Telescopes, which will not be watertighted by the new process.*

		<i>Patterns.</i>		
		<i>G.338, G.362,</i>		
		<i>G.2110a or</i>		
		<i>G.2110.</i>	<i>G.2134.</i>	<i>G.340, G.341</i>
		<i>or G.342.</i>		
Gibraltar	... ..	6	20	20
Simonstown	... ..	6	20	20
Malta	... ..	6	20	20
Bermuda	... ..	6	20	20
Hong Kong	... ..	6	20	20
Bombay	... ..	6	20	20
Sydney	... ..	6	6	6

*For all Services.*

*Prism Telescopes for H.A. Mountings, etc.*

		<i>Patterns.</i>			
		<i>G.330 or G.331 or</i>			
		<i>G.330Y.</i>	<i>G.331Y.</i>	<i>G.336.</i>	<i>G.337.</i>
Gibraltar	... ..	12	12	12	6
Simonstown	... ..	6	6	6	6
Malta	... ..	12	12	12	6
Bombay	... ..	6	6	6	6
Bermuda	... ..	6	6	6	6
Hong Kong	... ..	12	12	12	6
Sydney	... ..	6	6	6	6

The above reserves are to be maintained irrespective of the gun mountings which may be on the station.

9. The following numbers of drill telescopes, Pattern G.2143A, are to be maintained at the yards stated :—

Gibraltar	...	...	...	...	...	...	6
Malta	...	...	...	...	...	...	6
Hong Kong	...	...	...	...	...	...	6
Simonstown	...	...	...	...	...	...	4
Bombay	...	...	...	...	...	...	4
Bermuda	...	...	...	...	...	...	4

These drill telescopes are to be regarded as independent of any which are component of instructional appliances in store.

10. Demands for all gun sighting and drill telescopes are to be forwarded to Portsmouth and all surplus instruments returned to that yard.

11. All repairable telescopes which cannot be dealt with on the stations are to be returned to Portsmouth in exchange for serviceable ones if still required.

### **2302.—Evershed Searchlight Control—Abolition of Transmission from Gun Directors to Evershed Searchlight Transmitter.**

*“Hawkins” and “C” and “D” Class Cruisers, H.M.S. “Furious,” and Dockyards.*

(T. 3262/29.—13.9.1929.)

With reference to the decision promulgated in paragraph 4 of C.A.F.O. 2713/27, to abolish the Evershed transmission from the main and secondary armament directors to the Evershed searchlight transmitters in battleships and battle cruisers, it has been decided that the transmission so fitted in “Hawkins,” “C” and “D” Class cruisers and H.M.S. “Furious,” is not now required.

(C.A.F.O. 2713/27.)

### **2304.—Fire Pump and Alarm Rattler Control Switches.**

*Aircraft Carriers, “Eagle,” “Furious,” “Hermes” and “Glorious.”*

(D. 8651/29.—13.9.1929.)

The control switches for the hanger fire pumps fitted, or to be fitted, in the above ships are provided with two chains, one of which is for closing the contacts which put the pump circuit breakers on and operate the alarm system, whilst the other is for opening the rattler alarm circuit when the alarm has served its purpose. The simultaneous operation of the two chains will dislocate the mechanism of the switch and, to avoid this possibility, and also confusion as to the identity of the chains, arrangements have been made for the dockyards concerned to shorten the rattler cut-off chain until its handle is as high as possible above the deck level consistent with facility of operation.

### **\*2307.—White Enamel, Superior Quality—Tests on Samples—REPORT.**

*Portsmouth, Devonport and Chatham Dockyards, and Ships concerned.*

(D. 12207/29.—13.9.1929.)

Approval has been given for samples of superior quality white enamel to be supplied for application as a trial on certain interior surfaces of selected ships.

2. These interior surfaces are the Admirals' and Captains' apartments and adjacent lobbies; officers' messes and sick bay; officers' cabins.

3. One of the mess decks of H.M. Ships "Hood," "Hawkins" and "Dauntless" is also to be enamelled with the special materials in addition to the above compartments.

4. The enamels are to be applied over Pattern 519 undercoating, by dockyard mechanic painters, and it is desired that the surfaces so enamelled should not be touched up or renewed for a period of two years. Dockyards concerned are to forward a report when this work is carried out, giving the disposition of the various makes of enamels, the apartments in which applied, and the dates when the work in each compartment was completed.

5. If at any time it is apparent that the condition of the enamels is such that renewal is necessary, Admiralty authority should be obtained before the work is carried out.

6. An inspection of these enamels will be made by an Admiralty officer, where possible, at intervals of approximately six months' duration, and to enable this inspection to be made, dockyard officers are to report when the vessels concerned are available at the port.

In the event of an Admiralty officer being unable to attend, the dockyard officers concerned are to report on the condition of the various makes of enamels, the concurrence of ship's officers being obtained in the report.

7. Subject to the concurrence of Commander-in-Chief, Atlantic Fleet, in regard to the vessels selected which are under his command, the work is to be carried out on the following ships:—

*Ships of the Atlantic Fleet.*

"Nelson."	"Marlborough."	"Watchman."
"Rodney."	"Vidette."	"Wolfhound."
"Repulse."	"Warwick."	"Wessex."

*Ships undergoing Large Repair, etc., at the Dockyards.*

"Hawkins."	"Delhi."	"Hood."
"Calypso."	"Dauntless."	"Walpole."
"Curacoa"	"Danae."	"Westminster."
"Dragon."	"Glorious."	

8. Arrangements are being made for as many of the officers' compartments as possible on the selected Atlantic Fleet ships, to be available when the vessels are in dockyard hands for refit or dockings.

**2311.—***Issued Confidentially.*

**2314.—Stores—Unauthorised Transfer between Ships.**

(N.S./N.L. 2123/29.—13.9.1929.)

A case has recently occurred of a Petty Officer in one of H.M. ships being arrested in one of H.M. dockyards for being in unlawful possession of Government stores. It transpired that the articles had been obtained from another vessel which was about to pay off into dockyard control, and that they formed part of the consumable Naval stores which had been issued from the central store for immediate use, but which remained unexpended. Although in this instance there appears to have been no intention to misappropriate the stores, the action was entirely irregular, as no stores should be transferred from one ship to another without the approval of the Commanding Officers, and when such transfers are authorised, supply and receipt notes on Form S.549 are invariably to be passed between the respective Accounting Officers, and dealt with in accordance with the instructions.



2. With a view to avoiding similar occurrences in future, all stores that may be in "Ready use" storerooms or about the ship when a vessel is being paid off into dockyard control, are to be returned to the Accounting Officer, and in vessels in which the central storekeeping system is operative, the value of the stores so returned is to be credited to the department concerned.

3. As the stores transferred in this instance could only have been accumulated by obtaining from time to time from the central store quantities in excess of those actually required, care is to be taken by Departmental Officers that the quantities of stores drawn are those required for immediate use, and that where a weekly or periodical scale of supplies, *e.g.*, cleaning gear, has been authorised by the Commanding Officer, due regard is paid to any quantities in hand before replenishments are requisitioned.

### 2316.—Carbon Brushes, Pattern 8983—Introduction.

*"C" and "D" Class Cruisers.*

(N.S. 7880/29.—13.9.1929.)

Reports have been received to the effect that considerable pitting occurs on the bearing surface of Pattern 1943A, carbon brushes, producing sparking and an abrasive effect on the surface of commutators when used in connection with the 52.5 and 63 k.w. dynamos of W. H. Allen's manufacture, fitted in the "C" and "D" class cruisers.

2. It has been found that this effect is almost entirely absent when a Link B6 grade carbon brush is used.

3. It has been decided, therefore, to add a carbon brush  $1\frac{1}{2}$  in.  $\times$   $1\frac{1}{2}$  in.  $\times$   $\frac{7}{8}$  in., grade Link B6, with connections, as Pattern 8983, to the Authorised List of Naval Stores, and arrangements have been made to purchase 200 of these brushes for delivery at Chatham to meet urgent requirements.

### \*2329.—Leave with Pay—Grant to Workpeople.

*H.M. Dockyards, etc., at Home.*

(P.L. 2144/29.—13.9.1929.)

It has been decided that workpeople in H.M. dockyards and other Admiralty establishments at home, who have not hitherto been allowed any leave of absence with pay (apart from the paid general holidays) are, provided they have completed a full year's service in their present employment, in future to be allowed absence on leave with pay to the amount of one pay-week a year; and that the number of paid general holidays is to be increased from four to five a year.

2. The purpose of this grant of leave with pay is to enable every employee to enjoy a complete week of absence from duty every year; the arrangements, for ensuring this, require, however, further consideration, and therefore approval is hereby given for the concession to be given effect to during the present year by paying wages in respect of absence with leave (granted in accordance with the exigencies of the Service) for periods at present allowable without pay, to the amount of one pay-week, *i.e.*, up to the number of hours paid for at ordinary time rate in an ordinary working week, *viz.*, 47 hours for the generality of the workpeople, between the present date and the end of the leave year as laid down in Article 177 of the Home Dockyard Regulations, *viz.*, 31st January, 1930.

3. Wages are not to be paid for any past period of absence with leave. Where the full amount of ordinary leave (without pay) as hitherto allowed, or any part of it, has already been taken, the amount of leave with pay for the remaining part of the year is not to be reduced. The grant of leave with pay is, however, not to apply to employees on special leave of absence for extended periods.

4. This concession applies to workmen who have been appointed from home dockyards under agreement for terms of service at yards abroad. Leave is not intended to be accumulated and cannot be carried over from one leave year to another.

5. Where annual leave with pay, if not less than the amount stated above, is already granted, no increase in the allowance is to be made.

6. The additional general paid holiday is, for the present year, to be granted at the dockyards and other establishments in England on 26th December—Boxing Day.

7. In Scotland, another day may be more suitable, and representations on this point should be made to the Admiralty by the Superintendents as may be necessary.

8. The special leave granted in accordance with Article 173, of Home Dockyard Regulations, 1925, to workmen who are members of the Territorial Forces, is allowed independently of other leave, including the leave with pay for workmen authorised by paragraph 1.

(A.F.O. 3079/29.)

### **2331.—Two-wire Telephones in H.M. Ships—Revision of Wiring Diagrams.**

*Dockyard and Overseers concerned.*

(T. 3493/29.—13.9.1929.)

In order to meet the additional and revised requirements of wiring for the new types of two-wire telephones recently introduced, a new diagram No. D.T.M. 71/29 has been prepared to supersede diagram No. D.T.M. 261/25.

2. Copies of the new diagram have been circulated for the information of those concerned, and further copies as required should be obtained from the Director of Torpedoes and Mining, Admiralty.

### **2333.—Issued Confidentially.**

### **2337.—Kiel Canal—Passage of H.M. Ships.**

(M./C. (II) 3735/29.—20.9.1929.)

#### **I.—SALUTES.**

A salute to the German national flag is to be fired by H.M. ships passing through the Kiel Canal.

Saluting batteries for the canal are situated at Cuxhaven and Friedrichsort.

A salute is only to be fired at one end of the canal, preferably prior to entering.

#### **II.—AGENTS.**

In view of difficulties which have been experienced in connection with the payment of dues in respect of H.M. ships passing through the Kiel Canal, Commanding Officers are authorised to employ local agents to arrange payment of dues, etc.

Messrs. Sartori & Berger and Messrs. Zerssen & Co. have been employed as agents on various occasions by Commanding Officers of H.M. ships, and the services of these firms may be utilised when required. It is desirable that the firms should be employed in rotation so far as this may be possible.

In order to avoid loss of time, H.M. ships should be prepared to give draught (fore and aft) and net register tonnage to the agents immediately on arrival at either end of the canal, and it may then be arranged for the total charges to be presented in one account at the other end.

The net register tonnage of a warship for the purpose of assessing Kiel Canal transit dues is determined by dividing the gross tonnage (from certificate in ship's book) by 1·7.

The agents should be directed to present with the account (made out in duplicate and signed) a statement (in duplicate) from a bank as to the current rate of exchange.

### 2341.—*Issued Confidentially.*

### 2343.—**Vaccination—Method of Performing.**

(M.D.G. 10030/29.—20.9.1929.)

Attention is called to the method of vaccination described by the Minister of Health in the Instructions to Vaccinators under Contract, which are included in the Vaccination Order, 1929.

An extract from these instructions follows:—

“ In all ordinary cases of vaccination or re-vaccination, the public vaccinator should vaccinate in one insertion, preferably by a single linear incision or scratch not more than a quarter-of-an-inch long, merely through the epidermis. This incision should be made in the long axis of the limb. The lymph may be applied to the cleansed skin and the incision made through it, or the lymph may be applied to the incision immediately after the latter has been made. The lymph may be gently rubbed into the scratch with the side of the needle or lancet. In cases in which the public vaccinator or the vaccinee (or the parent or other person having custody of a child vaccinee) desires to obtain additional protection at the operation (*i.e.*, where the maximum protection against smallpox is desired, or where the circumstances make it especially desirable to avoid risk of failure), the public vaccinator may, if he considers it necessary, increase the number of such insertions. The number of insertions should not exceed four, and they should be placed so as to avoid coalescence of the resulting vesicles. The aim of the public vaccinator should be to produce successful vaccination with the minimum of injury to the tissues. In no circumstances should the vaccinated area be cross-scarified or cross-hatched.”

2. As a rule, Naval Medical Officers should carry out vaccinations and re-vaccinations by the above method, making one insertion only, by means of a single linear scratch. If there are special reasons for desiring additional

protection, more than one insertion may be made. In no circumstances should the vaccinated area be cross-scarified or cross-hatched. The "multiple pressure or prick" method may be used by medical officers who are familiar with its technique and interpretation.

3. Cases of primary vaccination are to be regarded as successful when a normal vaccine vesicle has been produced. Cases of re-vaccination are to be regarded as successful when either a vesicle or a papule surrounded by an areola has resulted. Re-vaccination of active service personnel should be carried out every five years.

### **2347.—Collision and K.8 Blowing Heads for Torpedoes—Oil Valve Point—Design of Wire Grommet to Facilitate Recovery of Torpedoes.**

(T. 3285/29.—20.9.1929.)

A modified design of wire grommet for use in the oil valve points of collision and K.8 blowing heads is shown in E.F.O. 117/29.

2. This fitting may be made on board, and used by ships and vessels as desired.

### **2355.—Depth Charge Pistols, Mark IV\*\*—REPORTS.**

(T. 3490/29.—20.9.1929.)

The reports referred to in A.F.O. 2138/29 respecting the Mark IV\*\* depth charge pistols should be forwarded forthwith, through the Administrative Authority, for charges already fired and immediately after dropping in the future.

(A.F.O. 2138/29.)

### **2356.—Breakers and Contactors—REPORTS.**

(T. 3733/29.—20.9.1929.)

In order to determine whether the present method of winding and treating operating coils for breakers and contactors is satisfactory, Commanding Officers of H.M. ships, in which it has been found necessary to fit new coils since the issue of A.F.O. 1652/27, are to forward reports to the Admiralty through the Administrative Authority, as to the failures which have occurred. The reports are to include the date or dates of fitting the new coils, together with the particulars indicated in the final paragraph of the above-quoted Admiralty Fleet Order.

(A.F.O. 1652/27.)

### **2357.—Electrical Flexible Conductors—Eyelet Terminal Ends.**

*Ships' Staffs, Dockyards and Overseers.*

(T. 3347/29.—20.9.1929.)

A report has been received from one of H.M. ships that serious interruptions of the director system occurred, due to "earths" on an "M" motor and a training hunter. It was subsequently found that no eyelets were fitted to the flexible conductor connected to the "M" motor terminals.

2. Instructions regarding fitting eyelet terminal ends to flexible conductors, which are secured under screw heads, were issued in A.F.O. 2453/23 and previous Orders, and the following extract from this Admiralty Fleet Order is promulgated for the information of ships and establishments concerned:—

“ The attention of all concerned, both in H.M. ships and in H.M. dockyards, is drawn to the instructions in the following paragraph, which were originally issued in 1917, respecting the use of eyelets, Patterns 1396 and 1397, and pliers, Pattern 1395, for making eyes at the ends of flexible conductors for connecting them under screw heads as required in 15-volt terminal boxes, and for making eyes at the ends of 114/36 multicore flexible cables.

“ Boot eyelets are to be used in all ships for making eyes at the ends of flexible conductors for connecting them under screw heads as required in 15-volt terminal boxes, etc. By this method a neat eye is formed without soldering, which hardens the conductors and deteriorates the insulating material. The following articles are required for this method:—

Pattern 1395. Pliers, eyelet closing, suitable for No. 18 eyelet.

Pattern 1396. Eyelets, brass or yellow, No. 18, round top, long barrel.

Pattern 1397. Eyelets, No. 48, round roll top, long barrel, to be used for making eyes at the end of 114/36 multicore, flexible, cables.”

3. Ships' staffs are to examine all flexible conductors secured by screw heads to ensure that these instructions are complied with.

4. The attention of dockyards and overseers is directed to this Order.

### 2358.—Foam Type Hand Fire Extinguishers—Periodical Tests.

(E.-in-C./C.P. 9844/29.—20.9.1929.)

Reports have been received that in certain cases foam type extinguishers have failed to function after having been kept charged for some considerable period.

2. All foam type extinguishers should accordingly be tested periodically as follows:—

Foamite, “ Dualseal ” type	...	...	Every six months.
All other types	...	...	Every three months.

3. The test should be carried out in the following manner:—

- (a) Remove inner container.
- (b) Stir contents of both containers with a thin wooden lath.
- (c) Withdraw 5 c.cs. of the acid solution from the inner container.
- (d) Withdraw 25 c.cs. of the alkali solution from the outer chamber.
- (e) Pour the two samples together into a half-pint tumbler. The resulting foam should practically fill the tumbler.

4. If the expansion is small the extinguisher should be re-charged.

**2359.—Fire Extinguishers—Supply to H.M. Ships when Acetylene or Electric Welding Apparatus is used in Proximity to Oil Fuel Plant.**

(D. 12716/29.—20.9.1929.)

A fire recently occurred in the boiler room of one of H.M. ships during oxy-acetylene burning operations, which were being carried out by dockyard workmen.

2. In view of the risk of a fire occurring in H.M. ships when an acetylene or electric welding apparatus is being used by dockyard workmen, in proximity to oil fuel plant, it has been decided that, on such occasions, a fire extinguisher of the 2-gallon "Dualseal" type (makers, Messrs. Foamite Firefoam, Ltd.) is to be provided when the professional officer concerned considers this desirable.

**2362.—High Speed Mine Sweep—Establishment of Stores.**

*Leaders and Destroyers.*

(N.S. 4636/29.—20.9.1929.)

The establishment of stores for leaders and destroyers fitted with high speed mine sweep has been under consideration with the object of deleting certain items which are considered to be in excess of present day requirements or have become obsolete.

2. The attached lists show the establishments for destroyers and leaders and depôt ships respectively as regards both Vote 9 and Vote 8 stores.

**DESTROYERS AND LEADERS.**

List of paravane stores (Vote 9) to be supplied to vessels fitted with high speed mine sweep :—

Stamp No.	Description.	Outfit.		Remarks.
		Carried on Board.	Kept on Shore.	
—	Paravane C, Mark III** (fitted with 34 lb. plane weight).	2	4	Fitted with shackle, Stamp No. 3423.
—	Paravane L, Mark II ...	2	1	Fitted with shackle, Stamp No. 3423.

*Note.*—The allowances of Vote 9 outfit stores are shown in C.B. 1600 (c).

**DEPÔT SHIPS.**

List of paravane stores (Vote 9) to be carried by depôt ships for attached leaders and destroyers fitted with H.S.M.S. (for every six or part of six vessels attached) :—

Stamp No.	Description.	Allowance.	Remarks.
—	Paravane C, Mark III** (fitted with 34 lb. plane weight).	2	Fitted with shackle, Stamp No. 3423.

*Note.*—The allowances of Vote 9, stores for depôt ships, are shown in C.B. 1600 (c).

## DESTROYERS AND LEADERS.

List of Vote 8 Stores and Fixtures to be supplied to vessels fitted with high speed mine sweep.  
All items of fixtures to be supplied by shipbuilders.

Patt. No.	Description.	Denom. of Quantity.	Allowance.	Remarks.	3 Months' War Maintenance Stores.
	<i>Permanent Stores.</i>				
7801	<i>B.5.</i> Stopper, steel wire, carpenter's ... ..	No.	1	—	—
2083B	<i>B.8.</i> Block, iron snatch... ..	No.	6	4 for leading blocks for towing wires when hoisting P/Vs inboard; 2 for depressor span as spare.	—
7823	<i>B.10.</i> Tongs, paravane, 18½ in. ... ..	Pairs.	4	For dropping davits.	—
7822	<i>B.12.</i> Wire, P/V, towing, serrated for P/V, Type C, fitted complete.	No.	2	For component parts, see authorised list of Naval stores.	6
7827	Wire, P/V, towing, for depressor, fitted complete	No.	1	Do.	1
—	Span unit for depressor, consisting of :— Strops, rope, S.W., P/V, 2½ in. (length to suit) ... .. 2 No. Thimbles, Patt. 1916 ... .. 4 No. Plate, 4 eyed, Patt. 7819 ... .. 1 No. Extension length, consisting of :— Rope, S.W., P/V, 2½ in., length 2 fms. 1 No. Thimble, Patt. 1917 ... .. 1 No. Shackle, Patt. 2155 ... .. 1 No. Towing sleeve, Patt. 7859 ... .. 1 No.	No. No.	1 1	As spare.	—

331	<i>E.13.</i> Blocks, I.I.B., 6 in. ... ..	...	...	...	4	For leading blocks for tail lines when hoisting P/V inboard.	—
<i>Consumable Stores.</i>							
<i>B.10.</i>							
7802	Pin, screw, with nut and split pin for towing sleeve.	No.	...	...	2	As spare.	3
7803	Strip, locking, for towing sleeve.	No.	...	...	2	As spare.	3
—	Pin, split, naval brass, $\frac{3}{8}$ in. by $1\frac{1}{4}$ in., for pin of towing sleeve.	No.	...	...	48	As spare.	72
2052	Shackle ... ..	No.	...	...	2	As spare, for dropping tackle.	3
2054	Shackle ... ..	No.	...	...	1	As spare, for dropping tackle.	2
2154	Shackle ... ..	No.	...	...	1	For carpenter's stopper.	—
2155	Shackle ... ..	No.	...	...	2	As spare, for depressor wires.	3
<i>E.6.</i>							
—	Oil, linseed, boiled ... ..	Pts.	...	...	4	For oiling towing wires.	6
<i>E.8.</i>							
—	Grease, mineral ... ..	Lb.	...	...	4	For lubricating P/Vs and preservation of towing sleeves.	6
<i>E.9.</i>							
26	Waste, cotton, coloured ... ..	Lb.	...	...	6	—	9
<i>E.11.</i>							
99	Gloves, leather, right ... ..	No.	...	...	6	For use when handling P/Vs.	9
100	Gloves, leather, left ... ..	No.	...	...	6	Do.	9
<i>E.12.</i>							
983	Cloth, emery, flour ... ..	Shts.	...	...	12	—	18



## DESTROYERS AND LEADERS—continued.

Patt. No.	Description.	Denom. of Quantity.	Allowance.	Remarks.	3 Months' War Maintenance Stores.
—	<i>Fixtures.</i> Dropping tackle for depressor, consisting of the following:—	No.	1	—	—
—	Blocks ... ..	Patt. No. In. or No. Fms. 490A 5 2	—	—	—
—	Hemp cordage, tarred ... ..	2 10	—	—	10 fms.
—	Shackle ... ..	2054 1	—	—	1
—	Davey hook ... ..	7805 1	—	—	—
—	Tripping pendant, consisting of:—				
—	Rope, steel wire flex. ... ..	— 1 7 ft.	—	—	—
—	Shackles for ... ..	2052 2	—	—	—
—	Strops, each consisting of the following:—		2	For lifting Type "C" paravanes ...	—
—	Rope, steel wire flex. ... ..	1½ 1	—	—	3 fms.
—	Thimble ... ..	1916 1	—	—	1
—	Securing wires, each consisting of the following:—		4	For dropping davits ... ..	—
—	Rope, steel wire flex. ... ..	1 *	—	—	—
—	Thimble ... ..	1915B 2	—	—	—
—	Slip rigging... ..	59 1	—	—	—
—	Runner and deck tackle, each consisting of the following:—		2	*Length as necessary ... ..	—
—	Rope, steel wire flex. ... ..	1½ 10	—	Deck tackle for hoisting tails of P/Vs ...	20 fms.
—	Hook spring, complete ... ..	2181 1	—	—	—
—	Thimble ... ..	1916 1	—	—	—
—	Block, M.C. I, double ... ..	442A 5 1	—	—	—
—	Block, M.C. I, double ... ..	414 5 1	—	—	—
—	Hemp cordage, tarred ... ..	2 30	—	—	60 fms.

—	Guys for depressor ...	—	No.	2	—
—	Davits, each consisting of the following:—	—			—
—	Rope, steel wire flex. ...	1½	*		*Length as necessary.
—	Thimble ...	1916	2		—
—	Shackle ...	2052	2		—
—	Slip rigging... ..	59	1		—
—	Covers, canvas, painted (for each rotary davit)		No.	1	To be strengthened at corners, where necessary, with leather.
—	Covers, canvas, painted (for each P/V steam winch).		No.	1	Do.

## DEPÔT SHIPS.

Vote 8.—Stores for attached leaders and destroyers for high speed mine sweep (per six or part of six so fitted).

Note.—Stock not to be allowed to fall below the established allowance.

Patt. No.	Description.	Denom. of Quantity.	Allowance.	Remarks.	3 Months' War Maintenance Stores.
	<i>Permanent Stores.</i>				
7823	<i>B.10.</i> Tongs, paravane, 18½ in. ... ..	Pr.	1	For dropping davits ... ..	—
7822	<i>B.12.</i> Wire, P/V towing, serrated for P/V, Type "C," fitted complete.	No.	2	For component parts, see Authorised List of Naval Stores.	—
7827	Wire, P/V towing, for depressor, fitted complete	No.	1	Do.	—
—	Span unit for depressor, consisting of :— ... ..	No.	1	—	—
—	Strops, rope, S.W., P/V, 2 No., 2½ in. (length to suit).	—	—	—	—
—	Thimble, Patt. 1916 ... ..	—	—	—	—
—	Plate, 4 eyed, Patt. 7819 ... ..	—	—	—	—
—	Extension length, 1 No., consisting of :—	—	—	—	—
—	Rope, S.W., P/V, 2½ in., 1 No., length 2 fms.	—	—	—	—
—	Thimble, Patt. 1917 ... ..	—	—	—	—
—	Shackle, Patt. 2155 ... ..	—	—	—	—
—	Towing sleeve, Patt. 7859 ... ..	—	—	—	—

Vessels fitted for high speed mine sweep, as shown in Armament List, dated April, 1928 :—

H.M.S. "Wryneck"	}	1st Destroyer Flotilla, Mediterranean.
" " "Vivacious"		
" " "Walrus"		
" " "Vendetta"		
" " "Vimiera"		
" " "Vampire"		
" " "Waterhen"		
" " "Voyager"	}	2nd Destroyer Flotilla, Mediterranean.
" " "Vega"		
" " "Winchelsea"		
" " "Venetia"		
" " "Viscount"		
" " "Viceroy"		
" " "Vanquisher"		
" " "Valentine"	}	Maintenance Reserve, Rosyth.
" " "Venessa"		
" " "Vanity"		
" " "Violent"	}	Maintenance Reserve, Chatham.
" " "Verdun"		
" " "Whitley"	}	Attached to Torpedo School, Portsmouth.
" " "Vanoc"		
" " "Wrestler"		
" " "Wakeful"		
" " "Thisbe"		
" " "Teazer"		
" " "Tormentor"		

(A.F.O. 3273/29.)

### 2365.—Adapter Plates—Introduction for General Service.

(N.S. 8375/29.—20.9.1929.)

In view of the satisfactory nature of the reports of trial on the adapter plates used in lieu of the spring supports in connection with lamp fittings, Patterns 9106 and 9109, it has been decided to extend the supply to ships generally.

2. These adapter plates should be fitted to the existing fittings by ships' staffs as and when required.

3. *Home Yards only.*—Demands on D.273 forms should be forwarded, for the estimated quantity it is anticipated will be required to meet demands from ships.

4. Investigation is still proceeding as to the possibility of effecting improvements, and any further developments will be promulgated later.

### 2368.—Film for use in Wide Angle Cameras.

(N.S. 10706/29.—20.9.1929.)

Film for use in wide angle cameras, produced by Messrs. Austin Edwards, Ltd., of Warwick, has been tried by H.M.S. "Snapdragon" with satisfactory results, and is to be considered equally with film manufactured by Messrs. Wellington & Ward, for use in the Atlantic and Mediterranean Fleets, *i.e.*, for supply to H.M. Ships "Snapdragon" and "Chrysanthemum."

2. Further tests as to the suitability of Austin Edwards' film for use on the China Station will be arranged during the hot months of next year, and, in the meantime, this make of film will not be supplied to China.

**2377.—Writing Assistants, Established Typists and Shorthand Typists, and Clerical Officers—Substitution Pay.**

(C. E. 3066/29.—20.9.1929.)

The question of granting substitution pay to Writing Assistants, Established Typists and Shorthand Typists, and Clerical officers in the General Clerical Class, who temporarily substitute officers in higher grades, or officers of the same grades in receipt of allowances, has formed the subject of an Award of the Industrial Court—Award No. 1418—of which the following is an extract:—

- \* \* \* \* \*
11. The Court accordingly decide that as from 1st April, 1929—
- (1) Any officer of the grades now before the Court who substitutes for one or more officers in a higher grade than his or her own for any period in excess of the “qualifying period” as hereinafter defined, owing to the absence of such officer on leave and who undertakes the ordinary and customary duties of such officer, shall be entitled to be paid an allowance equivalent to 20 per cent. of his or her salary (including cost-of-living bonus) for any period beyond the “qualifying period” during which such substitution continues.
- (2) Any substituting officer of the same grade as the officer on leave for whom he or she is called upon to deputise shall, if the substituted officer is in receipt of an allowance for any special duty and the substituting officer is called upon to perform that duty, be entitled to be paid at the same rate for any period beyond the “qualifying period” during which such substitution continues.

For the purpose of this decision, the qualifying period shall be six months in any period of twelve months, and may be made up of broken periods which shall be not less than twelve consecutive working days each.

No officer having qualified for additional remuneration as provided for above shall again be required to qualify within a period of six months from the last day on which he or she was employed on substitution duty.

\* \* \* \* \*

2. The Government has decided to give effect to this Award as from 1st April, 1929.

3. The phrase “officer on leave” should be interpreted as covering also officers on sick leave.

4. Service antecedent to 1st April, 1929, may be reckoned in calculating the qualifying period of six months referred to in the Award.

5. All cases where it is proposed to make payments under this Award should be referred, in the first instance, to the Admiralty.

**\*2378.—Examiners of Work and Draughtsmen (Constructive, Engineering and Electrical)—Arbitration Award as to Pay.**

(C. E. 5311/29.—20.9.1929.)

The following additional adjustments in applying the new scales for First Class and Second Class Draughtsmen have been approved.

2. Draughtsmen who reached the maximum of their old scale prior to 1st July, 1929, by a final increment of less than the full amount of an ordinary increment, may be granted, as from 1st July, 1929, an increment equal to the

balance of a full increment, in addition to any increment allowable. Thus, a Second Class Draughtsman who attained a salary of £147 10s. on 1st June, 1928, and his maximum of £150 on 1st June, 1929, may be placed on a salary of £155 on 1st July, 1929, and will be eligible for a further increment on 1st June, 1930. A Second Class Draughtsman who attained a salary of £147 10s. on 1st June, 1927, and reached his maximum of £150 on 1st June, 1928, may be placed on a salary of £162 10s. as from 1st July, 1929, future increments accruing on 1st July, 1930, etc.

3. A Draughtsman whose salary on 1st July, 1929, was slightly less than the new minimum, may have the option of retaining his old salary and incremental date. Thus a Second Class Draughtsman who attained a salary of £132 10s. between 1st July, 1928, and 1st March, 1929, may retain his existing salary and incremental date, this being more to his advantage. A Draughtsman who attained a salary of £132 10s. between 28th February, 1929, and 1st July, 1929, may be placed on a salary of £135 as from the latter date, which will be the future incremental date.

### 2383.—Stores from Contractors—Survey.

(N.S./C.P. 12348/29.—20.9.1929.)

In cases of defects or divergence from pattern, sketch, or specification, which makes the article less acceptable than the pattern, reference should be made to the responsible yard (*not in the first instance to the Admiralty*) for decision, subject to Article 112 of Naval Store Duties Instructions, as to acceptance or rejection of the stores in question (except in cases where the divergence or defect is such that there is no doubt as to rejection). *The officers of the responsible yard are, unless there is good reason to the contrary, immediately to issue a warning to the contractors that such divergencies or defects must be remedied in future supplies in order to obviate the possibility of rejection. It is to be clearly stated that such warnings are in the nature of advance information pending further investigation.*

2. *The responsible yard should communicate with other yards, as necessary, with a view to obtaining comprehensive information on all deliveries to date of the articles in question under the particular contract involved, for the purpose either of settling the matter or of submitting the question to the Admiralty.*

3. The decision of the responsible yard is to be communicated to the receiving yards without any unnecessary delay, and a copy of the decision is to be communicated simultaneously to all other yards concerned, for information.

4. The following amendments should be made to Form D.251, viz. :—

*Add to memo (f) :—*

“ Referred also for preliminary warning to contractors.”

*Add memo (i) :—*

“ The defects or divergence from pattern indicated have been reported by a receiving yard. Information is requested showing deliveries to date of these articles under the contract quoted and the result of survey.”

5. *Portsmouth only.*—It may be desirable to institute a form for communication with contractors as paragraph 1, and yard officers should make proposals accordingly.

(Paragraph (e) of A.F.O. 618/27 is cancelled.)

**2395.—Magazine Floors.***" D " Class Cruisers.*

(D. 10649/29.—27.9.1929.)

It has been approved in principle to replace the asbestocel lagging, at present fitted to the floors of the magazines over the oil fuel tanks, in " D " class cruisers, by 2 in. fir planks, the planks to extend 1 ft. up the sides of the magazines.

2. The replacement should only be carried out when it becomes necessary to remove the asbestocel for defects or examination of the inner bottom. The inner bottom should be thoroughly examined and repaired before the planking is fitted, and the plating should not be pierced for the securing bolts.

**2397.—Issued Confidentially.****2398.—Exhaust Valves.***" L " Class Submarines.*

(D. 4801/29.—27.9.1929.)

The exhaust valves of the non-water-cooled type which have been on trial in certain vessels of the above class having proved satisfactory for this service, it has been decided to supply in future solid valves as replace spare gear for these vessels in lieu of water-cooled valves, when stocks of the latter type are exhausted.

2. Supply will be made by the Admiralty, and demands for replace valves of the solid type should be referred accordingly as the need arises.

3. A drawing of the solid type of exhaust valve, suitable for service in " L " class vessels will be forwarded in due course to establishments and vessels concerned.

**2400.—Oil Fuel Sprayer Caps—Exit Holes.**

(E.-in-C./N.S. 2754/29.—27.9.1929.)

Experience on service shows that the use of defective sprayer caps leads to inefficient burning of the oil fuel, and consequently to the employment of higher air pressures than should be necessary.

2. The dimensions of the exit holes should be checked periodically for wear, damage, etc., and defective caps replaced as soon as convenient.

3. Special gauges with tolerances of 1/200 of an inch, as indicated on the diagram, E.F.O. 109/29, for 900 lb. sprayer caps should be used for checking the exit holes. Sprayer caps having exit holes with dimensions outside the limits of this tolerance should be regarded as defective.

4. The gauges should be manufactured by ships' staffs.

**2402.—Naval Victualling and Armament Stores—Shipments to Shanghai.**

(N.S. 10610/29.—27.9.1929.)

Instances have recently occurred of stores for Shanghai having been consigned to the Sea Transport Officer or to the Naval Staff Officer. All stores for this port should be consigned to the Resident Naval Officer.

2. To enable delivery of armament stores or explosives to be taken, the Customs regulations require that a special permit be applied for through

H.M.B. Consul, and it is very desirable that when stores which are not actually explosives or weapons are consigned to Shanghai, no mention of the word gun or ammunition should appear on the Bill of Lading, as such description makes the taking delivery of the stores impossible without a permit being first obtained, *e.g.*, a gun shield might be described as a metal shield and an ammunition locker as a store locker, or simply as a locker.

### **2403.—Carbon Brushes and Transmitter Drums in Deflection Calculators (Elliott's), Patts. 9206-9215—Replacement—REPORT.**

(N.S. 8592/29.—27.9.1929.)

H.M. ships supplied with deflection calculators are to forward reports through the Administrative Authorities stating whether frequent replacements of carbon brushes and transmitter drums have been necessary, and if so, how such replacements have been met.

### **2404.—Spools for Wide Angle Cameras.**

(N.S. 8973/29.—27.9.1929.)

It has been decided that spools for use with wide angle cameras are to be held in the custody of the Superintending Naval Store Officer, Portsmouth, instead of H.M.S. "Excellent" (R.N. Photographic School). All stocks of these spools, both for Marks 1 and 2, and Mark 3, wide angle cameras, held on the charge of H.M.S. "Excellent" (R.N. Photographic School), including any out on issue, are therefore to be transferred to the Superintending Naval Store Officer, Portsmouth. As the spools are used solely for photographic purposes and their value has already been charged accordingly, the transfer should be effected without financial adjustment.

2. In order that the number of spools out on issue may be checked, each of the Services using the spools, *viz.*, H.M. Ships "Chrysanthemum" and "Snapdragon," Photographic Section, China Station and Malta Yard (reserve stock for H.M.S. "Chrysanthemum") should communicate particulars of the spools held, both full and empty, and including any in transit, to the Superintending Naval Store Officer, Portsmouth, as soon as possible after receipt of this Order.

3. The spools should be taken on charge by the Superintending Naval Store Officer, Portsmouth, as "floating plant," and a subsidiary record in which all transactions are to be recorded is to be kept. On issue, the spools are to be shown on the appropriate voucher for record purposes only and should be dealt with similarly when returned empty to Portsmouth.

4. These spools are fairly expensive, and being fragile, great care is to be exercised in packing them for transport, both on supply with film and when returned empty to Portsmouth.

5. Before any of the spools are sent by Portsmouth to contractors for filling with film, they should be inspected to ensure they are intact, H.M.S. "Excellent" being requested to carry out the examination if considered desirable.

### **2410.—Hydrophone Installations, Types 703, 704, and 705—Supply of Desiccators, Pattern 9947.**

(N.S. 9456/29.—27.9.1929.)

It has been decided to introduce a desiccator to be known as Pattern 9947, to overcome the sweating experienced on the terminal plates of moving coil submarine plate hydrophones.

2. This desiccator, supplied in a sealed metal container, consists of one yard of lamp wick impregnated with calcium chloride and then dried.



3. *Method of use.*—The carcase cover plate should be removed, all interior surfaces dried, and the lamp wick wound round the skirt of the Mark VI diaphragm. The cover plate should then be replaced.

4. These articles will be allowed, 3 for fitting and 3 spares, to all vessels fitted with moving coil hydrophone plates, and supply will be made from Portsmouth to ships concerned without demand.

5. The Establishments concerned and the Authorised List will be amended in due course.

6. It is not anticipated that the desiccators will become available before November, 1929.

### 2411.—Flotilla Type Compasses and Binnacles—Fitting.

*H.M. Ships "Cloud," "Flicker," "Halo," "Harmattan," "Horizon,"  
"Mist," "Noontide" and "Shower."*

(N.S. 10568/29.—27.9.1929.)

It has been approved for the sea-going drifters mentioned above to be fitted with a Pattern 195 "Flotilla" type compass and a Pattern 196 binnacle in replacement of the compass and binnacle at present fitted.

2. The compasses and binnacles will be supplied to the dockyards, at which the work of fitting should be carried out, from Slough, as soon as they become available, and the yards concerned should forward estimates of the cost of carrying out the work involved as soon as possible.

3. The work of fitting the compasses and binnacles should be carried out at the following dockyards as opportunity offers.

<i>H.M. Ship.</i>	<i>Dockyard.</i>
"Harmattan" ... ..	Chatham.
"Cloud" } "Flicker" } "Horizon" } "Shower" }	Portsmouth.
"Halo" } "Mist" } "Noontide" }	Devonport.

4. The question of fitting the remainder of the sea-going drifters, not at present fitted with Admiralty type compasses and binnacles, will be considered at a later date.

### 2413.—Oil Burning Ships' Navigation Lanterns—New Patterns.

(N.S. 5995/29.—27.9.1929.)

In order to comply with the latest Board of Trade regulations, it has been necessary to consider the modification of existing patterns of oil burning ships' navigation lanterns, and the following new patterns have been introduced to replace existing patterns as shown:—

- Pattern 4090 port bow lantern to replace Patterns 3724C and 23.
- Pattern 4091 starboard lantern to replace Patterns 3723C and 24.
- Pattern 4105 anchor lantern to replace Patterns 218 and 199.
- "Not-under-command" lantern to replace Pattern 198.
- Pattern 4116 masthead lantern to replace Patterns 3725A and 25A.

2. The new Pattern 4105 anchor lantern has been designed so that, by the addition of a ruby slide, it is converted into a "not-under-command" lantern. A separate pattern number will not, therefore, be allotted to the "not-under-command" lantern and it will not be shown separately in the Rate Book of Naval Stores, nor will a separate allowance of these complete lanterns appear in the Establishment of Naval Stores for Executive Purposes. Ships requiring "not-under-command" lanterns should accordingly fit a ruby slide (Pattern 4107) to Pattern 4105 anchor lanterns, the necessary work being carried out on board.

3. The new lanterns are designed to burn mineral sperm oil.

4. All vessels over 40 tons gross will, in course of time, be equipped with lanterns of the new patterns throughout. Vessels of 40 tons gross and under (except power-driven dinghies) will normally continue to be equipped with Pattern 14 combined bow oil lantern, provided the lights are in no danger of being obscured by personnel, etc. Where already fitted, separate bow lanterns may continue to be used if difficulty is experienced in selecting suitable position for the Pattern 14 combined lantern, or where the advantages to be gained would not be commensurate with the cost of the structural alteration involved. These vessels will, for the present, continue to carry Pattern 25A masthead lantern, but a smaller design of masthead lantern is under consideration for use in such vessels. A smaller type of combined bow lantern, and a smaller masthead lantern, which it is intended to introduce for power-driven dinghies only are now undergoing trials.

5. With a view to the gradual completion of ships to the new equipment, while at the same time avoiding the undue accumulation of stocks of the old type lanterns, the following procedure as regards issue is to be followed:—

Oil burning navigation lanterns in each vessel are to be considered for this purpose as being grouped as follows:—

Group I—Bow lanterns and masthead lantern.

Group II—Anchor lantern and "not-under-command" lantern.

An old type lantern in either group becoming defective is to be replaced by a serviceable old type lantern of the same pattern, if stock is available. If not available at the dockyard, the whole of the old type lanterns *in the group concerned* are to be replaced by new type lanterns. On arrival at a dockyard—or in advance if practicable—ships should accordingly forward a demand to the Superintending Naval Store Officer for replacement of the particular old type lantern which is defective, and if, owing to shortage of stock, it is proposed to issue new type lanterns for the whole of the group, the Superintending Naval Store Officer will notify the ship accordingly so that the remaining lanterns in the group can be returned, and the necessary demand for their replacement forwarded.

6. It is to be noted that the new type lanterns are designed for using oil only, and unlike the patterns they replace, cannot be used with electric interior. The lanterns to be replaced under the authority of this Order are, therefore, those which are carried for use exclusively with oil. Where lanterns of the old patterns being used with electric interior for primary lighting become defective, they are to be replaced by similar old pattern lanterns if available; otherwise the whole group should be equipped with Patterns 8023-8025, designed exclusively for electric light. Oil burning lanterns will also be carried for secondary lighting.

7. Pending the introduction of the new type lanterns, it was necessary to supply to vessels of the "Kent" class and various other new ships, oil burning bow lanterns of commercial pattern which conform to the Board of Trade requirements. These lanterns are, in all essential particulars, the equivalent of Patterns 4090 and 4091, now introduced, and the spare parts being provided for the latter are equally suitable for the commercial lanterns. These lanterns will not, therefore, require to be replaced until they become defective.

8. Delivery of the new type lanterns and spare shades is being made in the first instance to Portsmouth only. That yard should select as early as possible sealed patterns of each type and distribute them in the usual way. Copies of the approved specification should also be forwarded to other home yards. Particulars of the complete distribution of first deliveries have already been communicated to yards, and Portsmouth should arrange for the necessary quantities to be despatched as soon as satisfactorily tested.

9. Future requirements will be purchased for delivery direct to yards, and these deliveries should be closely compared with the sealed patterns, any question of suitability being referred to Portsmouth, which is the responsible yard for all navigation lanterns.

10. A further Admiralty Fleet Order will be issued as soon as the lanterns referred to in paragraph 4, which are now undergoing trials, have been standardised.

11. The instructions in A.F.O. 705/28 in regard to the introduction of improved type shades for bow lanterns are not affected by this Order.

12. The necessary amendments will be made in due course to the Establishment of Naval Stores for Executive Purposes and the allowance on pages 50-51, line 1, will be combined with that on pages 48-49, line 8.

13. The new pattern side lanterns are larger than those which they are replacing, and modifications to existing light boxes on H.M. ships will be necessary in consequence when changing over from the old pattern lanterns to the new. Proposals for effecting the necessary modifications are to be submitted by Portsmouth Yard accordingly.

(A.F.O. 705/28.)

## 2432.—Government Department's Specification for Hides and Leather (T.G.3).

(N.S. 2209/29.—27.9.1929.)

The following amendments to the Government Department's Specification No. T.G.3, for hides and leather (other than chrome leather), in so far as it relates to hides, dintle, Pattern 1240, has been approved:—

The hide, dintle, must comply as regards quality with the Government Specification, T.G.3, for leather, with the following modifications and additions:—

- (a) The leather must be specially prepared for the purpose, no grease, oil or tallow being used in its manufacture.
- (b) The finished leather must be practically free from mineral acidity when tested by the Modified Proctor-Searle method laid down in Specification, T.G.3.
- (c) The free fatty acids in the petroleum ether extract of the finished leather, calculated as per cent. KHO on the fat free leather containing 14 per cent. of moisture, must not exceed 0.2 per cent., and the total amount of fatty substances in the extract (including the free fatty acids) must not exceed 0.6 per cent. KHO similarly calculated.

2. Six hides, Pattern 1240, have been requisitioned for purchase for use as patterns, and will be delivered as follows:—

5—Admiralty Pattern Rooms.

1—Portsmouth Yard.

3. The Warship Production Superintendent, Mersey and N.W. Area, should report to the Admiralty the despatch of these items.

4. The hide for Portsmouth Yard, when delivered, should be chemically tested, as provided for in the specification, the actual percentages found compared with those permitted being given and the results reported to the Admiralty.

2440.—*Issued Confidentially.*

## 2442.—Torpedoes, 21 in., Mark IV-IV\*—Setting of V.O.N. when Running at Low Speed Setting—REPORT.

(T. 3918/29.—4.10.1929.)

Troubles have been experienced with 21 in., Mark IV-IV\*, torpedoes, due to lack of engine lubrication when running at the low speed setting if the temperature of the oil is high.

2. With a view to overcoming this defect and to obtain further data on the matter, a trial of the following routine has been approved:—

*Low Speed Setting only.*

The V.O.N. is to be set as follows:—

<i>Oil Temp.</i> °F.	<i>V.O.N.</i> <i>Setting.</i>
Above 88 ... ..	80
74-88 ... ..	70
61-74 ... ..	60
50-60 ... ..	50
44-49 ... ..	45
Below 44 ... ..	40

3. The existing instructions in O.U. 5386/28, p. 133, are to be adhered to for medium and high speed settings of torpedoes.

4. Reports are to be forwarded through the Administrative Authority if, when using the above modified routine, the oil is found to run out before the end of a full range low speed setting run.

5. No amendment to the Care and Maintenance Handbook will be made until further evidence on the subject is available.

## 2446.—*Issued Confidentially.*

## 2450.—Wandering Leads—Issue of Improved Types of Cable for Trial—REPORTS.

*Aircraft Carriers.*

(T. 459/29.—4.10.1929.)

The reports respecting wandering leads, cable, Pattern 8136, have been considered, and it has been decided to purchase sample lengths of two improved types of cable for trial purposes.

2. Type "A" design is similar to the existing Pattern 8136, with the addition of an oil proof tape to protect the tough rubber sheathing against oil, and a final braiding of phosphor bronze wires to give additional mechanical strength. The braiding will also provide for an earth connection.

3. Type "B" is similar in design to Type "A," except that the outer conductor consists of a layer of 0.0076 tinned copper wires in lieu of braiding.

4. Forty yards of each type of cable will be issued to "Eagle," "Hermes," "Argus," "Furious" and "Courageous" for fitting to hand lamps for comparative trial with each other and with Admiralty Pattern 8136.

5. A report is to be forwarded by the Commanding Officers of these ships, through the Administrative Authority, on the behaviour of the cable six months after installation.

6. To accommodate the new types of cable and to remedy the defect of the handle of the hand lamp unscrewing, the hand lamp will require to be modified as shown on E.F.O. 110/29.

7. The fitting of the cable and the modifications to the fittings are to be carried out by the ship's staff.

8. Future supplies of hand lamps will be modified as necessary.

### 2451.—Combined Twin Ring Main and Dynamo Fuse Release Switch.

*“ Kent,” “ Suffolk,” “ Cornwall,” “ Berwick ” and “ Cumberland.”*

(T. 2981/29.—4.10.1929.)

Reports have been received that the air clearance between the casting for the moving sparking contact and the cover of twin ring main and dynamo fuse release switches, shown on drawing E.F.O. 118/29, is in some cases insufficient and earthing is liable to occur, due to the rebound when the switch is put “ off ”. These switches should therefore be examined at this point, and in all cases where earthing is liable to occur micanite strips should be fitted inside the cover plate.

2. The air clearance may also, if necessary, be increased by either or both of the following methods, viz:—

- (a) Filing the casting for moving sparking contact or the cover plate at the appropriate place.
- (b) Fitting a metal wedge of suitable thickness and angle between the casting for moving sparking contact and its support, thus tilting the corner of the casting away from the cover.

3. This work should be carried out by the ship’s staff.

### 2452.—Main Batteries.

*Submarines.*

(D.—4.10.1929.)

The approved arrangements of the intercell connectors and the numbering of the cells of main batteries of submarines are not to be altered unless Admiralty approval to do so is previously obtained. If the records of the approved arrangements are not available in the dockyard or ship when the battery is about to be installed, application should be made to the Admiralty for the necessary information.

### 2453.—Dreyer Fire Control Tables—Spare Transmitter Drums.

(N.S. 6571/29.—4.10.1929.)

To avoid delay in replacing defective transmitter drums on Dreyer fire control tables, arrangements have been made to purchase 14 drums for delivery as follows:—

Chatham ...	...	11	(for distribution to Bermuda, Cape and Trincomali (2 each); Malta (4), and 1 for stock).
Portsmouth ...	...	2	} for stock.
Devonport ...	...	1	

2. The contract is dated 9.9.29; C.P.20070/29/F975, with Messrs. Elliott Brothers (London), Limited.

### 2454.—Star Shell Deflection Gear Boxes, etc.—Alteration to Evershed Transmitter Connections when the Gear Boxes are fitted.

(N.S. 4993/29.—4.10.1929.)

In order to provide for the correct bearing to be indicated from the Evershed bearing transmitters when the star shell deflection gear boxes are fitted, it is necessary to change over the positive and negative supply wires at the transmitters.

2. In the case of H.M.S. "Tiger," the starboard and port transmitters should also be exchanged as well as changing over the positive and negative connections.

(A.F.Os. 3093/28 and 2202/29.)

### **2457.—Life Belts, Board of Trade Pattern—Issue to R.F.As.**

(N.S. 9376/29.—4.10.1929.)

Life belts, Board of Trade pattern, and not the new type of life-saving jacket, should be supplied for the use of R.F.A. vessels and yard craft.

### **2459.—Accidents to Vessels belonging to the Admiralty and Registered under the Merchant Shipping Acts, i.e., Oilers, "Perthshire," "Maine" and "Bacchus."**

(N.S. Fuel/N.L. 1322/29.—4.10.1929.)

Arrangements have been made with the Board of Trade under which Receivers of Wreck will send Forms Wr. 1 (o) in duplicate to the Master of any vessel registered under the Merchant Shipping Acts and belonging to the Admiralty, and which has been involved in a casualty.

2. These forms should be completed immediately by the Master and forwarded direct as follows:—

Original.—To the Receiver of Wreck.

Duplicate.—To the Secretary of the Admiralty (N.L.).

3. The reports will be privileged communications, and in no circumstances are the actual reports or copies of them to be furnished to any persons other than as indicated in paragraph 2 above, and to the Treasury Solicitor if he applies for them.

4. These reports are to be made in addition to those usually made to the Admiralty in accordance with the King's Regulations and Admiralty Instructions and R.F.A. Instructions.

### **2460.—A.E.C. Lorries—Refit.**

(N.S.M.T. 397/29.—4.10.1929.)

Examination of A.E.C. lorries during refit has shown that in certain vehicles the spherical bearings, Part No. Z.31101, carrying the change speed shafts and the clutch and footbrake cross shafts, have become badly worn, as also have those portions of the shafts which fit into the spherical bearings.

2. It has sometimes been the practice to "sleeve" the ends of the shafts, and by this means bring them up to standard diameter. It is more economical, however, to provide spherical bearings, bored one millimetre under standard size, and in cases where the standard bearing and/or the shafts have become worn the "under-size" bearing is to be fitted.

3. The part in question is held in stock at the R.N.M.T. Depôt, Albany Street, as:—

"Spherical bearing, 1 mm. under-size. Ref. 125A," and should be demanded as required in the usual manner.

## 2468.—Text Books—Revision of Establishments.

(Sta. 6519/29.—4.10.1929.)

The establishments of text books for H.M. Fleet have been revised, and are now as shown below.

*Authorised List of Text Books.*

	Sea-going ships except Flotilla Leaders and Destroyers and shore Establishments. Complements.			Flotilla Leaders.	Destroyers.
	Over 600.	600 to 201.	200 and under.		
<b>I.—GENERAL :—</b>					
B.R. 451. Etymological Dictionary (Chambers) ...	2	1	1	1	1
452. Readers, Modern Times (McDougall) ...	2	1	1	1	1
453. Readers, Deeds that Won the Empire (Fitchett, Bell).	2	1	1	1	1
454. Readers, The White Company (Conan Doyle, Longman).	2	1	1	1	1
455. Arithmetical Notes and Examples (Stationery Office).	24	12	3	3	3
456. "The Junior Geography" with Principles of Geography (Herbertson, Clarendon Press).	6	4	—	1	—
457. The Atlas of Comparative Geography (Philip & Son).	15	10	2	9	—
458. First Course of Essay Writing (Fowler, A. & C. Black).	2	1	1	1	1
460. *Manual of Map Reading and Field Sketching (Stationery Office).	3	2	—	—	—
461. *The British Citizen (Peddie, Blackie) ...	3	2	1	—	—
462. *Growth of the British Empire (Kerr, Longman).	3	2	1	—	—
463. Wall Maps—Mercantile Map of the World (Philip & Son).	1	1	—	—	—
464. Schoolroom Map of United Kingdom, folded flat (Philip & Son).	1	1	—	—	—
465. Europe (Philip & Son) ...	1	—	—	—	—
466. Globe, terrestrial, 12 in., in case ...	1	—	—	—	—
467. Globe, terrestrial, collapsible ...	—	—	—	—	—
468. Globe, 9 in., with plain black surface ...	1	1	—	—	—
469. Blackboard Sheets, roll up ...	—	—	—	—	—
<b>II.—FOR THE USE OF SCHOOLMASTERS AND MEN PREPARING FOR THE HIGHER EDUCATIONAL TEST, HIGHER SPECIALIST RATINGS, WARRANT RANK OR MATE.</b>					
B.R. 551. School Arithmetic (Workman, Cambridge University Press).	1	1	—	1	—
552. Elementary Practical Mathematics for Technical Students (Castle, Macmillan).	6	4	1	8	—
553. Elementary Applied Mechanics (Morley and Inchley, Longman).	4	2	—	6	—

	Sea-going ships except Flotilla Leaders and Destroyers and shore Establishments. Complements.			Flotilla Leaders.	Destroyers.
	Over 600.	600 to 201.	200 and under.		
B.R. 554. Electricity and Magnetism. Part I. (Reynolds, Bell).	4	2	—	6	—
556. Four Figure Tables (Hall, Cambridge University Press).	8	4	1	8	—
557. Logarithmic and other Tables for Schools (Castle, Macmillan).	20	10	3	10	1
558. Lessons in Heat and Light (Jones, Mac- millan).	2	1	1	1	1
559. First Stage Heat Engines (Hayward, University Tutorial Press).	2	1	1	1	1
561. Ground work of British History Section III (Warner & Marten, Blackie & Son).	6	4	1	8	—
562. The British Empire (Sir Chas. Lucas, Macmillan).	6	4	1	8	—
563. Naval Side of British History (Callender, Christopher).	6	4	1	8	—
564. Geography of the British Empire (Bunt- ing & Collen, Cambridge University Press).	6	4	1	8	—
565. Physiography (Huxley & Gregory, Mac- millan).	6	4	1	8	—
566. Gateways of Commerce (Fairgrieve and Young, Philip & Son).	6	4	1	8	—

In addition, the "Admiralty Manual of Navigation," Vol. I, will be supplied in lieu of "Modern Navigation" (Hall) on copies of the latter being worn.

2. All stocks in excess of these establishments are to be returned to the R.N. Store Depôt, Royal Victoria Yard, Deptford, except that Destroyers are to transfer books not allowed to their Flotilla Leaders, where they should be retained, in charge of the Schoolmaster, if not in excess of the limit now allowed.

3. Demands for copies required to complete should be addressed to the R.N. Store Office, West India Docks, E.14.

### 2469.—School Reference Libraries.

(Sta. 1821/29.—4.10.1929.)

The school reference library, referred to in King's Regulations and Admiralty Instructions, Article 1859 (4), is supplied in a specially designed book-case, the intention being that it should be secured to a bulkhead, and the lid, when open, hitched up to a hook hanging from the deck above. The necessary fitting in place is to be carried out by the ship's staff.

2. This library is to be under the care of the schoolmaster, and should be placed in or adjoining the "school place" for the use of all ratings desiring to resort thereto.

3. The special book-case has sometimes in the past been discarded and the books stowed elsewhere. To minimise the risk of losses, it is essential that the books should always be housed in the receptacle provided for the purposes.



4. When a ship is relieved the reference library, complete in its case, is to be handed over to the relieving ship; if the ship is paid off without relief, it is to be returned to the Royal Naval Store Depôt, Deptford.

5. School reference libraries are to be accounted for in S.123 as "one school reference library (consisting of 76 volumes) in book-case," the "Harmsworth's Universal Encyclopædia" being accounted for as 12 volumes, "Admiralty Manual of Navigation, Vols. I and II," "Admiralty Manual of Seamanship, Vols. I and II," and "A Short History of the Royal Navy," as two volumes each, and the "Sea Kings of Britain" as three volumes. S.123 is to be amended accordingly.

6. Care is to be taken in the custody of the books, and the contents of the library are to be checked periodically to prevent deficiencies. The value of any book lost is to be recovered from the person responsible, and particulars forwarded to the Admiralty (Keeper of Stationery and Printing).

7. In order to facilitate the checking of the contents of the School Reference Library, the following list of the books comprising the library is promulgated for information.

A copy of the list is to be pasted inside the bookcase containing the library:—

<i>General.</i>	Volumes.
Harmsworth's Universal Encyclopædia ... ..	12
Phillip's Record Atlas ... ..	1
Twentieth Century English Dictionary ... ..	1
<i>Service Manuals.</i>	
Admiralty Manual of Navigation, Vols. I and II ... ..	2
Admiralty Manual of Seamanship, Vols. I and II ... ..	2
Admiralty Handbook of W/T ... ..	1
Electrical Manual, Vol. I ... ..	1
<i>English.</i>	
History of English Literature ... ..	1
<i>French.</i>	
New French-English and English-French Dictionary ... ..	1
Hugo's French Simplified ... ..	1
<i>History.</i>	
Outlines of European History (Grant) ... ..	1
Outlines of European History (1789-1914) (Smith) ... ..	1
A Survey of Modern History ... ..	1
Groundwork of British History ... ..	1
The British Empire ... ..	1
The Story of our Empire ... ..	1
British History of the 19th Century ... ..	1
A Short History of the Royal Navy ... ..	2
Sea Kings ... ..	3
The Royal Navy ... ..	1
The Naval Side of British History ... ..	1
Chambers's Biographical Dictionary ... ..	1
<i>Civics.</i>	
A Primer of English Citizenship ... ..	1
The British Citizen ... ..	1
Parliament ... ..	1
<i>Geography and Physiography.</i>	
The Oxford Junior Geography ... ..	1
Geography of the British Empire ... ..	1
The British Isles ... ..	1
The British Empire ... ..	1
Gateways of Commerce ... ..	1
Physiography ... ..	1
Chambers's Concise Gazetteer of the World ... ..	1

	Volumes.
<i>Mathematics.</i>	
School Arithmetic ... ..	1
Elementary Practical Mathematics for Technical Students ...	1
Logarithmic and other Tables ... ..	1
Elementary Algebra ... ..	1
Elementary Geometry ... ..	1
Elementary Plane Trigonometry ... ..	1
A First Course in Calculus ... ..	1
<i>Physics.</i>	
A Class-Book of Physics ... ..	1
<i>Mechanics.</i>	
Elementary Applied Mechanics ... ..	1
Applied Mechanics for Beginners ... ..	1
Mechanics Applied to Engineering ... ..	1
<i>Electricity and Magnetism.</i>	
Magnetism and Electricity for Beginners ... ..	1
Technical Electricity ... ..	1
Magnetism and Electricity ... ..	1
The Foundation of Alternate Current Theory ... ..	1
Wireless Telegraphy ... ..	1
<i>Chemistry.</i>	
Elementary Practical Chemistry ... ..	1
Service Chemistry ... ..	1
<i>Astronomy, Navigation, etc.</i>	
A Primer of Astronomy ... ..	1
Astronomy ... ..	1
Examples in Navigation ... ..	1
Manual of Map Reading and Field Sketching ... ..	1
<i>Engineering.</i>	
First Stage Heat Engines ... ..	1
Workshop Drawing ... ..	1
Engineers' Handbook ... ..	1
" Verbal " Notes and Sketches for Marine Engineer Officers ...	1
<i>Ship Construction.</i>	
Attwood's Warships ... ..	1
The Modern Warship ... ..	1
Total ... ..	76

### **\*2520.—Assistant Constructors Serving Afloat—Maintenance and Treatment in Hospital.**

(C.E. 5451/29.—11.10.1929.)

Assistant Constructors appointed for service at sea should, during the period of such appointment, be accorded the same rights and privileges in regard to free maintenance and treatment in hospital as Naval officers.

### **2523.—Visits to and Attendance on Naval Ratings Sick on Shore, by Surgeons and Agents.**

(M.D.G. 6685/29.—11.10.1929.)

Cases having occurred recently in which surgeons and agents have been ordered to take under their care, or visit and report on, Naval ratings sick on shore at considerable distances from the residences of the surgeons and agents, with the result that appreciable expenditure has been incurred in respect of mileage, Commanding Officers are to ensure that, in future, communications to surgeons and agents regarding men sick on shore indicate clearly that the patient should not be taken under the care of, or be visited by, the surgeon and agent if he resides more than two or five miles respectively from the surgeon and agent's residence—*vide* Article 1440, clause 3, King's Regulations and Admiralty Instructions.

**2529.—Triple Revolving, Mark I, Torpedo Tube Mountings.***Leaders and Destroyers.*

(T. 2417/29.—11.10.1929.)

A recent examination of the torpedo tube supports of H.M.S. "Keppel" was made at Malta, and the dockyard officers reported as follows:—

"On detailed examination of the structure in way of torpedo tubes, the bracket supports to pivot pedestal of forward tubes were found to be buckled, several rivets slack, and the deck showed signs of slight straining. The defect was remedied by fitting two longitudinal girders between the existing transverse girders, and replacing brackets to pedestal by stronger brackets.

"The displacement of the after pedestal was very slight and was due entirely to slight buckling of the brackets to the pedestal, there being no evidence of straining of the deck or bulkhead under. The brackets were renewed as for the forward tubes, the deck being stiffened under as necessary."

2. All leaders and destroyers equipped with triple revolving, Mark I, mountings are to include a similar item in their next list of alterations and additions, in order that the centre pivot supports may be strengthened in a similar manner.

3. Additional stiffening arrangements below deck should not interfere with the arrangements provided for lifting of machinery parts.

**2531.—Director Firing Gear—4 in. H.A., III and IV, Mountings  
—Supply and Fitting of Director Operating Gear and  
Director Receivers in Ships to be fitted with H.A.C.S.I.  
—REPORTS.**

*"Queen Elizabeth" Class, "Royal Sovereign" Class, "Hood," "Repulse," "Renown," "Tiger," "Hawkins," and "E" Class Cruisers, "Kent" and "London" Classes, "York," "Dorsetshire," "Norfolk," "Exeter," "Eagle," "Furious," "Hermes," Home Yards, Malta, Hong Kong, Bermuda, Bombay, Gunnery Schools, and R.M. Depôts, Eastney and Plymouth.*

(G. 1439/29.—11.10.1929.)

The following information is promulgated for the guidance of yards, ships, depôts, etc., in connection with the fitting of director operating gear and receivers to 4 in. H.A., III and IV, mountings in vessels to be fitted with H.A.C.S.I.

2. All 4 in. H.A., III and IV, mountings supplied to the ships and establishments referred to in this Order (except as stated in paragraph 5 (d)), and which are fitted with director operating gear, or are to be so fitted, will have director receivers of the new "C" type. This type of receiver requires a gear ratio of 12:1 between the mounting and the driving spindle of the receiver, both for elevating and training.

3. (a) 4 in. H.A., III, mountings, Registered Nos. 128–150 inclusive, have been manufactured, complete with director operating gear, but with a ratio of 21:1 for the training receiver drive. The elevation receiver drive ratio is 12:1.

(b) The manufacture of additional parts to modify the ratio of the training receiver drive on these mountings to 12:1 to suit the "C" type receivers, together with the necessary brackets to carry the new receivers, is being carried out by M.E.D., Portsmouth Yard.

(c) Mountings, Nos. 128–147 inclusive, are fitted in "Kent" Class. The next lists of alterations and additions for these vessels should include an item to complete the fitting of director operating gear, brackets, etc., and "C" type receivers to 4 in. H.A., III, mountings. Yards concerned should demand the necessary parts and receivers from M.E.D., Portsmouth Yard.

(d) Mountings, Nos. 148 and 150, will be stored at Portsmouth and Hong Kong Yards, respectively, as reserves. Arrangements will be made for fitting operating gear of 12:1 ratio for the training receivers of these mountings and further instructions issued.

4. (a) 4 in. H.A., III, mountings of registered numbers preceding No. 128, which are mounted in the ships referred to in this Order, were not fitted with director operating gear when manufactured. Sets of parts with driving gear ratios of 21:1 for training and 12:1 for elevating have been distributed to yards for fitting in the ships concerned. This work has been completed in the following ships during the last refitting periods:—

“Warspite,” “Resolution,” “Royal Sovereign,” “Hood,”  
“Emerald,” “Enterprise,” “Hermes,” “Frobisher,” “Vindictive.”

Action to complete the fitting of the modified parts to correct the ratio to 12:1 for training, together with the fitting of brackets and “C” type receivers, should be taken by the above ships, except “Hermes” (see paragraph 5 (d)), and the yards concerned in accordance with the instructions detailed at 3 (c) above for “Kent” Class. The 4 in. H.A., III, mountings in this series, which are fitted or stored in yards, gunnery schools and depôts, will eventually be completed with director operating gear to accommodate “C” type receivers. Arrangements are being made for the manufacture of the necessary parts, and further instructions will be issued.

(b) The remaining ships quoted in this Order, fitted with 4 in. H.A., III, mountings of registered numbers up to and including No. 127, have been instructed in C.A.F.O. 1580/27 to include an item in the next list of alterations and additions to cover the work of fitting director operating gear and receivers. This item will include the complete fitting of all parts necessary for the correct mounting of “C” type receivers. Yards concerned have been supplied with sets of parts of 21:1 and 12:1 ratios as stated in 4 (a) above, and the remaining parts, brackets and “C” type receivers should be demanded from M.E.D., Portsmouth Yard, as required, when ships come in hand for this work.

5. (a) “Revenge” and “Malaya.”—These ships have been fitted with the proper director operating gear and “C” type receivers during the last refitting period, and no further action is required.

(b) “Valiant” and “Hawkins.”—The fitting of director operating gear and “C” type receivers will be completed during the present refits, and no further action is required.

(c) “Frobisher.”—This vessel has three in number 4 in. H.A., III, mountings from the series 1-127, and one in number from the series 128-150. All mountings on board have director operating gear with 21:1 ratio for training receiver drive and 12:1 for elevation receiver drive. Action similar to that indicated at 3 (c) and 4 (b) above should be taken by ship’s officers and yard concerned to complete the fitting of training operating gear of the correct ratio, together with the necessary brackets and “C” type receivers.

(d) “Hermes.”—This vessel is fitted with three in number 4 in. H.A., III, mountings from the series 1-127, and operating gear with 21:1 ratio for training receiver and 12:1 for elevation receiver. It has been decided to fit “Adventure” type receivers (without corrector boxes) to the mountings in this ship, and these receivers require gear ratios of 7:1 for training receiver drive and 12:1 for elevation receiver drive. Sets of parts for the 7:1 ratio are available at Portsmouth Yard from sets manufactured at Woolwich Arsenal, and should be fitted to the mountings during the next refitting period, the present director training operating gear being dismantled and returned to M.E.D., Portsmouth Yard. The “Adventure” type receivers for “Hermes” have been delivered to M.E.D., Chatham Yard, from contractors.

The yard concerned in next refit of “Hermes” should demand the necessary further operating gear parts and receivers from Portsmouth and Chatham, respectively, and ship’s officers should insert an item in the next list of alterations and additions to cover the work of fitting the modified operating gear and receivers.

6. (a) All 4 in. H.A., IV, mountings fitted, or to be fitted or stored in the ships and establishments quoted in this Order, have been manufactured complete with director operating gear.

(b) 4 in. H.A., IV, mountings, with registered numbers in the series 1-41 inclusive, have operating gear of 21:1 ratio for training and 12:1 for elevation. Sets of additional parts to convert the training ratio to 12:1, together with the necessary brackets and "C" type receivers, are available for fitting.

Thirty-two mountings from this series are being fitted in "York," "Dorsetshire," "Norfolk," "Exeter," and "London" Class, and arrangements have been made for these mountings to be fitted complete with operating gear of the correct ratio, together with brackets and "C" type receivers, before the ships are complete. This work has been completed in "London," "Devonshire," and "Sussex."

(c) "*Tiger*," and *Devonport Yard only*.—4 in. H.A., IV, mountings, Registered Nos. 20-23 inclusive, have been delivered to Devonport Yard for fitting in "*Tiger*." These mountings are fitted with director operating gear of the ratios 21:1 for training and 12:1 for elevating. Devonport Yard officers should forward an estimate of the cost of completing these mountings with training receiver operating gear of the 12:1 ratio, together with brackets and "C" type receivers, the necessary items being demanded from Portsmouth Yard.

7. 4 in. H.A., IV, mountings of Registered Nos. 50-61 have been manufactured with director operating gear, complete to take "C" type receivers.

With regard to Nos. 51 and 52, the gear has been dismantled from these mountings, packed in boxes suitably labelled, and delivered with the mountings.

8. Sets of parts, together with the necessary drawings, are available at Portsmouth Yard for issue to other yards for fitting of gear as required.

9. It should be noted that a small adapter may be required for the driving clutch of the "C" type receiver. If these adapters are not supplied by Portsmouth, a sketch of this adapter should be forwarded by that yard with the first batch of "C" type receivers supplied to other yards on demand. The adapters should then be manufactured by the yard concerned.

10. "*Australia*" and "*Canberra*."—Separate action is being taken with the Australian Government with regard to the mountings of these vessels.

11. Reports should be forwarded by ships, through their Administrative Authorities, when the fitting of the receivers and correct operating gear has been completed.

(C.A.F.O. 1580/27.)

## 2532.—Breech Mechanisms—6 in., Mark XII-XIIA Guns— Fitting of Percussion Firing Gear, Mark III—REPORT.

(A.S. 3837/29.—11.10.1929.)

The fitting of the Mark III pattern, percussion firing gear to guns, B.L., 6 in., Mark XII-XIIA, on board H.M. ships will now be proceeded with.

2. Ships carrying Mark I\* and Mark III, 3 pdr., sub-calibre guns will have these guns modified in accordance with Instructional Print N.O.D. 2165/11 and 2165/12 respectively, copies of which have been forwarded to R.N. Armament Depôts for guidance in carrying out the work when opportunity offers. Any part required in modification should be made locally.

3. A wrench clamping nut, No. 13, has been introduced for use in lieu of the No. 2 wrench with Mark III, 3 pdr., sub-calibre guns when modified, and will be issued in the proportion of one to two or less number of Mark III guns carried.

4. Intermediate demand for the percussion firing gear and wrenches required should be forwarded by R.N. Armament Depôts.

5. Report should be rendered by Armament Supply Officers on completion of work in each ship.

(A.F.O. 1134/27.)

**2533.—Projectiles, 8 in., Target-ship Practice.**

(G. 3610/29.—11.10.1929.)

Supplies of the new design of 8 in., Mark III B, target-ship practice projectiles, fitted with a steel head, are now becoming available for issue. When sufficient are received, the use of the present design of Mark I\* B practice projectile should be restricted to reduced charge firings, and the new Mark III B projectile used for full charge firings.

2. In view of the Mark I\* B projectiles being fitted with cast iron heads, they are particularly liable to damage by rough usage or excessive use of the ejector. Any Mark I\* B projectile ejected from a gun, or which has been subjected in any way to rough usage, should not be used for firings, but should be returned to the nearest Naval Armament Supply Depot.

3. Armament Supply Officers are to mark such projectiles suitably on receipt, and return them to Woolwich for final sentence and disposal, notification of shipment being sent to Chief Superintendent of Armament Supply, Admiralty.

**2534.—Rangefinders, U.B.3 and U.B.4, and Electric Heightfinders Mounted in H.A.C.S., Mark I and Mark IC Director Towers—Temperature Covers.**

(G. 3701/29.—11.10.1929.)

In order to minimise the variation of temperature inside the above-mentioned instruments, it has been decided to fit them with metal temperature covers.

2. The work will be carried out in ships affected, by dockyards, as an approved alteration and addition.

3. Ships in commission, fitted with any of the above instruments, are to include an item in their next list of outstanding approved alterations and additions, the base length and type of instrument and mounting fitted being stated.

4. In vessels in hand or about to be taken in hand for large repair, the yards concerned are to forward estimates for the work to be done whilst the vessels are in the dockyard.

5. Drawings of covers suitable for the various instruments and mountings are being prepared at Portsmouth. Tracings will be circulated to home yards, and prints forwarded to foreign yards in due course.

**2539.—Electrical “As fitted” Drawings—Supply to Ships after Reconstruction or Large Repair.**

(D. 12749/29.—11.10.1929.)

Cases having occurred recently in which much inconvenience has been caused by the electrical “as fitted” drawings not having been supplied to ships undergoing reconstruction or large repairs until some time after re-commissioning, the attention of yard officers is directed to Home Dockyard Regulations, Article 594, Clause 9, which should be strictly complied with in future.

**2541.—Gyro Compass Equipment—Components Required during Overhaul at Dockyards and Slough—Accounting Procedure.**

(N.S. 2051/29.—11.10.1929.)

When the gyro compass equipment is removed from a vessel for overhaul at a dockyard, and it is found necessary to replace any component parts, such articles are to be obtained by demand on the Naval Store Officer, the transaction being dealt with at the dockyard as though the stores were

required to be expended for repairs done on direct charge to the vessels. The defective parts are also to be returned to the Naval Store Officer, who will dispose of them in the usual manner.

2. A similar procedure to that indicated above is already followed at Slough when the equipment is returned to that establishment for overhaul.

3. As all components of gyro compass equipment are sea stores, these items are not to be dealt with in ships' defect lists.

## 2542.—Two-Speed Destroyer Sweep—Establishment of Stores.

(N.S. 0624/28.—11.10.1929.)

The accompanying lists showing the component Naval stores and fixtures, comprising the two-speed destroyer sweep (T.S.D.S.), are promulgated for information.

2. Items of Naval stores to be supplied by shipbuilders are marked §.

3. All items of fixtures should be supplied by shipbuilders, except :—

Hook, spring, recovery, for paravanes, Patt. 8816 ... .. 2 No.  
Hook, Davey, Patt. 7805, for dropping ... .. 2 No.

Item. No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
<i>Permanent Stores.</i>						
<i>B.4.</i>						
1	8810	V cutter, complete with blades, Patt. 8814.	No.	2	8	2
1A	8814	Blades for V cutter, Patt. 8810.	Pair	1 (as spare).	1	3
1B	8813	Blades, dummy, for V cutter, Patt. 8810.	No.	2 (as spare).	2	—
2	8824	Float, twin, for T.S.D.S.	„	4 (includes 2 spare).	16	4
<i>B.8.</i>						
3	8821	Block, steel, snatch, with gunmetal sheave for paravane depressor span.	„	4§ (includes 2 spare).	—	2
<i>B.10.</i>						
6	8816	Hook, spring, recovery, for paravanes.	„	1 (as spare).	—	$\frac{1}{2}$
7	7805	Hook, Davey, for dropping pendant.	„	1 (as spare).	—	$\frac{1}{2}$
9	8815	Box, tin, for rubber buffers, Patt. 8805.	„	1	1	1
11	8818	Cutter, wire, AR-DY, complete with box.	„	1	1	$\frac{1}{2}$

Item No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
8	8806	<i>Permanent Stores— contd. B.12.</i> Sleeve, towing, starboard, complete with rubber buffer, Patt. 8805.	} No.	2 (1 port, 1 starboard, as spare).	—	$\frac{1}{4}$ (port).
8A 13	8808 8819	Do., port ... <i>Stopper, chain, for paravane towing and depressor wires, each consisting of— Chain, rigging, <math>\frac{3}{8}</math> in., length, 4 ft. Link, special, fitted one end to take shackle 1 No. Shackle, to take deck eyeplate, Patt. 2054, 1 No. Cordage, H.L., 3-strand, tarred, 2 in., for tailing, length ... 2 fms.</i>		„	2§	—
14	8831	<i>Span unit, for depressor paravane, each consisting of— Four-eyed plate, Patt. 7819 1 No. Grommet strops of <math>2\frac{1}{8}</math> in. P.V. wire, worked in opposite eyes, each grommet to be 4 ft. 3 in. in length ... 2 No. Thimbles, to be seized in eyeplate and outer ends of strops, Patt. 1916, 4 No. Extension length of <math>2\frac{1}{8}</math> in. P.V. wire, 6 ft. in length, fitted with 1 No. Thimble, Patt. 1918 (to be lined with leather) ... 1 No. Towing sleeve, Patt. 8800, fitted to outer end... 1 No. Shackles, for eyeplate and towing wire, Patt. 2155, 2 No.</i>	„	2 (includes 1 spare).	—	1



Item No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
		<i>Permanent Stores— contd. B.12—contd.</i>				
15	8832	<i>Span, cutter, each consisting of— 3 ft. 6 in. length, of 12 ton, neutral serrated towing wire of either lay, fitted with towing sleeve, Patt. 8800, at both ends.</i>	No.	4 (includes 2 spare).	—	6
16	8833	<i>Wire, T.S.D.S., paravane towing, starboard, complete, each consisting of— 300 fms. of 12 ton neutral serrated towing wire, right-hand lay, fitted one end with white metal joint and towing sleeve, Patt. 8806, other end to be fitted with a reeving eye.</i>	„	1	8	3
16A	8834	<i>Wire, T.S.D.S., paravane towing, port, complete, each consisting of— 300 fms. of 12 ton neutral serrated towing wire, left-hand lay, fitted one end with white metal joint and towing sleeve, Patt. 8808, other end to be fitted with a reeving eye.</i>	„	1	8	3
17	8827	<i>Wire, T.S.D.S., depressor towing, each consisting of— 100 fms. 2½ in. P.V. wire, fitted one end with thimble, Patt. 1918, lined with leather, other end to be whipped.</i>	„	2 (includes 1 spare).	—	1
18	8828	<i>Wire, T.S.D.S., float towing, each consisting of— 50 fms. special ¾ in. wire, fitted with thimble, Patt. 1915B, and 2 No. shackles, Patt. 2152 each end.</i>	„	6 (includes 4 spares).	32	12

Item No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
		<i>Consumable Stores.</i>				
		<i>B.10.</i>				
20	8817	Spring, steel, for hook, spring, recovery, Patt. 8816.	No.	2	—	1
20A	8822	Spring trigger, steel, for snatch block, Patt. 8821.	"	1§	1 (supplied by Admiralty)	1
21	2054	Shackle, for depressor, securing lanyard and emergency recovery gear.	"	2	—	—
22	2051	Shackle ... ..	"	1§	—	1
23	2052	Shackle ... ..	"	1§	—	1
24	2053	Shackle ... ..	"	1§	—	1
25	2152	Shackle ... ..	"	2§	—	2
26	2155	Shackle ... ..	"	1§	—	1
26A	8802	Cone, bush, for towing sleeves, Patts. 8800, 8806 and 8808.	"	2	2	2
26B	8804	Strip, locking, for towing sleeve, Patt. 8800.	"	3	3	3
26C	8803	Pin, screw, with ...	"	2	2	2
26E	8803	Nut and split pin for towing sleeves, Patts. 8800, 8806 and 8808.	"	2	2	2
26D	7849	Cone ... ..	"	12	12	12
		<i>B.4.</i>				
26F	8812	Screw, with ...	"	12	12	12
26G	8812	Nut, for V cutter, Patt. 8810.	"	12	12	12
		<i>B.12.</i>				
27	—	Metal, white ...	Lbs.	10§	—	10
		<i>E.2c.</i>				
28	8805	Buffer, india-rubber, for sleeves, towing, Patts. 8800, 8806 and 8808.	No.	7	7	7
		<i>E.3.</i>				
29	—	Staves, boathook, fir, 14 ft., for use with recovery hooks.	"	6§	—	6

Item No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
		<i>Consumable Stores— contd.</i>				
		<i>E.6.</i>				
30	67	Resin, common ...	Lbs.	3§	—	3
31	—	Oil, linseed, boiled.	Galls.	2§	—	2
		<i>E.8.</i>				
32	—	Grease, mineral ...	Lbs.	6§	—	6
		<i>E.11.</i>				
33	99	Gloves, leather, R.	No.	24§	—	24
34	100	Gloves, leather, L.	„	24§	—	24
		<i>K.</i>				
35	—	Spirit, petroleum ...	Pints	1§	—	1
36	—	Oil, mineral, vaporising.	Galls.	2§	—	2
		<i>Fixtures.</i>				
37	—	<i>Pendant for davit, each consisting of— F.S.W. rope, 1½ in., as necessary (to be of sufficient length to allow P.V. to be lowered into water and hoisted up to davit head). Thimble, Patt. 1916... 2 No. Shackle, Patt. 2052... 2 No. Shackle, Patt. 2053... 1 No. Hook, spring, recovery, for paravanes, Patt. 8816, 1 No. Hook, Davey, for dropping, Patt. 7805 ... 1 No. Wire, tripping, for Davey hook, F.S.W. rope, 1 in., as necessary, 1 No. (of sufficient length to allow the Davey hook to be tripped when P.V. is lowered to deck level).</i>	No.	2	—	—

Item No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
		<i>Fixtures—contd.</i>				
		Thimble (each end), Patt. 1915, 2 No. Shackle, Patt. 2051, 2 No.				
		Pendant, tail, 1½ in., F.S.W. rope, 10 fms., fitted with thimble, Patt. 1916, 1 No., one end.				
		Pendant, tail, 2½ in., Manilla, 10 fms., fitted with thim- ble, Patt. 652, 1 No., one end.	No.	—	—	40 fms.
38	—	Towing snatch blocks, type D.	„	2	—	—
39	—	Spare sheaves for towing snatch blocks, type D.	„	2	—	—
40	—	<i>Lashing for para- vane</i> , each consist- ing of— F.S.W. rope, 1½ in. (of sufficient length to pass through lifting eye of P.V. and allow it to be securely lashed to deck eyebolts). Fitted with thim- ble, Patt. 1916, spliced in one end, and shackle, Patt. 2052, to shackle to deck eyebolts, other end fitted with soft eye and ½ in. hemp lashing.	„	2	—	—
41	—	<i>Securing and slip- ping lanyard for depressor</i> , each consist- ing of— 2½ in. manilla rope (white), length 5 fms., fitted one end with thimble, Patt. 652, and shackle, Patt. 2053.	„	2 (includes 1 spare).	—	—
			„	—	—	5 fms.

Item No.	Patt. No.	Description.	Denom. of Quan.	Outfit.		Three Months' Maintenance Stores per Ship.
				Carried on Board.	Carried on Depôt Ship for Flotilla of Light Destroyers.	
42	—	<i>Fixtures—contd.</i> <i>Securing pendant for paravanes, each consisting of—</i>	No.	2	—	—
		<i>1½ in. manilla, 3 fms., fitted one end with thimble, Patt. 1916, and shackle, Patt. 2052.</i>	„	—	—	6 fms.
43	—	<i>Covers, canvas, painted, for winches (to be strengthened with leather on corners, protecting points, etc., as necessary).</i>	„	2	—	—
44	—	<i>Covers, canvas, for links and compressor spring boxes of paravane, each consisting of—</i> <i>Straight band of painted canvas, 5 ft. 6 in. by 4 ft., with tabled edges and ends, slots for links and hole for lifting lug, strengthened with leather, ends to be fitted with eyelets and lacings.</i>	„	2	—	—
45	—	<i>Covers, canvas, painted, for towing sleeve, Patt. 8806 (for preservation of sleeves when disconnected from paravanes). Bag, 4 in. diameter by 20 in. long, fitted with draw string at open end.</i>	„	2	—	—

**2546.—Stabilised Chloride of Lime—Containers.**

(N.S. 11531/29.—11.10.1929.)

It is necessary that stabilised chloride of lime be kept airtight, as otherwise it loses its chlorine content.

2. The standing contract, under which this material is obtained, provides for delivery in 1 lb. tins, 28 lb. canisters, and 56 lb. galvanized iron drums, all containers being airtight. The small containers are intended mainly for issues for drinking water purification, where small quantities are used at a time, and the 28 lb. canisters and 56 lb. drums for use in sterilization of water in swimming baths and for general services.

3. Home yards should obtain their requirements in the most suitable size of container for issuing, and yards abroad should distinguish, in future demands for this material, the size of containers in which required.

4. In the absence of contractors' 1 lb. airtight tins, small issues should be made in tins with push-in lids (Pattern 72, one quart size, to hold 1 lb.).

**\*2557.—Workmen's Compensation Act—Schedule of Industrial Diseases.**

(P.L. 2033/29.—11.10.1929.)

The following Home Office Order (Statutory Rules and Orders, 1929, No. 2) is promulgated for the information of all concerned.

Copies of this Admiralty Fleet Order should be posted on the notice boards.

## STATUTORY RULES AND ORDERS, 1929, No. 2.

## MASTER AND SERVANT.

## WORKMEN'S COMPENSATION.

## INDUSTRIAL DISEASES.

THE WORKMEN'S COMPENSATION (INDUSTRIAL DISEASES) CONSOLIDATION ORDER, 1929, DATED JANUARY 1, 1929, MADE BY THE SECRETARY OF STATE UNDER SECTION 43 OF THE WORKMEN'S COMPENSATION ACT, 1925 (15 & 16 GEO. 5. C. 84) CONSOLIDATING THE ORDERS OF 26TH FEBRUARY, 1918, 31ST DECEMBER, 1921, 2ND JANUARY, 1923, 16TH JANUARY, 1924, 18TH MAY, 1925, AND 30TH APRIL, 1927, WITH AMENDMENT.

In pursuance of the power conferred on me by section 43, sub-section 3, of the Workmen's Compensation Act, 1925, I hereby make the following Order:—

(1) Subject to the modifications hereinafter specified, the provisions of section 43 of the Workmen's Compensation Act, 1925, shall extend and apply to the diseases, injuries, and processes, specified in the first and second columns of the Schedule annexed to this Order, as if the said diseases and injuries were included in the first column of the Third Schedule to the Act, and (where processes are specified in the second column of the annexed Schedule) as if the said processes were set opposite in the second column of the Schedule to the Act to the diseases or injuries to which they are set opposite in the second column of the Schedule annexed hereto.

(2) A person suffering from any of the diseases described in the Schedule annexed to this Order as dermatitis produced by dust or liquids, ulceration of the skin produced by dust or liquids, and ulceration of the mucous membrane of the nose or mouth produced by dust, shall not be entitled to compensation under the provisions of the said section on account of the said disease if he is thereby disabled only for employment in the particular process in which the disease has been contracted or other processes involving risk of the said disease, unless the judge, committee or arbitrator is satisfied that the disease has been contracted through long continued exposure to dust or liquids in the industry in which he was engaged at the time of his disablement.

(3) A person suffering from cataract shall not be entitled to compensation under the provisions of the said section on account of that disease for more than six months in all, or for more than four months unless he has undergone an operation for cataract.

Provided that where the judge, committee or arbitrator is satisfied on the advice of the medical referee that an operation could not for medical reasons be performed within four months from the date of disablement, or that having undergone an operation, the worker is still disabled by the cataract after the expiration of six months from such date, compensation may be continued for such further period and subject to such conditions as the judge, committee or arbitrator may direct, without prejudice, however, to the right of review conferred by section 11 of the Act.

(4) A person suffering from writer's cramp shall not be entitled to compensation under the provisions of the said section on account of that disease for more than twelve months.

(5) A person suffering from twister's cramp shall not be entitled to compensation under the provisions of the said section on account of that disease unless he is totally disabled thereby from following the occupation of a twister, and the compensation shall cease as soon as he is able to earn at another occupation a weekly sum equal to 75 per cent. of the average weekly earnings on which the compensation has been fixed, or at the expiration of six months, whichever is the earlier.

(6) In the application of the provisions of the said section to telegraphist's cramp so far as regards a workman employed by the Postmaster-General, the Post Office Medical Officer under whose charge the workman is placed shall, if authorised to act for the purposes of the said section by the Postmaster-General, be substituted for the certifying surgeon.

(7) The Orders of the 26th February, 1918,(a) 31st December, 1921,(b) 2nd January, 1923,(c) 16th January, 1924,(d) and the 18th May, 1925,(e) made under section 8, sub-section 6, of the Workmen's Compensation Act, 1906,(f) and the Order of the 30th April, 1927,(g) made under section 43, sub-section 3, of the Workmen's Compensation Act, 1925, are hereby revoked, except as regards cases arising before the date of this Order.

(8) This Order may be cited as the Workmen's Compensation (Industrial Diseases) Consolidation Order, 1929.

*W. Joynton-Hicks,*

One of His Majesty's Principal  
Secretaries of State.

Whitehall,

1st January, 1929.

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- (a) S.R. & O. 1918 (No. 287) I, p. 516.      (b) S.R. & O. 1921 (No. 2031) p. 541.  
(c) S.R. & O. 1923 (No. 6) p. 459.      (d) S.R. & O. 1924 (No. 30) p. 647.  
(e) S.R. & O. 1925 (No. 489) p. 1057.      (f) 6 E. 7. c. 58.  
(g) S. R. & O. 1927 (No. 386) p. 737.

## Schedule.

Description of Disease or Injury.	Description of Process.
1. Arsenic poisoning or its sequelae.	Handling of arsenic or its preparations or compounds.
2. Lead poisoning or its sequelae.	Handling of lead or its preparations or compounds.
3. (a) Poisoning by benzene and its homologues, or the sequelae.	Handling benzene or any of its homologues, or any process in the manufacture or involving the use thereof.
(b) Poisoning by nitro- and amido-derivatives of benzene and its homologues (trinitrotoluene, anilin, and others), or the sequelae.	Handling any nitro- or amido-derivative of benzene or any of its homologues, or any process in the manufacture or involving the use thereof.
4. Poisoning by dinitrophenol or its sequelae.	Handling dinitrophenol, or any process in the manufacture or involving the use thereof.
5. Poisoning by nitrous fumes or its sequelae.	Any process in which nitrous fumes are evolved.
6. Dope poisoning (that is, poisoning by any substance used as or in conjunction with a solvent for acetate of cellulose) or its sequelae.	Any process in the manufacture of aircraft.
7. Poisoning by tetrachlorethane or its sequelae.	Any process in the manufacture or involving the use of tetrachlorethane.
8. Poisoning by carbon bisulphide or its sequelae.	Any process involving the use of carbon bisulphide or its preparations or compounds.
9. Poisoning by nickel carbonyl or its sequelae.	Any process in which nickel carbonyl gas is evolved.
10. Poisoning by <i>Gonioma Kamassi</i> (African boxwood) or its sequelae.	Any process in the manufacture of articles from <i>Gonioma Kamassi</i> (African boxwood).
11. Manganese poisoning.	Handling of manganese or substances containing manganese.
12. (a) Dermatitis produced by dust or liquids.	_____
(b) Ulceration of the skin produced by dust or liquids.	_____
(c) Ulceration of the mucous membrane of the nose or mouth produced by dust.	_____
13. (a) Epitheliomatous cancer or ulceration of the skin due to tar, pitch, bitumen, mineral oil or paraffin, or any compound, product or residue of any of these substances.	Handling or use of tar, pitch, bitumen, mineral oil or paraffin, or any compound, product or residue of any of these substances.
(b) Ulceration of the corneal surface of the eye, due to tar, pitch, bitumen, mineral oil or paraffin, or any compound, product or residue of any of these substances.	Handling or use of tar, pitch, bitumen, mineral oil or paraffin, or any compound, product or residue of any of these substances.
14. Chrome ulceration or its sequelae.	Any process involving the use of chromic acid or bi-chromate of ammonium, potassium, or sodium, or their preparations.



Description of Disease or Injury.	Description of Process.
15. Scrotal epithelioma (chimney-sweep's cancer).	Chimney-sweeping.
16. Compressed air illness or its sequelae.	Any process carried on in compressed air.
17. Cataract in glassworkers.	Any process in the manufacture of glass involving exposure to the glare of molten glass.
18. Cataract caused by exposure to rays from molten or red hot metal.	Any process in the manufacture of iron or steel normally involving exposure to rays from molten or red hot metal.
19. The disease known as miner's nystagmus, whether occurring in miners or others, and whether the symptom of oscillation of the eyeballs be present or not.	Mining.
20. Subcutaneous cellulitis of the hand (beat hand).	Mining.
21. Subcutaneous cellulitis or acute bursitis arising at or about the knee (beat knee).	Mining.
22. Subcutaneous cellulitis or acute bursitis over the elbow (beat elbow).	Mining
23. Inflammation of the synovial lining of the wrist joint and tendon sheaths.	Mining.
24. Glanders.	Care of any equine animal suffering from glanders; handling the carcase of such animal.
25. Telegraphist's cramp.	Use of telegraphic instruments.
26. Writer's cramp.	_____
27. Twister's cramp caused by twisting of cotton or woollen (including worsted) yarns.	_____
28. Inflammation, ulceration or malignant disease of the skin and subcutaneous tissues due to exposure to X-rays or radioactive substances.	_____

### 2561.—Motors "M" Type—Disposal of Air-tight Tins.

(N.S. 4731/29.—11.10.1929.)

When "M" type motors are supplied to firms for incorporation in instruments under manufacture, the Admiralty Overseers concerned are to arrange for the empty tins in which they are packed to be disposed of locally to the best advantage. Firms which manufacture these motors should be considered in this connection.

2. Particulars of such sales (including the amounts realised) should be reported to the Admiralty (Director of Contracts) on each occasion.

3. When a contingent account is kept, the proceeds should be debited therein. Otherwise payment should be received by cheque, made payable to the Accountant-General of the Navy and crossed Bank of England, such cheques being forwarded to the Accountant-General on receipt.

**2676.—Divers—Instruction in the Fittings of Submarines.**

(G. 5618/29.—18.10.1929.)

In order that divers may be given instruction in matters which it would be useful for them to know in the event of their being called upon to carry out work on a submarine disabled on the bottom, it has been decided that:—

- (a) Divers when qualifying or re-qualifying are to be given instruction in those fittings on the exterior of submarines of all classes which might be of use for this purpose.
- (b) Divers on stations to which submarines are attached are to be given similar instruction in the classes of submarines attached to the Fleet or Squadron.

*Note.*—Particularly favourable opportunities to impart this knowledge occur when submarines are in dry dock.

2. As regards (a), arrangements for this instruction are to be made direct, between the Captains of the Gunnery Schools at the home ports and the Senior Officer in command of submarines at each port.

3. As regards (b), Commanders-in-Chief of the stations concerned are requested to arrange for the necessary instruction to be given to all divers on the station at least once a year.

4. The fact that the divers on board have been given this instruction is to be noted in the Annual Diving Return or, if not given, the reason is to be stated.

**\*2679.—Garaging of Motor Cars and Motor Cycles in Naval Establishments—Insurance against Third Party Risks.**

(C. (III) 11137/29.—18.10.1929.)

Any person belonging to the Fleet or in Admiralty service who is permitted to garage,

(i) free of charge in buildings within the curtilage of official residences, or in garages built on a repayment basis or for which an economic rent is charged, or

(ii) by day and overnight on payment of flat rate charges, or

(iii) during working hours but not overnight (free of charge), is to be required to insure against third party risks, and the necessary steps are to be taken to ensure compliance with this Order.

**2680.—Gauging of Tubes and Clearances of Bow Caps, Bow Shutters and Stern Caps—REPORTS.***Submarines and Dockyards.*

(T. 4213.—18.10.1929.)

Submarines in full commission and immediate reserve are to have their tubes gauged on each occasion of docking, if this has not been carried out during the previous six months, and an item is to be included in the defect list for this work, the clearances being measured by the dockyard concerned.

2. Submarines building and taken in hand for refit are to have the clearances of the inter-locking gear between bow caps, bow shutters, stern caps, and the firing gear checked and adjusted to give the clearances shown below.

3. In bow tubes, the cap and shutter clearances are to be measured from the path of the air vessel of the torpedo, and not from the path of the side lug as heretofore. In "Oberon" and later submarines, the bow cap clearance is to be measured between the path of the air vessel and the wooden pads on the caps, since these protrude furthest from the hull, and the stern cap clearances are to be measured between the path of the air vessel on the torpedo and the lowest portion of the cap. The clearances should always be obtained when the shutter or cap is being opened.

4. *Clearances of Bow Caps, Bow Shutters and Stern Caps.*—(a) *Bow Tubes.*—With the bow cap and shutter fully open, the clearance is to be not less than 2 in.

(b) *Bow Tubes.*—With the bow cap and shutter in the “Just fire” position, the clearance is to be not less than  $1\frac{1}{2}$  in.

(c) *Stern Tubes.*—With the stern cap fully open the clearance is to be not less than  $3\frac{1}{8}$  in.

(d) *Stern Tubes.*—With the stern cap in the “Just fire” position, the clearance is to be not less than  $2\frac{1}{8}$  in.

5. *Clearances with Elswick Firing Gear.*—(a) In the “Just fire” position the palm on the inter-locking gear is to be just clear of the solenoid button on the firing gear.

(b) With the bow cap wide open, the clearance between the inter-locking palm and the solenoid button is to be not less than  $\frac{1}{8}$  in.

(c) The vertical clearance between the palm and the solenoid button is to be not less than 0.025 in. and not more than 0.035 in.

6. *Methods of Obtaining the Clearances.*—(a) By reversing bolts in link gear or by fitting bolts with special cheese heads. These bolts are often found to foul each other as the shutter opens, and by reversing them they will pass clear.

(b) By ensuring that “Bye Pass” lever (power to hand) is in FULL OPEN position prior to operating by hand. It has been found that this lever is sometimes strained and that the bye-pass is not fully open. This causes trapping of the telemotor oil in the power cylinder, which prevents full travel by hand being obtained.

(c) Stiffening angles of shutters sometimes foul the vertical support of horizontal division plates between apertures of upper and lower tubes. A small amount of cutting away of these angles at the forward end of the shutter will make a marked difference to the clearance at the rear end.

(d) By planing off the surface of the wooden pad on the bow cap in “X.1,” “Oberon,” “Odin,” and later submarines.

(e) By dishing the shutters. This action is only to be taken in submarines fitted with A.I.V. gear, and a sketch is to be forwarded to the Admiralty for approval before such work is put in hand.

(f) By renewing the lug on the after end of the shutter which engages with the bow cap.

7. *Inability to Obtain Clearances Laid Down.*—In submarines other than those approved to be fitted with A.I.V. gear, difficulty may be experienced in obtaining the clearances laid down in paragraph 4. In such cases a report giving the clearances obtained is to be forwarded through the Administrative Authority to the Admiralty where each case will be judged on its merits.

When fitting A.I.V. gear, however, these clearances must be obtained to enable the torpedoes to go clear.

If, when submarines of the “L” and “L.50” Classes and “K.26” are taken in hand for refit and docking, and the A.I.V. gear, to be fitted, is not available, opportunity is to be taken to obtain the two clearances required by paragraph 4, and to fit widened side and bottom strips at forward portions of torpedo tubes between the two gas check rings, as in drawing Set No. T.704, Sheet 4 (Instructions for fitting A.I.V. gear).

8. *Reports.*—On all occasions of these clearances being checked, reports are to be forwarded, through the Administrative Authority, to the Admiralty, showing the actual figures which have been obtained.

2682.—*Issued Confidentially.***2684.—Gun Mountings, 15 in., Mark I and I\*—Drencher Gear for G.L. Cages.**

“Queen Elizabeth” and “Royal Sovereign” and “Renown” Classes and Dockyards.

(G. 3594/29.—18.10.1929.)

In all ships of the classes referred to above, fitted with flashtight structures in the working chambers, a door as shown on sketch E.F.O. 120/29 is to be fitted in the casing in order that cordite drenching gear for the gun loading cage may be connected up without removing anti-flash doors.

2. The work is to be carried out by ship's staff.

3. *Dockyards only.*—When carrying out the work of fitting flashtight structures in ships not yet complete in this respect, the door shown on sketch is to be incorporated in the design.

**2686.—Practice Bombs, 8½ lbs.—Filling.**

(A.S. 2443/29.—18.10.1929.)

It has been approved that, after stocks of stannic chloride (or tin tetrachloride) have been exhausted, titanium tetrachloride shall be supplied for filling practice bombs, 8½ lb., on demand by Armament Supply Depôts, and instructions in A.F.O. 158/27 should be amplified as under:—

*Titanium Tetrachloride.*

(1) *Description and Properties.*—(i) Titanium tetrachloride ( $TiCl_4$ ) is a colourless liquid (the commercial liquid is sometimes yellow) which fumes strongly in the air. It boils at 138° C., freezes to a solid at -23° C., and has a specific gravity of 1.76.

(ii) The fumes given off in the air consist mainly of hydrochloric acid, due to the decomposition of the liquid by the moisture in the air. These fumes attack the respiratory system, causing coughing. In contact with the atmosphere or small amounts of water, titanium tetrachloride forms a pale yellow crust, thus giving a sure indication where pipes, containers, etc., are suspected of being leaky.

(iii) The pure liquid is not corrosive to a marked extent, but the commercial liquid usually employed is very corrosive, on account of the hydrochloric acid it contains. Most metals, therefore, and especially soldered joints, will be readily attacked by the commercial liquid. The material being supplied is not chemically pure and must, therefore, be regarded as coming within the category of commercial liquid.

(2) *Medical.*—A special poster (Form 174), drawing attention to the possible dangers of this material and indicating the correct first-aid treatment, is in course of preparation, and will be obtainable shortly. This poster, which should be pasted on wood and varnished over, must be hung in all places where titanium tetrachloride is stored or handled.

(3) *Handling.*—(i) Care must be exercised in all operations involving the handling of the liquid, since the fumes, though not acutely poisonous, can have very unpleasant results if breathed in quantity. All apparatus, funnels, jugs, etc., must be absolutely dry before use, and well washed with carbon tetrachloride after use. The drums should not be subjected to any risk of damage likely to impair their airtightness, and they should not be opened until the material is actually required for use. Empty drums should be washed out with carbon tetrachloride after use and immediately re-plugged.

(ii) A small quantity of water reaching the liquid may cause it to form a solid mass capable of blocking pipes or cocks completely. This may necessitate the dismantling of the whole apparatus for cleaning. Carbon tetrachloride should be used to wash out any titanium tetrachloride remaining in apparatus. It should be understood, however, that carbon tetrachloride is not a solvent for the yellow incrustation mentioned above.

(iii) As pressure may develop inside containers during storage, causing the liquid to spurt out immediately the bung is withdrawn, all persons taking any part in the opening of containers must wear gloves and protective goggles. They must continue to wear these goggles throughout the period during which they are handling unstoppered containers of titanium tetrachloride. The gas respirator, as issued, provides a reasonable amount of protection against titanium tetrachloride vapour in a confined space, but, when charging takes place in the open, this is unnecessary. For this reason, charging must take place in the open whenever possible. Clothing, boots, etc., splashed by the liquid should be well washed with water as soon as possible.

(iv) The vapour given off by carbon tetrachloride is not altogether harmless, causing nausea and severe headache in confined spaces. For this reason, cleaning should be carried out in the open whenever possible. The gas respirator, as issued, provides a reasonable amount of protection, but need not be worn when cleaning in the open.

(v) A tin containing dry earth or sand should be at hand to catch drips during charging operations, particularly in H.M. ships. Carbon tetrachloride should be used for cleaning up titanium tetrachloride spilled on deck. Water must *NOT* be used for cleaning up spilled titanium tetrachloride.

(vi) New lead washers are to be fitted if vapour is seen to be escaping past the stoppers. Faulty containers are to be emptied as soon as possible. Empty containers are to be returned to the nearest R.N. Armament Dépôt at the earliest opportunity for re-filling.

(4) *Storage.*—Titanium tetrachloride is to be kept in special type drums and stored in a semi-open building so that in the event of a spill or leak the fumes, which are extremely acrid and irritating to the lungs, can escape. If such an accident takes place in a closed building it is completely filled with smoke, and entrance should only be allowed to personnel protected by respirators. The drums are to be stored on their ends (or bases) with the plug hole uppermost. They must never be stored on their sides.

As the commercial liquid has been found to contain a certain amount of sludge, which is liable to block small piping or cocks, the drums are to be allowed to stand for some time before the liquid is drawn off.

When drums are opened the plugs are to be removed and the threads on the plugs and in the drums thoroughly cleaned by wiping with a rag damped with a little carbon tetrachloride. All threads are then to be coated with graphite before replacing the plugs, which should be screwed tight. The same procedure is to be carried out after drums have been partly emptied, and at least once a month where full or partly empty drums are retained for any length of time. This operation must be carried out as quickly as possible, in order that moist air may not enter the drum.

(5) *Goggles.*—The goggles to be used by personnel handling titanium tetrachloride are "Goggles, M.T." Care must be taken to see that they fit tightly enough round the eyes to protect the eyes from splashes. If defective, elastic should be replaced by new elastic, which will be obtained locally and supplied by Armament Supply Dépôts as required.

#### *Carbon Tetrachloride.*

Carbon tetrachloride is a colourless liquid which serves as a solvent for stannic chloride and titanium tetrachloride, both of which are used in connection with practice bombs and smoke curtain apparatus. It is also used in small fire extinguishers of the tetrachloride type. It gives off a vapour which is not altogether harmless as it causes nausea and severe headache. In confined spaces this vapour may be decidedly toxic. For this reason the liquid should not, if avoidable, be poured out or used indoors. The gas respirator and container, as issued, provides a reasonable amount of protection, but need not be worn in the open.

Carbon tetrachloride is to be stored in ordinary steel or iron drums with screw stoppers, which must always be kept tight as considerable loss will otherwise occur through evaporation.

After being used four times for washing out smoke screen apparatus, etc., carbon tetrachloride loses its efficacy, and should be returned to the nearest Armament Supply Depôt for disposal by sale, if possible, for recovery by distillation, or, if this is not possible, emptied into a "soak-away."

*Storage on Board H.M. Ships.*

Titanium tetrachloride and carbon tetrachloride embarked on board H.M. ships should be stored only on deck. The drums should not be subject to rough handling or exposed to moisture.

(A.F.O. 158/27.)

**2690.—36 in. and 18 in. Searchlights—Wiring Diagram.**

"Dorsetshire," "Norfolk," "Exeter," and later vessels, Dockyards, and Overseers concerned.

(T. 2631/29.—18.10.1929.)

With a view to reducing the amount of wiring and of small boxes now fitted to the circuits of searchlights, Drawing D.E.E. 4089 R/4 is to be worked to for "Dorsetshire," "Norfolk," "Exeter," and later vessels.

2. A copy of this drawing is issued (E.F.O. 121/29) for guidance in carrying out the work.

**2693.—E.A. Plant—Pressure Gauges.**

"Nelson," "Rodney," "London" and later class Cruisers, Torpedo Depôts and Dockyards concerned.

(G. 07016/28.—18.10.1929.)

Ordinary pressure gauges, which are carried on board, are on no account to be used with enriched air.

2. Demands from ships for gauges for this purpose are to state clearly that the gauges are required for use with enriched air, and the yards concerned are to ensure that the gauges issued are only those that have been water and *not oil* tested.

3. In no circumstances are supplies of gauges to ships for use with enriched air to be made from ordinary dockyard stocks which are oil tested, but special purchases are to be made to meet these requirements, and contractors informed that these gauges are to be tested at their works by water pressure only, and dried out immediately subsequent to testing, so as to prevent any corrosive action taking place in the internal pressure parts.

4. Arrangements are also to be made by dockyards concerned that on receipt of these gauges from the contractors, they are again to be tested by water pressure only, and dried out.

5. Pending the decision as to the adoption of a different type of pressure gauge for use in testing the pressure in torpedoes, etc. (this matter is now under consideration), two in number Pattern 2535 and one in number

Pattern 2520A gauges, water pressure tested, will be allowed to each of H.M. ships mentioned above, this allowance amending that laid down in Establishment of Naval Stores for Gunnery and Torpedo Purposes, page 10, line 13a.

6. Particular care is to be taken by H.M. ships, H.M. dockyards and establishments, having oxygen or enriched air producing plants, that if any of the gauges in use with oxygen or enriched air are at any time returned to dockyards for repairs and re-testing they are clearly labelled and marked "To be tested by water pressure only."

7. To ensure that gauges in use with enriched air should always be distinct from other gauges and easily recognisable, the backs should be painted with a light coat of vermilion paint, and a disc of similar colour,  $\frac{3}{8}$  in. in diameter painted on the face.

### 2694.—Automatic Multiple Control "Off" Switches for use with Hangar Fire Pump Motors.

*"Courageous," "Glorious," "Furious," "Eagle," "Hermes," "Argus" and Dockyards.*

(D.E.E./D. 13556/29.—18.10.1929.)

The emergency for which the hangar fire pumps are installed on the above named vessels will result in the imposition of a sudden and unexpected heavy demand for electric power from the generators connected to the ring main. To meet this demand, a sufficient margin of running power has to be available at all times.

2. To enable this margin to be reduced, arrangements have been made for the purchase of an automatic control "off" switch for each vessel concerned.

3. The design of the switch is such that when a fire pump motor switch fitted in the hangar is operated, the automatic control "off" switch is energised and opens certain selected branch breakers supplying non-essential but normal services.

4. The aggregate loading of the branch breakers opened by the automatic control "off" switch should be approximately that of the two hangar fire pump motors, to enable the generators to meet the fire pump motor demand.

5. The automatic control "off" switch should be fitted in the switchboard room and its operating circuit should be connected to the "dead" side of the most conveniently situated branch breaker controlling a hangar fire pump motor.

6. The multiple contacts should be connected in the control circuits of the selected branch breakers referred to.

7. Blue indicating lamps, Pattern 5095, are to be used with these switches.

8. Ships concerned should add an item for fitting these automatic control "off" switches to their next list of alterations and additions.

### 2696.—Rain Water Catchments in Boiler Uptakes.

(E.-in-C./D. 12338/29.—18.10.1929.)

Reports received regarding rain water catchments in boiler uptakes indicate that they are most efficient when attached directly to the uptake slopes at a high level.

2. Rain water catchments are to be fitted in the funnel uptakes of all water tube boilers in cases where they are exposed to rain water, the work being carried out as far as practicable by ships' staffs.

3. An item to cover this is to be inserted in the next list of alterations and additions for vessels concerned, the modifications to be in accordance with the guidance drawing E.F.O. 122/29.

4. The catchments consist of  $1\frac{1}{2}$  in.  $\times$   $1\frac{1}{2}$  in.  $\times$   $\frac{1}{8}$  in. angle iron, bolted to the slopes of the uptakes to which are attached  $\frac{1}{2}$  in. galvanised plate strips 4 in.-5 in. wide, holes being cut in the division plates between the uptakes of adjacent boilers to allow the guttering to pass through.

5. A 2-in. pipe is to be led from the lowest part of the guttering to the boiler room bilge. This pipe should be turned horizontally at its lower end, and fitted with a hinged light plate valve to prevent loss of air pressure.

6. In the case of boilers directly under vertical uptakes, *i.e.*, where the rain would fall directly on to the saddle plate over the steam drum, V-shaped guttering should be bolted to the saddle plate with the necessary pipe connections.

7. The reports show that it is important that the rain water catchments should be cleared of soot at frequent intervals, and the necessary steps are to be taken by Engineer Officers to ensure that the uptake plating is maintained in a state of preservation and free from accumulations of damp soot.

**2699.**—*Issued Confidentially.*

## **2702.—Minesweeping Establishment of Outfits and Maintenance Stores.**

(N.S. 4942/29.—18.10.1929.)

The various establishments of Naval Stores for Minesweeping have been revised and now include both outfit and three months' maintenance stores, and are issued herewith for general information.

2. The maintenance stores shown are for a three months' supply under war conditions for each outfit supplied to vessels actually employed on minesweeping.

3. Pattern numbers have been allocated to all standardised articles for the various outfits, the original Mark numbers being indicated in parentheses for the time being to facilitate identification. The articles in stock should be taken on charge under the pattern numbers assigned, under the subheads and items shown herein. The outfits will continue to be identified by Mark numbers as shown.

Articles marked \* are not yet standardised, and articles marked (M) are special for minesweeping.

4. The classes of vessels for which the various outfits are suitable are indicated below, but specific instructions will be issued as to the actual outfit to be supplied when the fitting up of any particular vessel is taken in hand.

*Mark I Outfit.*—Used with sloops, twin screw minesweepers and large paddle minesweepers.

*Mark II Outfit.*—Used with trawlers.

*Mark III Outfit.*—Used with drifters.

*Mark IV Outfit.*—Used with surveying vessels.

*Mark V Outfit.*—Used with picket boats, motor launches and harbour launches.

*Bottom Sweep.*—Used with trawlers.



## MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).											
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep Outfit.	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.									
8728	PERMANENT STORES. B 4. V cutter frame (Mark I), interchangeable, port and starboard (M).	No.	—	2	2	—	—	—	—	—	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	
—*	V cutter frame, new type (M)	"	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8729	Blades, 15 in., for cutter frame, Patt. 8728 (Mark I) (M).	Pairs.	—	4	4	—	—	—	—	—	—	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—
—*	Blades, for cutter frame, new type (M).	"	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8720	Frame, port, for T cutter (Mark III), port (M).	No.	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8721	Frame, starboard, for T cutter (Mark III), starboard (M).	"	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	Anchor, boat, iron stocked, 50 or 60 lb.	"	7	4	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8717	Float, elliptical / ...	"	27	18	18	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

One spare.

One pair component and one pair spare to each cutter frame.

For dan buoy moorings.

For dan buoy moorings; to be supplied only when stocks of Patt. 111 canvas buoys (E.12) are exhausted. Floats, in addition to 3 per dan, are supplied for use in deep water or strong tideway.

8712	Slings, kite, chain, for multi-plane, kite-otter (Mark I), Patt. 8711 (M).	2									2						One set spare.
8731	Slings, kite, chain, for multi-plane, kite-otter (Mark III), Patt. 8733 (M).	2	2					2				2					Do.
8759	Slings, kite, chain, for multi-plane, kite-otter, Patt. 8762 (M).			2									1				Do.
8713	Slings, otter, chain, for multi-plane, kite-otter (Mark I), Patt. 8711 (M).	3						3									Do.
8754	Slings, otter, chain, for multi-plane, kite-otter (Mark III), Patt. 8733 (M).				3									3			Do.
8760	Slings, otter, chain, for multi-plane, kite-otter, Patt. 8762 (M).					3									2		Do.
8732	Slings, chain, for otter-board (Mark IV), Patt. 8739 (M).									3	2						Do.
8768	Slings, chain, for otter-board, Patt. 8767 (M).								4								
8741	Slings, chain, for otter-board (Mark V), Patt. 8747 (M).											2					One set spare.
8718	Float (Mark II) (M) ...	2	2					3			2	2					
8742	Float (Mark III) (M) ...															3	One float spare for the Mark IV outfit.
8761	Float (M) ...																
8711	Kite, otter, multiplane (Mark I) (M).									4						2	
8733	Kite, otter, multiplane (Mark III) (M).											2		4			
8762	Kite, otter, multiplane (M)						4										
8719	Buoys, dan, steel (Mark I) ...	7	4								4						4

## MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).			
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.	
	PERMANENT STORES— <i>contd.</i> B.5.																	
7†	Reels, fitted with brakes, for S.W. hawsers.	No.	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For carrying spare kite wires, Patt. 6 may be supplied if Patt. 7 is not available.
7†	Reels, fitted with brakes, for S.W. hawsers.	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For carrying spare otter-board wires.
11†	Reels, non-purchase, fitted with brakes.	"	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	For carrying spare kite wires.
11B	Reels, non-purchase, fitted with brakes.	"	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	To take sweep wires. Brake to be specially strengthened to Drawing M.S. 1893.
9†	Reels, non-purchase, fitted with brakes.	"	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For cordage, coir.
11†	Reels, non-purchase, fitted with brakes.	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For carrying diverting wires.
10†	Reels, non-purchase, fitted with brakes.	"	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	For cordage, coir.
11A	Reels, non-purchase, fitted with brakes.	"	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	For holding sweep wires; only to be supplied to vessels not fitted with steam winches with drums for holding sweep wires.

24	Stopper, for S.W. ropes ...	2	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	For sweep and kite wires.	
25	Stopper, for S.W. ropes ...	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
—†	Strop, for picking up dan buoy, 1½ in. B.M.M.W. 1 fm. in length (M).	7	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	To be fitted in ship by ship's staff.	
—†	Strop for hanging Patt. 434A or 434B block at after gallows head, 1½ in. B.M.M.W. (M).	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	To be fitted in ship, length to be as requisite, to keep block as high as possible.	
—†	Strop, for securing slips, 1½ in. B.M.M.W. (M).	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	To be fitted in ship, length as requisite.	
—†	Span, for elliptical floats, 1½ in. B.M.M.W. (M).	7	4	4	2	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
2083B	<i>B.8.</i> Blocks, iron, snatch, to lift 2 tons, specially modified (M).	—	2	—	3	—	—	—	—	—	—	—	—	—	—	—	—	—	For use with kites, one spare for Mark IV outfit.	
2085	Blocks, iron, snatch, to lift 3 tons, specially modified (M).	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do., one spare.	
2086	Blocks, iron, snatch, to lift 1½ tons, specially modified (M).	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
8763	Blocks, iron, snatch (M) ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
434A	Blocks, iron, clump ...	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For hanging at after gallows head, to take kite or board wires.	
or																				
434B																				
—	Lamp, acetylene, for dan buoys.	4	2	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	If demanded, and electric lamp outfits (F.2) are not available.
—	Lantern, all round green ...	3	3	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	As extra to navigation lights when sweeping at night time.
—	Shades, green, spare ...	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

† These are only required when no suitable reel is available in ship.

‡ To be made up from the unfitted 1½ in. B.M.M. Wire allowed under "B.5 Consumable."

## MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).			
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep Outfit.	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.	
<b>PERMANENT STORES—contd.</b>																		
<i>B.10.</i>																		
1915	Slips, iron ...	No.	2	2	—	—	—	—	—	—	—	—	—	—	—	—	—	For securing end of "A" sweep wire.
1914	Slips, iron ...	"	2	2	2	—	—	—	—	—	—	—	—	—	—	—	—	Do.
1420	Creepers, 6 lb. ...	"	2	2	1	—	—	—	—	—	—	—	—	—	—	—	—	To grapnel for grass line and for recovering floats, and *not to be duplicated if already carried for sweeping.
1421	Creepers, 3 lb. ...	"	4	2	2	2	—	—	—	—	—	—	—	—	—	—	—	For dan buoys.
246	Sinkers, mushroom, 5 cwt. ...	"	2	2	2	1	—	—	—	—	—	—	—	—	—	—	—	For connecting float wire to float. Patt. 8758 can be converted from Patt. 647 swivel (see Drg. M.S.Sk. 1714/4).
247	Sinkers, mushroom, 1½ cwt. ...	"	7	4	4	2	—	—	—	—	—	—	—	—	—	—	—	
741	Sinkers, mushroom, ½ cwt. ...	"	7	4	4	2	—	—	—	—	—	—	—	—	—	—	—	For connecting cutter and otter-board slings.
8758	Swivel piece, ⅜ in. (M) ...	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8740	Swivel piece, ⅜ in. (M) ...	"	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	For connecting float wire to floats.
8740	Swivel piece, ⅝ in. (M) ...	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8716	Swivel piece, ½ in. (M) ...	"	3	2	—	3	—	—	—	—	—	—	—	—	—	—	—	For connecting float wire to floats.



## MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).		
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.
	PERMANENT STORES— <i>contd.</i> <i>B.12—contd.</i>																
8710A	Wires, sweep, rope, S.W., 2½ in. special for mine sweep- ing, by 100 fms. in length, eye fitted each end (M).	No.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Eyes should be spliced in long (2 ft. from crown to splice), and no thimbles used.
8710B	Do., 250 fms. (M) ...	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
8750	Do., 150 fms. (M) ...	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Eye should be spliced, not to exceed 12 in. from crown to end of splice.
8723R	Wires, sweep, rope, S.W., 2½ in., serrated, by 750 fms. in length, eye fitted each end, R.H. lay (M).	"	2	—	—	—	—	—	—	—	—	—	—	—	—	—	No thimbles, parcelling or serving.
8723L	Do., L.H. lay (M) ...	"	2	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
8743R	Wires, sweep, rope, S.W., 1½ in., serrated, by 500 fms. in length, eye fitted each end, R.H. lay (M).	"	—	—	1	—	—	—	—	—	—	—	—	—	—	—	370 fms. only required for vessels without steam winches. Eye should be spliced short and must not exceed 9 in. from crown to end of splice.
8743L	Do., L.H. lay (M) ...	"	—	—	1	—	—	—	—	—	—	—	—	—	—	—	No thimbles, parcelling or serving. Do.

8755E	Wires, sweep, rope, S.W., 1½ in. B.M.M.W. by 450 fms. in length, eye fitted each end, R.H. lay (M).	3	—	—	—	—	—	—	—	2	—	—	—	—	One component, two spares.
8755L	Do., L.H. lay (M) ...	3	—	—	—	—	—	—	—	2	—	—	—	Do.	
8764E	Wires, sweep, rope, ¾ in. B.M.M.W. by 300 fms. in length, eye fitted each end, R.H. lay (M).	—	—	—	—	—	—	—	—	—	—	—	—	Eye should be spliced so as to be able to pass over a 1½ in. diameter rod with little clearance and should not exceed 8 in. from crown to end of splice. No thimbles, parcelling or serving.	
8764L	Do., L.H. lay (M) ...	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
8769R	Wires, diverging, rope, S.W., 1½ in. B.M.M.W. by 30 fms. in length, eye fitted one end, R.H. lay (M).	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
8769L	Wires, diverging, rope, S.W., 1½ in. B.M.M.W. by 30 fms. in length, eye fitted one end, L.H. lay (M).	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
8700	Wires, kite, rope, S.W., 2½ in. special for minesweeping, by 100 fms. in length, eye fitted each end (M).	—	—	—	—	—	—	—	—	—	—	—	—	No thimbles, parcelling or serving. Wires to be marked in accordance with M.S.Sk. 1700/3.	
8736	Wires, kite, rope, S.W., 1½ in. B.M.M.W. by 100 fms. in length, eye fitted each end (M).	—	—	—	—	—	—	—	—	—	—	—	—	Do.	
8756	Wires, kite, rope, S.W., 1½ in. extra special flexible, by 100 fms. in length, eye fitted each end (M).	—	—	—	—	—	—	—	—	—	—	—	—	Do.	



## MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).			
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.	
8765	PERMANENT STORES— <i>contd.</i> B.12— <i>contd.</i> Wires, kite, rope, S.W., 1½ in. B.M.M.W. by 40 fms. in length, eye fitted each end (M).	No.	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	No thimbles, parcelling or serving. Wires to be marked in accordance with M.S.Sk. 1700/3.
8724	Kite, pendant, rope, S.W., 2½ in. special for minesweeping, by 6 ft. in length, eye fitted each end (M).	"	2	—	—	—	—	—	—	—	—	—	—	—	—	—	1	Splices to be parcellled and served, length as demanded.
Or 8724A	7½ ft. in length, eye fitted each end (M).	"	Or 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do., for vessels having widely spaced fairleads (e.g., H.M.S. "Dahlia").
8737	Pendant, rope, S.W., 1½ in. B.M.M.W. by 5 ft. in length, eye fitted each end (M).	"	—	6	4	4	—	—	—	—	—	—	—	—	—	—	1	Splices to be parcellled and served; for kite pendants and/or for hanging fisherman's blocks on quarter for keeping sweeping wires clear of propeller. Pendants 6 ft. or 5 ft. long of 2½ in. wire may be supplied in lieu for Mark II outfits until stocks are exhausted.

8766	Kite, pendant, rope, S.W., $\frac{3}{4}$ in. B.M.M.W. by 3 ft. in length, eye fitted each end (M).																			Splices to be parcelled and served.
8751	Otter-board spans, rope, S.W., $2\frac{1}{2}$ in. special for minesweeping, by 2 ft. in length, made in form of a strop (M).																			For connecting fisherman's block to bottom board.
8704C	Wires, float, rope, S.W., $1\frac{1}{4}$ in. B.M.M.W., eye fitted each end:—																			No thimbles, parcelling or serving. Any length to a fathom from 4 fathoms may be obtained by using one or more lengths, any joins being made with shackles. To be marked with bunting, colours as in column 2.
8704B	2 fms. in length (Red) (M).	2	2																	
8704A	4 fms. in length (White) (M)	2	2																	
8704D	5 fms. in length (Blue) (M) ..	2	2																	
8704E	8 fms. in length (Yellow) (M)	2	2																	
8704F	10 fms. in length (Leather mark) (M).	2	2																	
8704G	15 fms. in length (Green) (M)	2	2																	
8704C	20 fms. in length (Red and White) (M).	2	2																	
8745A	Wires, float, rope, $\frac{3}{4}$ in. S.W., extra special flexible, or $\frac{3}{8}$ in. B.M.M.W., eye fitted each end:—																			No thimbles, parcelling or serving, any length to a fathom from 4 fathoms may be obtained by using one or more lengths, any joins being made with shackles. To be marked with bunting, colours as in column 2.
8745B	2 fms. in length (Red) (M) ..	2	2																	
8745C	4 fms. in length (White) (M)	2	2																	
8745D	5 fms. in length (Blue) (M)...	2	2																	
8745E	8 fms. in length (Yellow) (M)	2	2																	
8745F	10 fathoms in length (Leather mark) (M).	2	2																	
8726A	15 fms. in length (Green) (M)	2	2																	
8726B	Moorings for dan buoys, rope, S.W., $1\frac{1}{2}$ in., B.M.M.W., fitted with Patt. 1916 thimbles each end:—																			1 in. F.S.W. rope moorings may be supplied in lieu until stocks are exhausted.
8726C	50 fms. in length (M) ...	9	6	3																
8726C	5 fms. in length (M) ...	7	4	2																
8726C	2 fms. in length (M) ...	7	4	2																

MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).		
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep Outfit.	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.
	<b>PERMANENT STORES—contd.</b> <i>B.12—contd.</i>	No.															
8702A	Strop, double, rope, S.W., 1½ in. B.M.M.W., fitted with ¾ in. cable joining shackle one end, by 3 ft. in length (M)	"	2	—	—	—	—	—	—	—	—	—	—	—	—	—	For attaching to small eye at end of sweep wire when using it for "A" sweep. See Drg. M.S.Sk. 1704/5 for Patt. 8702A; Drawing M.S.Sk. 1713/5 for Patt. 8746.
8746	Strop, single, rope, S.W., 1½ in. B.M.M.W., fitted with ¾ in. cable joining shackle one end, by 2 ft. in length (M).	"	—	2	2	—	—	—	2	—	1	—	—	1	—	—	
8738	Hook, rope, 2 in. F.S.W., fitted with eye, and Patt. 2097A spring hook, one end by 30 fms. in length (M).	"	—	2	2	—	—	—	—	—	—	—	—	—	—	—	For heaving sweep wires to quarter to place them in fisherman's blocks.
8727	<i>Fitted Chains.</i> Chain, rigging, ¾ in., fitted with ¼ in. special link each end, by 2 fms. in length (M).	"	4	4	4	2	—	—	4	—	2	1	—	2	—	—	
8727A	Do., 1 fm. in length (M)	"	10	—	—	—	—	—	—	—	—	—	—	—	—	—	For permanent dan buoy moorings. For hanging "A" sweep wire along ship's side. To be fitted with rope tails, as necessary, in vessels.



MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).		
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep Outfit.	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.
<b>CONSUMABLE STORES.</b>																	
<i>B.5.</i>																	
718	Wire, seizing, $\frac{3}{8}$ in. ...	Fms. No.	15	15	15	15	15	15	15	15	15	15	15	15	15	15	For mousing shackles, etc.
	Grips, Bulldog, for S.W. ropes	"	6	6	6	6	6	6	6	6	6	6	6	6	6	6	For turning in eyes of sweep and kite wires, etc.
719	Grips, Bulldog, for S.W. ropes	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
720	Grips, Bulldog, for S.W. ropes	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
723	Grips, Bulldog, for S.W. ropes	"	6	6	6	6	6	6	6	6	6	6	6	6	6	6	Do.
724	Grips, Bulldog, for S.W. ropes	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
726	Grips, Bulldog, for S.W. ropes	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
—	Wire, rope, S.W., $1\frac{1}{4}$ in., B.M.M.W. (7 tons B.S.), R. or L.H. lay, by 100 fms. length.	Coils.	1	1	1	2	6	6	—	—	—	—	—	—	—	—	For making up strops and spans and for replacements of float wires, pendants, etc., made with this wire.
<i>B.10. Proof Test.</i>																	
2051	Shackles, bow, with bolt to screw.	No.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting float wire to board and swivel, 12 component, 4 spare.
2051	Shackles, bow, with bolt to screw.	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For swivel and float wires, 10 component, 2 spare.

2052	Shackles, bow, with bolt to screw.	1½	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	For connecting swivel to otter-board and swivel to cutter frame, 8 component and 4 spares. For stoppers, Patt. 25.
2052	Shackles, bow, with bolt to screw.	1½	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For kite pendant, 1 component, 1 spare.
2052	Shackles, bow, with bolt to screw.	1½	"	"	—	2	—	—	—	—	—	—	—	—	—	—	—	—	2	For connecting float, swivel and float lines to otter. Do.
2052	Shackles, bow, with bolt to screw.	1½	"	"	—	—	14	—	—	—	—	—	—	—	—	—	—	—	—	For dan buoy moorings, Patt. 2003 shackles may be supplied in lieu until stocks are reduced.
2053	Shackles, bow, with bolt to screw.	2	"	"	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting float, swivel and float wire to otter.
2053	Shackles, bow, with bolt to screw.	2	"	"	66	42	21	—	—	—	—	—	—	—	—	—	—	—	—	For connecting kite wire to kite, and kite pendant to kite, 2 spare.
2053	Shackles, bow, with bolt to screw.	2	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting kite wire and kite pendant to kite, also otter slings to sweep wire, 2 spare.
2054	Shackles, bow, with bolt to screw.	2½	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For stoppers, Patt. 24.
2054	Shackles, bow, with bolt to screw.	2½	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting swivel to otter-board, 1 spare.
2054	Shackles, bow, with bolt to screw.	2½	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Do.
2055	Shackles, bow, with bolt to screw.	4	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting kite pendant to kite, 1 spare.
2055	Shackles, bow, with bolt to screw.	4	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For joining two halves of sweep, 5 spares.
2055	Shackles, bow, with bolt to screw.	4	"	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).			
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep Outfit.	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.	
	<b>CONSUMABLE STORES—contd.</b> <i>Proof Test.</i>																	
	<i>B.10—contd.</i>																	
2055	Shackles, bow, with bolt to screw.	No.	—	8	4	—	—	—	—	—	—	—	—	—	—	—	—	For fisherman's blocks and pendants.
2055	Shackles, bow, with bolt to screw.	"	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	For clump block at after gallows head.
2056	Shackles, bow, with bolt to screw.	"	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting kite wire to kite, 2 spares.
2056	Shackles, bow, with bolt to screw.	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting board wire to board, 1 spare.
2151	Shackles, straight, with bolt to screw.	"	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	For connecting kite pendant to snatch block.
2152	Shackles, straight, with bolt to screw.	"	—	—	—	—	—	—	4	—	—	—	—	—	—	—	—	For connecting other slings to cutter frames, 2 spares.
2153	Shackles, straight, with bolt to screw.	"	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	Spare, only for vessels supplied with otter-board slings having double-ended bottle screws in each leg.
2153	Shackles, straight, with bolt to screw.	"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	For connecting kite wire to kite slings, 1 spare.

2153	Shackles, straight, 2½" with bolt to screw.	"	8	4	4	8	—	—	—	2	2	—	—	—	For attaching Davey or recovery hooks to hoisting whip or tackle, 1 component and 1 spare for each Davey hook carried.	
2154	Shackles, straight, 4" with bolt to screw.	"	—	—	2	—	—	—	—	—	—	—	—	For chain hangers along ship's side, to hold up sweep wire.		
2003	Shackles, bow, iron round, bolt and forelock.	"	10	—	—	—	—	—	—	—	—	—	—	3 component, 9 spare.		
8753	Links, split, ¾ in. (M)	"	18	12	6	12	12	—	12	12	6	—	24	For dan buoy float strops and 4 spare for moorings.		
1916	Thimbles, iron ...	"	18	12	6	12	12	—	12	12	6	—	12	For dan buoy moorings.		
8757	Clips, Inglefield, special (M)	Sets.	18	12	12	6	—	—	—	—	—	—	—	For dan buoy moorings.		
—	Bunting, red, broad ...	Yards.	14	8	8	4	—	8	—	12	8	4	—	For flags for dan buoys and for Oropesa floats. (See paragraph 11 regarding utilisation of dan buoy flags in lieu.)		
—	Cordage, coir, H.L., 5 in., 113 fms. per coil.	Coils.	1	—	—	—	—	—	—	2	—	—	—	To be fitted with 2 in No. special 1 in. F.S.W. strops and Inglefield clips at each end. To Drg. M.S.Sk. 1701/13.		
—	Cordage, coir, H.L., 4 in., 113 fms. per coil.	"	—	1	1	—	—	1	—	—	1	—	1		For hangers, etc.	
—	Cordage, H.L., tarred, 1½ in., 113 fms. per coil.	"	2	2	2	—	—	2	—	1	1	—	1			If acetylene lamps are supplied for dan buoys.
—	Lines, fishing, albicore ...	Hank.	—	—	—	—	—	—	—	—	—	1	—			
—	Calcium carbide ...	Lbs.	336	224	224	—	224	—	—	224	224	224	224			



## MINESWEEPING OUTFIT AND MAINTENANCE STORES.

Patt. No.	Description.	Denomination of Quantity.	Outfit Stores.						Maintenance Stores.						Remarks (primarily for Outfit Stores).		
			Mark I Outfit.	Mark II Outfit.	Mark III Outfit.	Mark IV Outfit.	Mark V Outfit.	Bottom Sweep Outfit.	Trawler Bow Defence Outfit.	Mark I Sweep.	Mark II Sweep.	Mark III Sweep.	Mark IV Sweep.	Mark V Sweep.		Bottom Sweep.	Trawler Bow Defence.
	CONSUMABLE STORES— <i>contd.</i>																
	<i>E.11.</i>																
104	Gloves, leather ...	Pairs.	12	12	12	12	6	12	—	—	36	24	12	12	24	—	
	<i>E.12.</i>																
297	Buoys, anchor, barricoes, 8-gall.	No.	4	2	2	—	—	—	2	—	2	1	1	—	1	—	For buoying end of grass line when used for passing sweep.
111	Buoys, canvas (fisherman's buff).	"	21	12	12	6	—	12	—	—	12	12	6	—	12	—	To be supplied until stocks are exhausted.
80	Pump, for boxing pads ...	"	1	1	1	—	—	—	1	—	—	—	—	—	—	—	To be supplied only if buoys, canvas, are supplied.
	<i>Naval Armament Stores.</i>																
—	Recorder, depth, sweeps, Mark III (M).	"	—	—	—	2	—	—	—	—	—	—	—	—	—	—	For checking depths of sweeps.*

—	Body, T cutter, Mark III, port (M).	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40
—	Body, T cutter, Mark III, starboard (M).	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40
—	Head, T cutter, Mark III (M)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80
—	Screws, shearing, $\frac{3}{8}$ in., B.S.F. or $\frac{7}{8}$ in., Whit., as necessary to suit body (M).	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	160
—	Washers, grover (M)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	160
—	Boxes, stowage, to take 10 in No. assembled cutters (M).	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8

The assembled T cutter heads and bodies complete with screws and washers will be supplied by depôt in the 4 in No. stowage boxes ready for use.

\* These instruments are at present only held on charge of T.E.O., Portsmouth.

ESTABLISHMENT OF STORES FOR MINE DESTRUCTOR NET SWEEP,  
MARK III.

Patt. No.	Description.	Denom. of Qty.	1st Outfit.	Spare.	Remarks.
	<i>Naval Stores.</i>				
	<i>B.4.</i>				
	Elliptical floats ... ..	-	-	-	See Wing nets.
	<i>B.5.</i>				
	Wire, seizing, $\frac{3}{8}$ in. ...	Fms.	30	Nil.	For mousing shackles and for re-seizing the eye of Patt. 1207 cable.
	<i>B.7.</i>				
	Earth plate, with one end of Patt. 600 cable, 8 fms. long, sweated on to it.	No.	1	Nil.	Copper plate, 8 in. square, of 14 gauge copper.
	<i>B.10.</i>				
2053	Shackles, iron, with bolt to screw.	"	2	} 8	For joining float sets to towing wires.
2053	Do., do.	"	2		For joining Brailling tail to Brail wire and to eye of Patt. 1207 cable.
2053	Do., do.	"	1		For joining eye of Patt. 1207 cable to slip.
2052	Do., do.	"	8		For joining float nets to centre spars.
2052	Do., do.	"	7		For suspending Patt. 1207 cable to towing wire.
	Special slip for centre net...	"	1	1	—
	Iron rings for centre net...	"	-	-	See Brail wires.
	<i>B.11.</i>				
468	*Pliers, side cutting ...	Pair.	1	Nil.	—
	<i>B.12.</i>				
	<i>Fitted Wires.</i>				
	Towing wires, rope, S.W., $1\frac{1}{4}$ in. B.M.M.W. or $1\frac{1}{2}$ in. flexible, 225 fms. in length, eye fitted each end.	No.	1	Nil.	For use in "B" ship.
	Do., fitted with wire puddings worked into wire every 25 fms.	"	1	Nil.	For use in "A" ship.
	Jackstay, rope, S.W., flexible, $\frac{3}{4}$ in., eye fitted each end, 8 fms. in length.	"	1	4	For centre net jack stay. No thimbles, parcelling or serving.

Patt. No.	Description.	Denom. of Qty.	1st Outfit.	Spare.	Remarks.
	<i>Naval Stores—contd.</i>				
	<i>B.12—contd.</i>				
	<i>Brail wire</i> , rope, S.W., flexible, $\frac{5}{8}$ in. or $\frac{3}{4}$ in., rove through rings, 5 in No., and each end spliced into similar rings. Number of rings used, 7.	No.	1	4	For centre net Brail wires, the rings are to be stopped to the centre net with spun yarn in positions shown in drawings, when rigging the sweep ready for streaming.
	<i>Tail wire</i> , rope, S.W., $1\frac{1}{2}$ in. B.M.M.W., or $1\frac{1}{2}$ in. flexible, eye fitted each end, 1 fm. in length.	„	1	4	For attaching Patt. 1207 cable to Brail wires.
	<i>Wing nets</i> , $121\frac{1}{2}$ ft. by 5 ft., composed of $1\frac{1}{4}$ in. and $\frac{3}{4}$ in. F.S.W., fitted with elliptical floats, 60 in No.	„	2	Nil.	Nets made and fitted according to drawings.
	<i>D.5.</i>				
	<i>Centre nets</i> , made of hemp, rope, tarred, 1 in. or $\frac{3}{4}$ in., with cable, Patt. 600, stopped to top of net, as shown in drawings.	„	1	39	Nets made and fitted according to drawings, 1 in. rope preferable if available.
	Spun yarn, 2-yarn ...	Lbs.	56	Nil.	For seizing Brail wire rings to centre nets.
	Do., 3-yarn ...	„	56	Nil.	To hang wing nets and floats along ship's side, also centre nets and spars when rigging gear.
	<i>E.2.</i>				
345	*Tape, I.R....	„	$\frac{1}{2}$	Nil.	} For joining the Patt. 1207 cable, Patt. 600 cable and detonator, and for insulating the ends of cables.
249	*Solution, I.R.	Tube.	1	Nil.	
258	*Tubing, I.R.	Yard.	1	Nil.	
	<i>E.4.</i>				
452	Torpedo work box ...	No.	1	Nil.	—
	<i>E.12.</i>				
	Centre spar, fitted with clamps having eyes, iron shoe, and stave floats, 4 in No.	„	2	4	Spars to be made, fitted and rigged according to the drawings.
	Wing spar, fitted with iron shoe and stave floats, 4 in number.	„	2	Nil.	Spars to be made and fitted according to drawings.
	Wood spar, for $16\frac{1}{2}$ lbs. charge, 4 ft. by $2\frac{1}{4}$ in.	„	1	39	For securing charges in net.

Patt. No.	Description.	Denom. of Qty.	1st Outfit.	Spare.	Remarks.
	<i>Naval Stores—contd.</i>				
	<i>F.1.</i>				
1207	Cable, electric, armoured, 500 yards long, eye fitted one end, with Patt. 1917 thimble, secured by two parts of cable being parcelled and then seized with wire, sufficient end being left out to enable joins to be made to Patt. 600 cables.	No.	1	1	—
600	Cable, electric, for centre nets, 16 yards per net.	—	—	—	See centre nets.
600	Cable, electric, for earth plate.	Yards.	16	—	See earth plate.
733	*Cable, electric ... ..	„	1	Nil.	For joining up cells.
	<i>F.2.</i>				
58	*Cells, inert ... ..	No.	10	Nil.	—
1223	*Battery, test ... ..	„	1	„	—
161	*Firing key, Mark IV ...	„	1	„	—
	<i>Naval Armament Stores.</i>				
	16½ tins, wet G.C. ... ..	„	40	„	For 40 nets.
	2½ tins, dry G.C. ... ..	„	40	„	Do.
	Detonators, No. 9 ... ..	Tins.	2	„	1 tin cylinder, containing 25 No. ; 1 tin cylinder, containing 15 No.
	Bungs for 2½ lb. tins ...	No.	40	„	—
	*T. spanner ... ..	„	1	„	—

*Note.*—Items marked \* to be contained in torpedo work box.

5. The General Purpose Stores, together with the necessary spares for both general and special stores, are included in the quantities for each outfit.

6. The Marks I, II and III outfits comprise all the stores necessary for operating with the "A" sweep or the two legs of the Oropesa sweep.

7. The Marks IV and V outfits comprise all the stores necessary for operating the two legs of Oropesa sweep. In picket boats and other vessels, where the sweeping gear is not normally carried on board, only gear necessary for the sweep about to be used should be embarked, together with a minimum number of spares. When boats are being detached for a lengthy period of sweeping, arrangements must be made for all the spare gear to be available.

8. The allowances for the bottom sweep are for one set of sweep per ship, each supplying half the gear when sweeping.

Where a vessel is supplied with either a Mark I, II or III outfit, and also a set of bottom sweep, articles common to each are not to be duplicated.

9. As new designs of Naval Stores are standardised, arrangements should be made for prints to be distributed from Portsmouth to other Yards and representatives of Dominion Governments; requests, etc., regarding these drawings should be made to the Superintendent of Mine Design, H.M.S. "Vernon," Portsmouth. Drawing, etc., for the Armament Stores for the Mark V outfits will be distributed to those concerned, through the Chief Superintendent of Armament Supply.

10.  $2\frac{1}{8}$  in. serrated sweep wire has been standardised for Mark I outfits, but the following descriptions of steel wire rope should be utilised in lieu until stocks are reduced :—

For "A" sweeping— $2\frac{1}{8}$ in. steel wire rope, special for minesweeping, and $2\frac{3}{8}$ in. serrated sweep wire rope.	} 2 coils per outfit.	} Right-hand lay sweep wires to be supplied or maintained to the full allowance of both lays together.
For "O" sweeping— $1\frac{7}{8}$ in. serrated sweep wire rope.		

These types of sweep wires are to be used by all vessels for practice purposes, the short life and consequent loss of efficiency being accepted.  $2\frac{1}{8}$  in. sweep wire of either lay and  $1\frac{7}{8}$  in. and  $1\frac{1}{8}$  in. in left-hand lay are not to be issued without prior Admiralty authority.

The stocks of  $1\frac{7}{8}$  in. serrated steel wire rope in lengths of 500 fathoms should be supplied for Mark II outfits in lieu of 750-fathom lengths until stocks of the 500-fathom lengths are exhausted.

11. Stocks of the undermentioned flags for dan buoys are to be utilised in their present condition for minesweeping, and should be issued in lieu of red bunting allowed by establishment for making up flags. One flag is to be considered as the equivalent of 1 yard of bunting, and the different pattern flags may be issued indiscriminately :—

- Red (No. 1).
- Black (No. 2).
- Black and red horizontal (No. 3).
- Black with red fly (No. 4).
- Red with black fly (No. 5).
- Black and red diagonal (No. 6).
- Red and black diagonal (No. 7).

These flags should also be held as available to complete the reserve minesweeping outfits and three months' maintenance stores in lieu of the equivalent quantity of bunting.

12. The establishment of Naval and Ordnance Stores for one outfit of mine destructor net sweep, Mark III, for use with one pair of ships is also herewith.

Certain modifications to this establishment were suggested after the last occasions on which this sweep was used (*i.e.*, during mine clearing operations after the late war), and these modifications have been put on record in "Vernon" for use if and when required.

(*A.F.Os. 3019/29 and 3066/29.*)

## 2704.—Forms D.786B and S.194—Amendment.

(S. 10089/29.—18.10.1929.)

Forms D.786B, Certificate of Test of Anchors, etc., and S.194, Report of Survey on Chain Cables, etc., are to be amended as follows :—

- (a) "K.R. and A.I., Article 1963," is to be added to the instructions on both forms.
- (b) Lines 1 and 2 on page 2 of S.194 are to be *amended to read*:—  
"—Survey on the Chain Cables, Steel Wire Hawasers, Rigging Screws, Eyeplates, etc., etc."

## 2708.—Correspondence between Ships and Admiralty Departments—Procedure.

(C.E. 6933/28.—18.10.1929.)

Commanding Officers and Accountant Officers of H.M. ships and Naval establishments should transmit, in duplicate, correspondence addressed to the Accountant-General, the Director of Stores, or the Director of

Victualling, except when the communication is purely formal and no further correspondence on the subject is to be anticipated.

2. This system will also be adopted in the case of corresponding communications from the departments mentioned.

### 2710.—Royal Fleet Auxiliaries—Cash Advances to Masters.

(N.S. Fuel. 3757/29.—18.10.1929.)

*Advances by Yards and Depôts abroad, and H.M. Ships abroad.*—Particulars of each advance of cash made at any yard or depôt abroad, or by one of H.M. ships abroad to the Master of a Royal Fleet Auxiliary (including any advance to a Master of an oiler, under commercial management), should be *telegraphed* by the Paying Officer at once to the Admiralty.

2. Attention is drawn to Article 43 of the Regulations and Instructions for Registered R.F.As. Authority should be sought by telegram before payment of an advance, if any doubt as to its necessity exists.

3. *Advances by Home Yards and Depôts and H.M. Ships in Home Waters.*—Advances made to Masters from any home yard or depôt or by H.M. ships in home waters should be reported immediately by the Paying Officer *by letter* addressed to the A.G. of the Navy, and in the case of all R.F.A. *oilers* a duplicate of this letter is to be sent to the Director of Stores. So far as home yards and depôts and H.M. ships in home waters are concerned, this direction supersedes that given under the heading "Advances of Cash," in paragraph 2 of A.F.O. 438/29, to the effect that advances made to R.F.A. oilers should be reported *by telegram*.

4. It should be noted that cash advances by home yards or depôts, or by H.M. ships in home waters are not to be made to Masters of oilers running under "commercial management," without the prior authority of the Accountant General of the Navy.

5. This Order is not applicable to the R.F.A. "Maine."

(A.F.O. 438/29.)

### 2713.—Dimensioning of Schedule Drawings of Electrical Apparatus—Procedure.

(D. 7494/29.—18.10.1929.)

With a view to a common practice being observed in regard to the method of dimensioning schedule drawings of electrical apparatus, the procedure outlined hereinafter is to be adopted in the preparation of new schedule drawings, and is to be applied as far as possible when revisions are being made to schedule drawings already issued.

2. *Cylindrical Fits.*—The recommendations of B.E.S.A. Report 164/24 are to be applied to fits required in cylindrical mating surfaces. On the detailed drawings of both the hole and the shaft, the nominal size is to be shown with the symbol recommended in the report for the class of fit required. The term, as instances, "limit U," "limit R," being used for individual items, and the term, as instance, "fit UR," being used on the assembled views of the parts.

For electrical gear, the unilateral system is to be adopted, and the "U" sizes of hole generally employed, the required degree of fit being obtained by varying the size of the shaft.

Important fits to ensure interchangeability, such as for plugs and sockets, are to be dimensioned in a similar manner with the additional note, "To suit Admiralty Gauge No. (      )."

3. *Threads*.—Standard threads are to be dimensioned by nominal sizes both on the male and female, as instance:— $\frac{3}{4}$  in. B.S.F.

In many cases Admiralty reference gauges are available for these threads, and in such cases should be quoted, but in future, where standard threads are employed, gauges are unnecessary, most manufacturers' workshops being equipped with suitable gauges.

Special threads are to be dimensioned, as instance:—"Screws, 20 T.P.I. Whit., 0.8 in. diameter over thread." Admiralty reference gauges are to be provided, and referred to if either or both parts are liable to renewal.

Threaded bushes are to be dimensioned as above with the note:—

"To be a tight fit in Item (      )."

Square section and similar fits are to be dimensioned with the nominal size, and a note describing, in general terms, the class of fit required, thus:—

" $\frac{3}{4}$  in. square. Tight push fit in/on Item (      )."

### \*2721.—Welfare Conferences, 1928.

(D. 13799/29.—25.10.1929.)

The following decisions have been given, viz. :—

Class Requests—Group V (Electrical and Ordnance Artificers) :—

#### *Decisions.*

No. 7.—That a small type of locker be provided near the bathrooms in H.M. ships for the stowage of working suits and boots of E.R. and O.As.

It is approved to fit small lockers near the bathrooms for the use of O.As., similar to those provided for E.R.As., for the stowage of working suits and boots in "Queen Elizabeth," "Royal Sovereign" and "Iron Duke" classes, and battle cruisers, and also in the "London," "Dorsetshire," "C," "D," "E," and "Frobisher" class cruisers and aircraft carriers.

Class Requests—Group VI (Shipwrights, Joiners, Coopers, Plumbers, Painters and Blacksmiths) :—

No. 5.—That a power-driven grindstone be supplied in all ships over 3,000 tons for the use of Artisan Branch.

In new construction the machine tools provided include a power-driven grindstone, and are for the co-ordinated use of all departments. It is also intended that this principle should apply in existing ships, including aircraft carriers, and arrangements should be made accordingly at the discretion of the Commanding Officer. Approval has been given to fit a second power-driven grindstone in "Queen Elizabeth" and "Royal Sovereign" classes, and battle cruisers except "Hood."

2724. }  
2726. } *Issued Confidentially.*  
2727. }



## 2728.—H.A.C.S., I—Fuze Setting Receivers, Patterns 9802, 9803 and 9804—Tests, etc.

*Ships Fitted or to be Fitted.*

(T. 4008/29.—25.10.1929.)

The following instructions are issued for general information, both as to the tests to be carried out at the maker's works, and also as to the results to be obtained when the gear is erected in the ships, (i), (ii) and (iii) referring particularly to tests carried out at the maker's works :—

- (i) The catch wheels and catches of the Patts. 9803 and 9804 must be so disposed that the catches engage properly on the 3-line energisation steps ; there are two steps per tooth of the catch wheels.
- (ii) With the M and P release magnets of the Patts. 9803 and 9804 receivers energised, all these receivers must give identical readings and corresponding stop positions when operated off the same transmitter, each dial indication corresponding to a 3-line energisation step of the transmitter.
- (iii) As many receivers as convenient should be connected up in parallel to an " M " type transmitter fitted with a pointer indicating the 3-line energisations (6 per rev.), and two provided M and P for energising the corresponding release magnets.

### *Tests :—*

- (iv) Operate the 9802 receivers from stop to stop and return to zero ; then operate pushes M and P and the 9803 and 9804 receivers should return to zero.
- (v) Operate the transmitter and pushes in the order stated below and see that the correct results are obtained, taking care to see that the transmitter is always left on a 3-line energisation step, after transmitting. The 9803 and 9804 pointers must move to the positions stated on pressing the P push and must stop on that indication until the P push is pressed again.

1.	2.	3.
<i>Operation.</i>	<i>Result on 9802.</i>	<i>Result on 9803 and 9804.</i>
Transmit 1	... Pointer moves to 1	... No result.
Push M ...	... No result	... Internal click.
Transmit 2	... Pointer moves to 2	... No result.
Push P ...	... No result	... Pointer moves to 1.
Push M ...	... No result	... Internal click.
Transmit 3	... Pointer moves to 3	... No result.
Push P ...	... No result	... Pointer moves to 2.
Push M ...	... No result	... Internal click.
Transmit 4	... Pointer moves to 4	... No result.
Push P ...	... No result	... Pointer moves to 3.
Push M ...	... No result	... Internal click.

*Etc., etc.*

The numbers indicate the order of the readings set on the 9802 receiver, not necessarily the actual readings. On pushing M and P simultaneously, the 9803 and 9804 pointers must line up with the 9802.

- (vi) The above results should be obtained with 15 volts at the supply terminals of the transmitter and the release magnet circuit.

*Note.*—The above sequence of operations corresponds to the working of the gear in the complete installation when the release magnets are operated from the fuze and firing interval clock, push M corresponding to the predict lamp contact and push P corresponding to the last part of the gong lamp contact period under conditions of double overlap, *i.e.*, maximum dead time and maximum rounds per minute.

**2730.—1 in. and .303 in. Aiming Rifles — Revised Allowances.**

(G. 17017/28.—25.10.1929.)

The present allowances of 1 in. and .303 in. aiming rifles to H.M. ships have recently been under review, and it has been decided that the revised allowances are to be as follows :—

**ALLOWANCE OF AIMING RIFLES AND AMMUNITION.**

Nature of Gun.	Aiming Rifle.	Allowance Proposed.	Annual Allowance of Ammunition.
<b>FULLY COMMISSIONED SHIPS.</b>			
Turret guns fitted with gun sights.	1 in. .303 in.	Nil. 2 per ship : For 15 in. and below.	Nil. 200 rounds per aiming rifle.
Hand-worked guns supplied with 2 or 3 pdr. sub-calibres.	1 in.          .303 in.	Battleships : 3 per ship for 6 in.  Battle cruisers : 3 per ship for 5.5 in. ; 3 per ship for 4 in. (L.A.). 8 in. cruisers : 2 per ship for 4 in. (H.A.). 7.5 and 6 in. cruisers : 3 per ship for main armament. Aircraft carriers : 3 per ship for main armament. Leaders and destroyers : 1 per parent gun. 2 per ship.	200 rounds per aiming rifle. 200 rounds per aiming rifle. 200 rounds per aiming rifle. 200 rounds per aiming rifle. 200 rounds per aiming rifle. 200 rounds per aiming rifle. 200 rounds per aiming rifle.
Hand-worked guns not supplied with 2 or 3 pdr. sub-calibres.	1 in. .303 in.	1 per parent gun. 2 per ship.	500 rounds per parent gun. 200 rounds per gun.

**SEA-GOING GUNNERY FIRING SHIP, GUNNERY AND TORPEDO SCHOOL CRUISER,  
3 DESTROYERS USED FOR GUNNERY SCHOOL FIRINGS.**

No change from present allowance.

The above allowances apply to all classes of ships, including new construction, except where otherwise stated.

2. All ships whose present allowances of aiming rifles are over and above those stated are to surrender the surplus rifles to the local Armament Depôt, and sighting appliances to dockyard, at the next convenient opportunity.

2733. }  
2734. } *Issued Confidentially.*

**2735.—Multicore Flexible Cables leading into Director Towers, etc.—Effect of Twist on Life of Cable, also Allowance of Slack Cable for Leads into H.A. Director.**

(T. 3058/29.—25.10.1929.)

Trials have been carried out to ascertain the effect of twist on the life of multicore cables, and to determine the amount of slack cable required for twisting, with particular reference to the conditions the cables leading into H.A.C.S.I. Director Towers would be called upon to withstand (*i.e.* 360° in either direction). The following conclusions have been reached:—

- (i) Cables with cores laid in opposite directions will not withstand the severe twisting conditions imposed.
- (ii) Cables to the revised specification, rubber filled, with cores laid in the same direction, have withstood 30,000 cycles of twisting on a length of 8 ft. without breakdown. For 28-core cable Pattern 9646A, a length of slack of 2½ in. is desirable on a cable length of 8 ft.

**2736.—Electromegaphone Communications between Engine, Boiler and Dynamo Rooms—“Call-up” Arrangements.**

*“Kent” Class.*

(T. 3368/29.—25.10.1929.)

Call-up relays, etc., are to be fitted in the above-mentioned ships for the following electromegaphone lines:—

- (a) Forward engine room starting platform to after boiler room.
- (b) Forward engine room starting platform to forward boiler room.
- (c) Forward engine room starting platform to after engine room starting platform.
- (d) Forward dynamo room to forward engine room dynamos (lines (a), (b) and (d) are already fitted in H.M.S. “Kent”).

2. The method of fitting and wiring the apparatus is indicated in the Drawing D.T.M. 134/28, Section (B), copies of which have been sent separately to the ships concerned.

3. The apparatus, purchase of which is being arranged, should be demanded and fitted by the ships' staffs.

(A.F.O. 2906/29.)

**2737.—Issued Confidentially.**

**2739.—Wire Gongs, N.7, and Control Lamp Boxes for H.A.C.S.I.**

*“Nelson,” “Kent” and “London” Classes.*

(N.S. 10209/29.—25.10.1929.)

Wire gongs, N.7, and control lamp boxes will be required, consequent upon the fitting of H.A.C.S.I. in the above ships.

2. Purchase has been arranged for delivery as follows:—

Wire gongs, N.7: Chatham 9—“ Kent ” and “ London ” Classes.  
Portsmouth 2—“ Nelson ” and “ Rodney.”

Control lamp boxes: Chatham 10—“ Kent ” Class (2 per ship).

3. The contracts are dated 25th September, 1929, and 2nd October, 1929, C.P. 20978/29 and C.P. 19313/29, with Messrs Evershed & Vignoles, Ltd., and Messrs. A. Graham & Co., Ltd., respectively.

4. The wire gongs for “ London ” Class should be supplied to the ships, on receipt, for fitting by ships' staffs in lieu of Type N.6 gongs, but the remaining gongs and control lamp boxes should be retained until H.A.C.S.I. is fitted.

### **2743.—Paravane Equipment in Mercantile Vessels (Bow Protection).**

(N.S. 5069/29.—25.10.1929.)

The following lists show the component Naval stores and fixtures required to equip oilers and other vessels of a mercantile character with protector paravanes. (The lists are arranged so as to show, for each of the four methods of towing, the component equipment required.)

2. For ships of speed up to 16 knots, paravanes “ M,” Mark III, 4 in No. will be supplied, fitted with inhaul wires and bridles; for ships of speed above 16 knots, paravanes of type to suit speed, 4 in No. will be supplied, fitted with dropping and recovery gear.

3. Generally, columns 5 and 6 will apply to ships of over 16 knots, and columns 7 and 8 to the slower vessels, but individual cases must be dealt with according to conditions and circumstances when fitting out the vessel, *e.g.*, it is possible for a ship of speed below 16 knots to be fitted as per column 5 or 6 (and supplied with “ M,” Mark III paravanes), in which case inhaul wires and bridles will be required (as per columns 7 and 8) in lieu of the dropping and recovery gear shown.

4. Where Admiralty pattern blocks or other fittings are not available, suitable mercantile pattern gear may be used, provided it is subjected to the same test as the Admiralty pattern gear which it is intended to replace.

5. Those stores and fixtures with pattern numbers will be supplied by the Admiralty, the remainder being supplied either by the Contractor, Shipbuilder, or the Admiralty, according to circumstances at the time of fitting.

## PROTECTOR PARAVANES—MERCHANT SHIPS.

## ESTABLISHMENT OF NAVAL STORES AND FIXTURES.

Item.	Patt. No.	Description.	Denom. of Quan.	Type of Towing Arrangements.				Remarks.
				Planing Shoe.	Towing Chains.	D.N.C. Boom.	Saddle Plate (Emergency fitting only).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		PERMANENT STORES.						
		<i>B.5.</i>						
1	23	Stoppers, steel wire, carpenters'	No.	-	-	1	1	For uphaul.
2	24	Stoppers, steel wire, carpenters'	No.	-	-	2	2	For inhaul wires. To be fitted with special wedges for 1½ in. wire.
		<i>B.8.</i>						
3	7845	Fairlead ...	No.	1	-	1	-	For uphaul and controlling
4	2085	Block, iron, snatch ...	No.	†	-	2	2	guy for boom, etc.
5	2083B	Block, iron, snatch ...	No.	†	†	†	†	For leads from cranes and winches, etc.
		<i>B.10.</i>						
6	7853	Stopper, Blake's, 1½ in., modified for 1 in. cable or chain, and fitted with flush shackle.	No.	1	4	-	-	Where possible to fit.
7	7809	Plate, 3-eyed, for endless whip ...	No.	-	2	-	-	
8	7810	Plate, 3-eyed, with slip for preventer chain ...	No.	1	-	-	-	
9	7857	Eyeplate for inboard end of preventer chain ...	No.	1	-	-	-	
10	7854	Eyeplate, for Patt. 7853, modified stopper ...	No.	1	4	-	-	

11	7806	Hook, easing out	...	...	...	No.	3	3	3	Includes 1 spare.
12	235	Cleats, stamped steel, 12½ in.	...	...	...	No.	4	4	4	For crane or derrick guys.
13	233	Cleats, stamped steel, 10 in.	...	...	...	No.	2	2	2	For tripping lines of easing out hooks.
14	—	Eyeplates, steel, stamped, 1 in.	...	...	...	No.	†	†	†	For leading blocks and carpenters' stoppers, etc., as necessary.
15	—	Eyeplates, steel, stamped, ¼ in.	...	...	...	No.	20	22	22	For inhaul wires, crane guy tackles and for lashing paravanes.
16	—	Towing wires	...	...	...	No.	8	8	8	Length of towing wires to be either 20, 22½, 25 or 28 fms. dependent on size of ship.
		Each consisting of :—								
		Rope, flex., S.W. special, 2¼ in.	...	...	...					
		Towing sleeve for paravanes	7859	As necessary						
		Thimble	1918	1						
		Shackle	2156	1						
		CONSUMABLE STORES.								
1	—	Rope, S.W., flex., 1¼ in.	...	...	...	Fms.	30	30	30	For lashing paravanes.
2	7802	Pins, screw, with nut and split pin for towing sleeves	...	...	...	No.	2	2	2	
3	—	Pins, split, ¼ in. N.B. for towing sleeve pins	...	...	...	No.	48	48	48	
4	7803	Strips, locking, for towing sleeves	...	...	...	No.	2	2	2	
5	2053	Shackles	...	...	...	No.	—	—	—	
6	2155	Shackles	...	...	...	No.	—	—	—	
7	2156	Shackles	...	...	...	No.	—	—	—	
8	55A	Slip, iron, with screw	...	...	...	No.	—	—	—	For carpenters' stoppers, etc. For Patt. 55A slips. For backhaul, securing boom, preventer wire, etc.

† As necessary.

## PROTECTOR PARAVANES—MERCHANT SHIPS—continued.

Item.	Pat. No.	Description.	Denom. of Quan.	Type of Towing Arrangements.				Remarks.
				Planing Shoe.	Towing Chains.	D.N.C. Boom.	Saddle Plate (Emergency fitting only).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9	7826	CONSUMABLE STORES—continued. B.12. Wires, inhaul (Pat. 7826), fitted complete, each supplied fitted with 3 in No. bulldog grips, Pat. 721.	No.	-	-	4	4	Includes 2 spare.
1	-	FIXTURES. Dropping gear for paravanes ... Pat. No. ... Each consisting of :— Rope, S.W., flex., 1½ in. ... — As necessary Thimbles ... 1916 2 Shackle ... 2052 1 Hooks, Davey ... 7805 1 Blocks, M.C.I. ... 425A 1 Blocks, M.C.I. (for dropping pendant and tripping wire of Davey hook) ... 414 1 Tackle, 1 in No., consisting of :— Blocks, M.C.I., double ... 414 2 Cordage, H.L.T., 2 in. ... — As necessary Tripping wire for hook, Davey, 1 in No., consisting of :— Rope, S.W., flex., 1½ in. ... — As necessary	Sets.	2	2	-	-	-

					Sets.				
2	—	Thimble ... ..	1916	1					
		Recovery gear for paravanes ... ..	...	...					
		Each set consisting of:—	<i>Patt. No.</i>	<i>Quan.</i>					
		Rope, S.W., flex., 2 in. ... ..	—	60 fms.					
		Thimble ... ..	1916	1					
		Shackle ... ..	2154	1					
		Hook, spring ... ..	7807	1					
		Blocks, iron, snatch ... ..	2083B	As					
3	—	Stem extension ... ..	...	necessary	No.	1	1*	1*	See Admiralty sketch. * If necessary. Merchant ship pattern.
4	—	Planing shoe, complete ... ..	...	...	No.	1	—	—	
5	—	Chain preventer for planing shoe ... ..	...	...	No.	1	—	—	
		Consisting of:—							
		Inboard length—1 in No.							
		Consisting of:—	<i>Patt. No.</i>	<i>Quan.</i>					
		End link (inboard end) ... ..	Spl.	1					
		Shackle ... ..	2158	1					
		Drop links (outboard end) to take 1 in. shackle.	Spl.	4					
		Chain, rigging, 1 in. ... ..	—	As					
		Shackle, joining, 1 in. (outboard end).	—	necessary					
		Outboard length—1 in No.							
		Consisting of:—							
		End link (inboard end) to take slip, Senhouse, 1 in No.	Spl.	1					
		Chain, rigging, 1 in. ... ..	—	As					
		End link (outboard end) ... ..	Spl.	1					
		Link, pear-shaped ... ..	Spl.	1					
		Chain, rigging, 1 in. ... ..	—	As					
		End link ... ..	Spl.	1					
		Shackle, joining, 1 in. ... ..	—	necessary					



PROTECTOR PARAVANES—MERCHANT SHIPS—continued.

Item.	Patt. No.	Description.	Denom. of Quan.	Type of Towing Arrangements.				Remarks.
				Planing Shoe.	Towing Chains.	D.N.C. Boom.	Saddle Plate (Emergency fitting only).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		<b>FIXTURES—continued.</b>						
		Chain preventer for planing shoe—continued.						
		Side slings for planing shoe— 2 in No.						
		Each consisting of :—						
		Shackle ...			Patt. No.	Quan.		
		Long links, $\frac{1}{2}$ in. ...			2154	1		
		Chain, rigging, $\frac{1}{4}$ in. ...			—	2		
					As necessary			
		Shackle ...			2154	1		
		Bow chains ...			...	...		
		Each consisting of :—			Patt. No.	Quan.		
		1 in. chain cable, fitted with end link.			—	As necessary		
		Shackles, joining, 1 in. ...			—	8		
		Swivelling tow connection ...			7813	1		
		Tailing wires for bow chains ...			...	...		
		Each consisting of :—			Patt. No.	Quan.		
		Rope, flex., S.W., $3\frac{1}{4}$ in. ...			—	As necessary		
		Shackle ...			7800	1		
		Thimble ...			1920	1		
6	—		No.	—	2	—	—	Lengths of chain to be tested separately before being made up with the swivelling tow connection or joining shackles.
7	—		No.	—	4	—	—	Suitable leading blocks to be supplied if necessary. Where possible, an endless whip system to be fitted in lieu.

8	Boom, complete Consisting of:—	...	...	...	No.	-	-	-	-
	Tube, steel, 20, 23 and/or 26 ft. (exact length to be cut at ship).	...	...	Pat. No. ... Quan. 1	1	-	-	-	-
	Gooseneck, complete, with bolt, nut and split pin.	...	...	1	1	-	-	-	-
	Cone trunnion, complete, with screwed stud, washers, nut and split pin.	...	...	1	1	-	-	-	-
	Trunnion socket	...	...	1	1	-	-	-	-
	Forged steel extension	...	...	1	1	-	-	-	-
	Clip for boom extension, com- plete, with bolts and nuts.	...	...	1	1	-	-	-	-
	Band for control guy, com- plete, with link, bolt, nut, washers and split pin.	...	...	1	1	-	-	-	-
	Towing band on extension	...	...	1	1	-	-	-	-
	Eyeplate, 1 in., for backhaul	...	...	1	1	-	-	-	-
	Topping lift for boom ... Consisting of:—	...	...	Pat. No. ... Quan. As	1	-	-	-	-
	Rope, S.W., flex., 3 in.	...	...	As necessary	1	-	-	-	-
	Thimble ...	...	...	1922	1	-	-	-	-
	Shackle ...	...	...	2080	1	-	-	-	-
	Control guy for boom ... Consisting of:—	...	...	Pat. No. ... Quan. As	1	-	-	-	-
	Rope, S.W., flex., 2½ in.	...	...	As necessary	1	-	-	-	-
	Thimble ...	...	...	1918	1	-	-	-	-
Shackle ...	...	...	2156	1	-	-	-	-	
Block, M.C.I. ...	...	...	493A	1	-	-	-	-	
Shackle for band on boom ...	...	...	2160 or 1944A	1	-	-	-	-	
9	Topping lift for boom ...	...	...	No.	-	-	-	-	
	Consisting of:—	...	...	1	-	-	-	-	
	Rope, S.W., flex., 3 in.	...	...	1	-	-	-	-	
10	Control guy for boom ...	...	...	No.	-	-	-	-	
	Consisting of:—	...	...	1	-	-	-	-	
	Rope, S.W., flex., 2½ in.	...	...	1	-	-	-	-	

## PROTECTOR PARAVANES—MERCHANT SHIPS—continued.

Item.	Patt. No.	Description.	Denom. of Quan.	Type of Towing Arrangements.				Remarks.
				Planing Shoe.	Towing Chains.	D.N.C. Boom.	Saddle Plate (Emergency fitting only).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11	—	Chain, rigging, $\frac{3}{8}$ in., fitted with end links to take slips, Patt. 55A.	No.	—	—	1	—	For securing boom in housing position. Length as found necessary.
12	—	Saddle plate, 9, 12, 15 or 18 ft. according to size of ship.	No.	—	—	—	1	Fitted with wood chocks, eyeplates and shackles, as per Admiralty drawing.
13	—	Cathead ... ..	No.	—	—	—	1	To Admiralty drawing.
14	—	Preventer for saddle plate ... .. Consisting of:— Rope, S.W., flex., 3 in. ... .. As necessary	No.	—	—	—	2	
15	—	Thimbles ... .. Rubbing pieces for spring pipes ... .. 1919	No.	2	—	1	2	Fitted as necessary for back-hauls.
16	—	Stowing chocks, fitted with angle iron brackets	No.	8	8	8	8	For stowing paravanes.
17	—	Housing chock ... ..	No.	—	—	1	—	For securing boom in housing position.
18	—	Trolleys, transporting ... ..	No.	2	2	2	2	If required.
19	—	Fairlead, double (Portsmouth pattern)	No.	—	2	—	—	For towing chain.
20	—	Fairlead, Type A (Vickers pattern)	No.	—	—	1	—	For topping lift.
21	—	Type B " " "	No.	—	—	1	—	For topping lift.
22	—	Type E " " "	No.	2	—	—	1	If required for backhaul.

23	Wires, easing out Each consisting of :— Rope, S.W., flex., 2 in. Thimble Shackle	...	...	...	...	...	...	3	3	3	3	Includes 1 spare.
24	Tripping wires, for hooks, easing out Each consisting of :— Rope, S.W., flex., 1½ in. Thimble Shackle	...	...	...	...	...	...	3	3	3	3	Includes 1 spare.
25	Bridles for paravanes Each consisting of :— Rope, S.W., flex., 1½ in. Thimbles Bulldog grip Shackles	...	...	...	...	...	...	—	4	4	4	For tripping paravanes, including 2 spares.
26	Wires, backhaul, for planing shoe Each consisting of :— Rope, S.W., flex., 2½ in. Thimble Shackle	...	...	...	...	...	...	2	—	—	—	Working backhauls may be fitted in lieu.
27	Wires, backhaul, for D.N.C. boom Consisting of :— Rope, S.W., flex., 3 in. Thimbles Shackles Iron links, 6 in. by ½ in. Leading block (if necessary)	...	...	...	...	...	...	—	1	—	—	
	Tackle, consisting of :— Block, I.I.B., double, 8 in. Block, I.I.B., double, 8 in. Shackles Cordage, H.L.T., 2½ in.	...	...	...	...	...	...	—	—	—	—	

PROTECTOR PARAVANES—MERCHANT SHIPS—continued.

Item.	Patt. No.	Description.	Denom. of Quan.	Type of Towing Arrangements.				Remarks.
				Planing Shoe.	Towing Chains.	D.N.C. Boom.	Saddle Plate (Emergency fitting only).	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
28	—	<p><i>FIXTURES—continued.</i></p> <p>Wires, backhaul, for saddle plate Each consisting of :— Upper backhaul—1 in No. Consisting of :— Rope, S.W., flex., 3 in. ... — As necessary Thimbles ... 1919 2 Shackle ... 2054 1 Iron link, 7 in. by 2½ in. (inside) by 1½ in. ... — 1 Lower backhaul—1 in No. Consisting of :— Rope, S.W., flex., 3 in. ... — As necessary Thimbles ... 1919 2 Shackle ... 2054 1 Chain, rigging, ¾ in., with ends fitted to take shackle, Patt. 2156. ... 5 ft. Shackle ... 2156 1 Connecting pendant—1 in No. Consisting of :— Rope, S.W., flex., 2 in. ... — As necessary</p>	No.	—	—	—	2	.



**2744.—W/T and A/S Stores Lent by Signal School, Portsmouth, or H.M.S. "Osprey" to H.M. Ships, etc., for Experimental Purposes—Accounting.**

(N.S. 11967/29.—25.10.1929.)

When W/T or A/S stores are lent to ships by the Signal School, Portsmouth, or H.M.S. "Osprey" for experimental purposes, transfer notes (Forms S.549) in duplicate will be forwarded to the ships at the same time as the stores. One copy is to be receipted and returned to the consignor and the other retained in the ship as a supporting voucher to the Naval Store Account.

2. Should it be necessary to transfer the stores to another ship during the course of the experiments, the same procedure as regards transfer notes is to be followed, except that particulars of the source from which the stores were obtained in the first instance are invariably to be indicated on the transfer notes, and a copy of the voucher forwarded immediately by the ship transferring the stores, to the Signal School or H.M.S. "Osprey," as the case may be. A similar course is to be followed in any subsequent transfers, care being taken that the source of supply in the first instance, *i.e.*, Signal School or H.M.S. "Osprey," is quoted on the voucher and that a copy of the transfer voucher is forwarded to the Establishment concerned.

3. On completion of the experiment the stores are to be returned *direct* to the Establishment from which they were first lent, *i.e.*, the Signal School, Portsmouth, or H.M.S. "Osprey," Portland. They are not in any circumstances to be returned to H.M. dockyards on Form S.331.

**2745.—Issued Confidentially.**

**2747.—Compass Equipment—Addition.**

*Sea-going Drifters.*

(N.S. 12779/29.—25.10.1929.)

Sea-going drifters fitted, or to be fitted, with Pattern 195 compasses and Pattern 196 binnacles, require the following spheres and magnets for use therewith:—

Pattern 405, spheres	...	...	...	...	...	1 pair.
,, 101, magnets	...	...	...	...	...	15 No.
,, 102, ,,	...	...	...	...	...	6 No.

2. Supply of the above-mentioned spheres and magnets will be made to the drifters referred to in A.F.O. 2411/29 at the same time as the compasses and binnacles.

3. The revised allowances referred to above and in A.F.O. 2411/29 should be noted in the Establishment of Naval Stores for Drifters.

(A.F.O. 2411/29.)

**2749.—Chernikeef Logs—Spring Contacts for Impeller.**

*"Odin" Class Submarines.*

(N.S. 10299/29.—25.10.1929.)

In view of the liability of the springs of the impeller of a Chernikeef Log breaking whilst in service, arrangements have been made for one of the following units to be supplied to each of the "Odin" class submarines, to be carried as spare, and supply will be made from Chatham, without demand, in due course:—

Spring contact for impeller of Chernikeef Log, *i.e.*, the complete component consisting of a bakelite block carrying the two contact springs, complete in a suitable box.

2. Two of the units referred to will be sent to Hong Kong, to be retained as spares for replacements, as may be necessary, when the "Odin" class submarines arrive on the station. A supplementary demand to replenish stock should be forwarded whenever stock is depleted by issues.

3. *Chatham only*.—An order, C.P.21519/29/F.1053, dated 8th October, 1929, has been placed with Messrs. The Electric Submerged Log Co., Ltd., for 8 No. of the units, and the amount for liability should be taken as £8, Vote 8/II/E.5.

### 2755.—Ball and Roller Bearings and Steel Balls—Fresh Standing Contracts.

(C.P. 21693/29/K.304.—25.10.1929.)

The existing Standing Contracts for Standard Rigid Ball Bearings, Roller Bearings and Steel Balls expire on 31st instant.

New Contracts have been arranged and will come into force on Friday, 1st November, as follows:—

Standard rigid ball bearings	...	Rudge Whitworth, Ltd., Bearing Works, Reddings Lane, Sparkhill, Birmingham.
Steel balls	... ..	Do., do.
Standard rigid roller bearings	...	Rudge Whitworth, Ltd. (all catalogued sizes). The Hoffmann Manufacturing Co., Ltd., Chelmsford (sizes up to and including 4 in. or 100 mm. in the bore, <i>i.e.</i> , up to and including sizes RMS.21, RLS.21, R.XLS.4, R.400, and R.200).

Priced copies of the Contracts are being circulated.

2. Requirements for self-aligning bearings and other types not covered by the Standing Contract should be obtained by competition among the recognised manufacturers as heretofore.

### 2767.—Greece—Regulations for use of W/T.

(M. 4573/29.—1.11.1929.)

The following regulations for the use of W/T, particularly for foreign warships anchored in the ports or roadsteads of Phalerum-Piræus, Corfu, Suda (Crete), Salonika, Dedeagatch and Chios.

(a) Hours during which working is permitted:—

From 0000 to 0200 Greenwich time.

0500 to 0545     "     "

1445 to 1545     "     "

(b) Wave length permitted:—

(i) Below 200 metres.

(ii) 600 metres—exclusively for calling.

(iii) 2,400—3,000 metres.

(A.F.O. 16/29.)

### 2769.—Naval Officers undergoing Courses at the Admiralty Compass Observatory—Provision Allowance.

(C. (II) 4209/29.—1.11.1929.)

Naval officers detailed for Courses at the Admiralty Compass Observatory, Slough, are to be credited on the ledger of the ship on whose books they are borne for pay with provision allowance at the full current rate, and charged with a sum equal to 20 per cent. of such rate, calculated to the nearest penny below, to cover the cost of service and attendance, which is provided at the expense of the Crown.

The debits should be classified "Credit Vote 6 Q, Appropriations-in-Aid."

### \*2775.—Grading of Naval and Civilian Officers and others for Accommodation purposes in P. and O. Steamers and Union Castle Intermediate Steamers.

(C.E. 6430/28.—1.11.1929.)

The following schemes of grading for passage accommodation in P. and O. steamers and Union Castle intermediate steamers for Naval Officers, Admiralty



Civilian Officers, and others proceeding abroad and returning home on duty is to be substituted for previous schemes :—

## NAVAL OFFICERS.

<i>Rank.</i>						<i>Grade of Accommodation. P. and O. Union Castle.</i>	
Captains	...	...	...	...	...	1st Saloon, "A."	1st Class, B.3.
Commanders	...	...	...	...	...		
Lieutenant-Commanders	...	...	...	...	...	—	1st Class, B.4.
Lieutenants...	...	...	...	...	...	1st Saloon, "B."	—
Lieutenants...	...	...	...	...	...		
Sub-Lieutenants	...	...	...	...	...		
Mates	...	...	...	...	...	—	1st Class, B.5.
Sub-Lieutenants	...	...	...	...	...		
Mates	...	...	...	...	...		
Comd. Officers from Warrant rank	...	...	...	...	...		
Midshipmen	...	...	...	...	...	1st Saloon, "C."	—
Comd. Officers from Warrant rank	...	...	...	...	...		
Warrant Officers	...	...	...	...	...		
Midshipmen	...	...	...	...	...	—	1st Class, B.6.
Warrant Officers	...	...	...	...	...	—	1st Class, B.6.

## CIVILIAN OFFICERS.

Constructive Manager, Chief Constructors and Constructors-in-Charge	...	...	...	...	...	1st Saloon, Grade A.	1st Class, B.3.
Superintending Civil Engineers	...	...	...	...	...		
Civil Engineers in Charge of Works	...	...	...	...	...		
Superintending Electrical Engineers	...	...	...	...	...		
Naval and Victualling Store Officers (including Superintendents of Victualling Yards)	...	...	...	...	...		
Senior and Armament Supply Officers	...	...	...	...	...	1st Saloon, Grade A.	1st Class, B.3.
Expense Accounts Officers	...	...	...	...	...		
Secretaries	...	...	...	...	...		
Cashiers	...	...	...	...	...		
Secretaries and Cashiers	...	...	...	...	...		
Deputy Supply and Accounting Officers in charge of their respective Departments	...	...	...	...	...		
Astronomer, and Chief Assistant (Cape Obser- vatory)	...	...	...	...	...	1st Saloon, Grade B.	1st Class, B.4.
Constructors	...	...	...	...	...		
Assistant Constructors, 1st and 2nd Class	...	...	...	...	...		
Civil Engineers	...	...	...	...	...		
Assistant Civil Engineers	...	...	...	...	...		
Surveyors	...	...	...	...	...		
Assistant Surveyors	...	...	...	...	...		
Electrical Engineers	...	...	...	...	...		
Assistant Electrical Engineers	...	...	...	...	...		
Deputy Supply and Accounting Officers	...	...	...	...	...		
Assistant Supply and Accounting Officers	...	...	...	...	...		
Senior Foremen	...	...	...	...	...		
Surveyors of Stores	...	...	...	...	...		
Masters and Chief Engineers (R.F.A.)	...	...	...	...	...		
Assistants (Cape Observatory)	...	...	...	...	...		
Superintending Sisters	...	...	...	...	...		
Nursing Sisters	...	...	...	...	...		
Head Massage Sisters	...	...	...	...	...		
Assistant Massage Sisters	...	...	...	...	...		

CIVILIAN OFFICERS—*continued.*

<i>Rank.</i>	<i>Grade of Accommodation.</i>			
	<i>P. and O.</i>	<i>Union Castle.</i>		
Foremen (other than Foremen of Works) ...	1st Saloon, Grade C.	1st Class, B.5. or B.6, the latter if available.		
Departmental Clerks, 1st Grade ... ..				
*Assistant Foremen... ..				
*Inspectors of Shipwrights... ..				
*Inspectors of Trades ... ..				
*Inspectors of Storehousemen ... ..				
Clerical Assistants (Cape Observatory) ...				
Architectural and Civil Engineering Assistants, Grade I ... ..				
Junior Assistants, Higher Grade (Cape Obser- vatory) ... ..				
Store Holders ... ..				
Senior Draughtsmen ... ..				
Inspecting Officers (Central Storekeeping) ...				
Superintending Pharmacist ... ..				
Foremen of Works... ..			2nd Saloon, Grade A.	1st Class, B.6.
†Assistant Foremen... ..				
†Inspector of Shipwrights ... ..				
†Inspectors of Trades ... ..				
†Inspectors of Storehousemen ... ..				
Senior and Electrical Station Engineers				
First and Second Class Draughtsmen ... ..				
Architectural and Civil Engineering Assistants, Grades II and III ... ..				
Clerical Officers (Lower Grade) ... ..				
Departmental Clerks, 2nd Grade and 3rd Grade				
Accountant Clerks ... ..				
‡R.F.A. Officers not specified above ... ..				
Meat Inspector ... ..				
Leading Man of Coopers ... ..				
Master Miller and Baker ... ..				
Assistant Master Miller and Baker ... ..				
Leading Recorders and Measurers ... ..				
Junior Assistants, Lower Grade (Cape Obser- vatory) ... ..				
Senior Pharmacists and Pharmacists ... ..				
Store Matron ... ..				
Senior Assistant and Assistant (Chart Depôts)...				
Assistant Inspecting Officers (Central Store- keeping) ... ..				
Superintending Measurers and Recorders ...				
Chargemen ... ..	2nd Saloon, Grade B.	—		
Dockyard Workmen ... ..				

\* When proceeding to establishments abroad where no Foreman is borne.

† When proceeding to establishments abroad where a Foreman is borne.

‡ 1st Saloon (C) accommodation should be provided where ratings are travelling on the same boat and have had to be given 2nd Class in the absence of 3rd Class accommodation.

When Chief Petty Officers and Industrial Grades are appointed to the Cape, arrangements should be made for them to proceed by Mail Steamer, in which they will continue to be granted 2nd Class accommodation.

R.F.A. ratings should be given 3rd Class accommodation, or 2nd Class if 3rd Class is not available.

In the event of a departure being made from the scheme of grading as set out in this Order, the reasons should be stated *in full* when the report of passage ordered (Form S.215) is rendered.

**\*2776.—Mates (E) due for Promotion to Lieutenant (E).**

(C.W. 9463/29.—1.11.1929.)

The undermentioned mates (E) are due for promotion to lieutenant (E) as from the dates shown, subject to their having been recommended by the commanding officers of the ships in which they are serving, as capable in all respects of performing the duties of a lieutenant (E) :—

<i>Name.</i>	<i>Due for promotion.</i>	<i>Serving.</i>
A. B. Vickery ... ..	1st July, 1930 ... ..	" Argus."
F. A. Jeans ... ..	1st January, 1931 ... ..	" Iron Duke."
J. R. Patterson ... ..	1st January, 1931 ... ..	" Tiger."
P. T. Shipley ... ..	1st January, 1931 ... ..	" Rodney."
A. R. Kirk ... ..	1st January, 1931 ... ..	" Marlborough."

**2782.—Income Tax—Concession as regards Personnel Serving Abroad and in Receipt of Colonial Allowance in 1927–28.**

(C. (III) 6082/29.—1.11.1929.)

Consideration has been given to the effect of Section 45 of the Finance Act, 1927, on the assessment of the emoluments of Naval and civilian personnel serving on foreign stations and receiving special allowances in respect of such service, and it has been decided to give the taxpayers concerned relief in respect of the additional taxation falling on them in consequence of the changed basis of assessment, which may result in their having to meet, after they return home, taxation on sums considerably in excess of those of which they will be in receipt.

2. Relief will be given only to taxpayers who were serving abroad at any time during the year 1927–28, and who either could not exercise the option to be assessed on actual emoluments for the year 1928–29 or, having exercised the option and returning home after 5th April, 1929, nevertheless will pay tax twice on the allowances received in 1929–30. Such persons will be reimbursed that part of the total tax they paid in 1928–29 (or 1930–31) which, after taking the Earned Income Allowance into account, may be attributed to the foreign allowances received in 1927–28 (or 1929–30). Reimbursement will take the form of a set-off against the tax payable in the year of return and/or the following year. If any balance then remains of the amount to be reimbursed it will be paid to the taxpayer.

3. In the case of civilian personnel, " Foreign Allowances " will comprise Colonial Allowance *plus* or *minus* the excess or deficiency respectively of any separate foreign House Allowance (or of the assessable value of any taxable official residence or quarters occupied abroad) as compared with any House Allowance to which the officer would be normally entitled at home.

4. In the case of Naval officers, the arrangements set out above will apply only to any Colonial Allowance received by them.

5. Officers and others claiming benefit under the foregoing should make application to the Accountant-General of the Navy. In the case of personnel still serving abroad, application should not be made before returning home.

**2789.—Rangefinders U.B.3 and U.B.4, Rangefinder Mountings—Blackening of Roll Inertia Drums, Repainting with "Luc" Cellulose Finish—Fitting Canvas Covers.**

(G. 6152/29.—1.11.1929.)

Reports have been received stating that when the roll inertia drums of the above rangefinder mountings are exposed for some time to direct sunlight, considerable darkening of the white finish of the roll inertia drum takes place. In one instance it was impossible to distinguish the black index line on the drum.

2. All ships fitted with these instruments are to arrange to make a small canvas cover to protect the drum when not in use from direct sunlight.

3. Where the blackening has developed and difficulty in distinguishing the index is experienced, the instrument should be dealt with as a dockyard defect.

4. Messrs. Barr and Stroud state that they have experimented with a large number of paints and enamels to find which would best resist the action of sunlight, and that "Luc" white cellulose finish, manufactured by Messrs. Lewis Berger and Sons, Ltd., Homerton, London, E.9, and supplied in  $\frac{1}{4}$  pint tins, gives the best results.

5. One pint of "Luc" should be provided at each Home Yard, and at Malta and Hong Kong, for use in repainting drums reported in accordance with paragraph 3 above.

6. The "Luc" should be obtained by local purchase, and Chatham should include Malta and Hong Kong requirements.

### 2794.—Paravane Derricks—REPORTS.

*"Rodney," "Kent" and "London" Classes.*

(T. 4185/29.—1.11.1929.)

Reports are to be forwarded by H.M.S. "Rodney" and H.M. ships of the "Kent" and "London" classes, through the Administrative Authority, stating:—

- (a) Whether the working topping lift of the paravane derricks is ever used except for rigging and unrigging the derricks; and
- (b) If the answer to (a) is in the negative, whether there is any objection to landing the stores comprising the working topping lifts.

### 2795.—Paravane Davit for T.S.D.S.

*"Acasta" Class.*

(S. 8570/29.—1.11.1929.)

It is promulgated for information that the paravane davit for T.S.D.S. in H.M. ships of "Acasta" class has intentionally been designed to withstand a test load of two tons. In view, however, of the arrangements laid down in A.F.O. 712/29 for the tests to be applied to the system as rigged, the recorded tests of the rigged davit should be as follows, viz.:—

Static test load	...	...	...	1½ tons.
Running test load	...	...	...	1½ tons.

2. The normal working load for the system will be  $\frac{2}{3}$  ton.

3. It is not considered necessary for additional periodical tests other than those laid down in A.F.O. 712/29 to be carried out.

(A.F.O. 712/29.)

### 2796.—Depth Charge Communications—Fitting.

*Destroyers and Leaders.*

(G. 15424/28.—1.11.1929.)

Approval has been given for the following system of depth charge communications to be fitted to existing leaders and destroyers, fitted with Asdics, but not yet fitted with depth charge communications:—

- (a) Telephone.
- (b) Rattler communication to rail and each thrower.
- (c) Rattler communication to engine and dynamo rooms.
- (d) Ready indicator on bridge, operated from aft, to denote when charges are ready to fire pattern.

2. Where general alarm rattlers or bells are fitted in the engine and dynamo rooms, the special alarm rattler communication quoted at 1 (c) above is not required.

3. The "ready" indicators quoted at 1 (d) are not yet available. The wiring for these should therefore be run to the positions and the cable ends sealed. When received, the ready indicators should be fitted by the ships' staffs.

4. A typical wiring diagram, E.F.O. 135/29, is issued for guidance in installing the wiring.

5. An item for this work is to be included in the next list of alterations and additions forwarded for the vessels concerned.

6. The necessary amendments to O.U. 5320 will be issued in due course.

2797. } Issued Confidentially.  
2798. }

### 2799.—Prism for Observing Abnormal Refraction.

(D. of N./S.R.E. 899/28.—1.11.1929.)

It has been decided that certain of H.M. ships shall make observations of the effect of abnormal refraction of the sea horizon.

2. A prism for attaching to a sextant has been designed, and a pamphlet describing its use prepared, which will accompany each instrument.

3. The results of observations will be recorded on a form (S. 374), which contains the necessary instructions as to rendering.

4. The pamphlet, prism, and first supply of 300 forms will be issued direct by the Superintendent, R.N. Store Depôt, West India Docks. In cases where ships are not specifically mentioned, supply will be made to the officer commanding the station or squadron, who is to allocate the instrument as most convenient.

5. In the event of a vessel being relieved from a station or squadron, the instrument and forms are to be transferred to her relief, or such other ship as the Senior Officer considers most suitable.

6. The supply will be as follows:—

"Alresford," "Caterham."

Two ships of 1st Cruiser Squadron, two ships of 2nd Cruiser Squadron, two ships of 3rd Cruiser Squadron, three ships of 4th Cruiser Squadron, five ships of 5th Cruiser Squadron, five ships of 8th Cruiser Squadron.

"Bryony," "Clematis," "Dahlia," "Crocus," "Cyclamen,"  
"Lupin," "Calcutta," "Carlisle," "Wallflower," "Delphinium,"  
"Daffodil," "Verbena," "Wistaria," "Heliotrope," "Veronica,"  
"Laburnum."

Nine sets for surveying ships are to be sent to Hydrographic Department.

7. *West India Docks only.*—Fifty prisms will shortly be available at the Admiralty Research Laboratory, Teddington, and arrangements should be made for their collection, and for forty-six to be distributed as shown above, the remaining four prisms being retained in store as a reserve for possible issue to vessels on trooping, or other special services. Instructions as to issue of any of the four reserve prisms will be given specially, if, and when necessary. The prisms, being the property of Vote 6, should be dealt with in Depôt accounts "for record only."

**2800.—12½ in. Fans—Fitting Anti-vibration Washers.***“ Kent ” and “ London ” Classes.*

(T. 4155/29.—1.11.1929.)

H.M.S. “ Cumberland ” has reported the noise from the 12½ in. fans has been diminished by fitting rubber washers between the inlet and discharge flanges of the fan and the flanges on the trunks connected thereto.

2. In cruisers of “ Kent ” and “ London ” classes similar washers may be fitted by the ship’s staff to the inlet and discharge flanges of the 12½ in. fans where considered desirable, and not already so fitted.

3. Washers should not be fitted between the motor and fan casing, as the side clearance of the impeller will be affected.

**2812.—Rail Transport Regulations.**

(N.S. 7599/28.—1.11.1929.)

Consequent on the revised public rates authorised for the conveyance of goods by rail, which came into operation on 1st January, 1928, the following general regulations are promulgated for information and guidance.

2. The Regulations published by the Railway Clearing House are as shown below, and may be obtained by demand on the Keeper of Stationery and Printing—

- (a) General Classification of Merchandise (other than dangerous goods) by Merchandise Trains.
- (b) General Classification of Dangerous Goods by Merchandise Trains.
- (c) General Classification of Merchandise by Passenger Trains.
- (d) Scales of Standard Charges (Scale 1 to 14).
- (e) Scale of Charges for Collection and/or Delivery of Merchandise Traffic.
- (f) Scales of Rates for the Conveyance of Parcels Traffic by Passenger Train.
- (g) Scales of Standard Charges in respect of Coal, Coke and Patent Fuel.
- (h) Special Instructions relating to the Conveyance of Government Stores, etc. (Green Pamphlet).
- (i) Railway Standard Terms and Conditions of Carriage.
- (j) Local Scales—Exceptional Tariff to or from Southern Railway non-competitive Stations.

3. The most economical method of consigning stores is to be utilised, consistent with the avoidance of serious inconvenience to the Service.

4. Stores should only be sent by rail between Home Yards and Depôts when the urgency is such that shipment by Store Carrier cannot be awaited. The yard requiring the stores should, when possible, notify the sending yard of the latest date by which delivery is essential.

5. When stores of considerable tonnage are required to be despatched to private yards for ships building, etc., consideration should be given to the possibility of using coastwise freight, which is generally more economical than rail. This also applies when stores have to be despatched to places within reasonable distance from seaports, as shipping companies will quote rates for conveyance through to destination.

6. Information should be available in the Naval Store or other transport section at the yards and depôts in regard to :—

- (a) the most economical rates for the conveyance of stores from the local station to stations to which stores are likely to be despatched ;
- (b) times of departure and arrival of passenger and merchandise trains between such stations.

7. It is essential that transport sections shall keep in close touch with the local railway authorities with a view to ascertaining particulars of revised regulations, rates, etc., and so obtain for the Crown any benefits arising therefrom. (*See also para. 12.*)

8. *Scales of Standard Charges—Public Rates.*—The scales of standard charges in respect of goods conveyed by merchandise trains (*see para. 2 (d)*) are divided into 21 classes. These are station to station rates and cover the following services, viz. :—

- (a) *Conveyance.*—This charge is based on the distance the goods are conveyed.
- (b) *Station Terminals.*—The charge for use of stations and clerical work, etc., involved.
- (c) *Service Terminals.*—This charge covers—
 

Loading.	Covering.
Unloading.	Uncovering.

9. In many instances only a portion of the services (a) to (c) are performed by the railway companies, and action should be taken when the claims are received to ensure that payment is made only for those services which are actually performed. In order that the necessary information may be available to check the claims, it is essential that the Consignment Note (Form D. 80) shall be endorsed accordingly. (*See paras. 39 and 40.*)

10. *Collection and/or Delivery (see para. 2 (e)).*—The charges for cartage to and/or from the railway stations within the usual limits are added to the rail charges. For this purpose the stations are classified under scales A to E, e.g., Devonport is Scale B, Portsmouth is Scale F. Traffic conveyed between non-competitive stations on the Southern Railway Company's system is excepted and special rates are charged.

11. The foregoing "Public Rates" are only to be used when they are more economical than the "Government Store Rate," or where the latter rate is not applicable. (*See para. 16.*)

12. *Exceptional Rates.*—Certain descriptions of goods when despatched under specified conditions are carried at rates considerably lower than those in force for other goods of the same class and particulars of these articles are shown in the General Railway Classification. In addition, the railway companies have noted in the station rate books other exceptional rates for special traffics to particular places not shown as exceptional in the General Classification. The station rate books are open for inspection and they should be scrutinised periodically in order that the Crown may receive the benefit of these exceptional rates.

13. *Special Rates.*—The railway companies are usually prepared to make a special quotation for the conveyance of any considerable quantity of stores, especially when competitive road or water transport is available. When the quantity and description of stores appear to warrant the concession, the railway company is to be asked to quote a special rate. If this is refused, the necessary particulars are to be reported to the Admiralty.

14. When a special rate has been applied for, the despatch of the goods is to be held up, if practicable, until the rate has been fixed. If, however, it is necessary to despatch the stores earlier, the consignment note (D. 80) should be marked—  
"Special rate being arranged with the railway company."

15. These special rates are usually conditional on the traffic passing in a given period and if the rate has been arranged by the Admiralty, a report should be forwarded when the first consignment has been despatched and a final report made when the total quantity of stores, etc., has been forwarded.

16. *Government Store Rate.*—The Government Store Rate, with certain exceptions, is applicable to the carriage of Government stores by merchandise trains to and from stations in England, Scotland and the Northern Provinces of Ireland, and is to be used whenever more advantageous to the Crown than the "Public Rates." (*See para. 2 (h).*)

17. This rate has now been fixed at 3·2*d.* per ton per mile, station to station, with a minimum for 12 miles, plus 6*s.* 5*d.* for terminal accommodation and services other than cartage, but the charge for terminal accommodation and the minimum charge for 12 miles are not applicable in any case where stores, etc., are conveyed in connection with a movement of H.M. Forces.

18. The Government Store Rate may also be applied to passenger train traffic, provided the stores, etc., in question are being conveyed in connection with an actual movement of H.M. Forces, although not of necessity sent in the same train as the Forces. It is also applicable to private furniture and effects conveyed at the public expense in connection with removals of officers and men.

19. The Government Store Rate is a Company's Risk Rate.

20. The use of the "Government Store Rate" is *not* confined to traffic conveyed between two Government establishments, but may be applied to all Government traffic, if advantageous to the Crown, provided the stores are consigned on Admiralty Consignment Notes, Form D. 80.

21. *General Parcels Scale.*—Government stores, etc., when sent by passenger train, but neither accompanying passengers nor being conveyed in connection with an actual movement of H.M. Forces, are charged at half the current rates shown in the Scales of Rates for the Conveyance of Parcels Traffic by Passenger Train (*see* para. 2 (f)). The minimum charge to be as for 1 cwt. *per consignment*, each package to be charged separately but the charges in no case to exceed those made to the ordinary public.

22. The rates referred to in para. 21 are "Owner's Risk" rates and include delivery within the usual limits.

23. Goods traffic between British ports and inland stations and Ireland, in either direction, is to be charged by the carrying companies through to its destination at the Government rates in force at the forwarding station subject to the condition that these rates shall not exceed those which would be charged to the public in similar circumstances.

24. The arrangement referred to in para. 23 applies also to charges incurred for the conveyance of the furniture and effects of signal and W/T station officers and ratings entitled to removal at the public expense.

25. *Government Explosive Traffic.*—The rates chargeable and the conditions under which explosives are carried are set out in detail in the Green Pamphlet dated 1st September, 1928. (*See* para. 2 (h).)

26. *Method of consigning Stores, etc., on Admiralty Account.*—The Admiralty Consignment Note, Form D. 80, is to be used for the despatch of all stores from H.M. Establishments by rail when the Admiralty is liable for the carriage charges. The form is not to be used by contractors unless supplied and signed by an Admiralty official or duly accredited agent, *e.g.*, in connection with F.O.R. contracts. (*See* paras. 59 to 63.)

27. The railway companies will not accept for conveyance any consignment addressed to H.M. ships or Naval Establishments unless the cost of carriage is either prepaid or covered by the issue of a Consignment Note, D. 80.

28. The "Senders" copies of the Form D. 80 are on no account to be torn from the book, and if a set of forms is spoiled a notation to this effect, signed by a responsible officer, is to be made on the copy left in the book.

29. The safe custody of Forms D. 80 is of great importance and the greatest possible care is to be taken to ensure their use by authorised officials only. Every precaution is to be taken against any possible misuse of the forms.

30. The receipted consignment note returned by the consignee is to be pasted in the book alongside the relative consignor's copy.

31. Consignment notes are invariably to be posted to the consignee on the same day as the goods to which they relate are despatched.

32. The consignee's copies of each Form D. 80 should, before issue, be endorsed in red ink by means of a rubber stamp—

ANY DAMAGE or SHORTAGE to be NOTIFIED to RAILWAY AUTHORITIES at receiving STATIONS within THREE DAYS from date of delivery of this consignment. (*See* para. 47.)

33. It is most important that correct particulars as to descriptions, quantity and weight and when known the Vote to which the cost of carriage is chargeable, should be shown in the places provided on the form; also that the railway classification of the goods or, where applicable, the "Exceptional" or "Special" rate



should be indicated on the face of the form. When the Vote is not known to the officer who issues the D. 80, he should furnish thereon sufficient particulars, *e.g.*, nature of service, including number and date of the relative contract, if any, to enable the officer, by whom payment for the carriage will be made, to determine the head of charge.

34. Where the railway designation differs from the service designation of the stores, they should both be shown as well as the classification, *e.g.*—

Valves, brass, as hardware, Class 18.

Sword bayonets, as hardware, Class 18.

Apparatus-cutting cordite, as machines, E.O.H.P., Class 18.

Anti-gas gear as india-rubber goods, Class 18.

35. If delivery free to consignee is required to be made, the words "Paid Home" should be written on the Form D. 80. This endorsement indicates that the consignor accepts liability for all charges through to destination, including delivery outside normal limits.

36. When consignee is liable for delivery (from destination station) of traffic conveyed at "Collected and Delivered" rates, the consignment note should be endorsed—

"Consignee is liable for delivery from destination station; Admiralty will claim cartage rebate."

37. Reductions from the "Standard Charges" varying from 2½ per cent. to 12½ per cent. are made by the railway companies for certain articles carried at "Owner's Risk" (*see* Scale 4 of standard charges), and these are indicated in the general classification by the letters (a) to (h). When goods are consigned at these rates the consignment note should be endorsed "Owner's Risk."

38. When stores are being despatched from stations in Ireland the copy of the Consignment Note D. 80 marked "Pass Note for Police," as well as that marked "Carriers' Copy" is to be handed to the railway authorities. The additional copy, in every instance, is to be marked "Duplicate" in red ink before issue and is not to be accepted as a supporting voucher to a claim for payment of rail carriage.

39. In view of the many services which are included in the standard charges (*see* paras. 8 and 9), it is essential that the services actually performed by the railway companies should be clearly indicated on the face of the consignment note, in order that rebates may be obtained on account of services included in rates charged, but not performed.

40. Particulars of these services are, therefore, to be inserted on both the consignee's copies of Form D. 80 as follows:—

(a) To be inserted by consignor at the foot of the description column—

Loaded by.....  
 Carted or } by .....  
 Collected }

(b) To be inserted by consignee at the foot of the weight column—

Carted or } by .....  
 Delivered }

Unloaded by.....

*Note.*—When the consignor receives the receipted copy of the D. 80 containing the information at (b), he is responsible for obtaining from the railway company the authorised rebates. Forms D. 80 for stores sent to Portland and Slough, or where local collection arrangements are in force, should be endorsed "Paid to Station only." This obviates the necessity for claiming destination station rebates.

41. *Use of Sheets for covering Consignments in Classes 7 to 20.*—When goods in Classes 7 to 20 do not require to be protected from weather, they should be loaded into open trucks and not covered, the consignment note D. 80 being endorsed "Not Sheeted."

42. *Acknowledgment of Delivery* (*see also para. 73-75*).—The railway companies may repudiate liability for non-delivery if not reported within 14 days. *The sender must therefore be communicated with if the packages are not delivered within 10 days.* It is therefore essential that an acknowledgment of delivery of the goods on the copy of the Form D. 80 provided should be posted to the consignor without delay after delivery has been effected.

43. If an acknowledgment of delivery has not been received from the consignee by the thirteenth day the railway company is to be notified by the consignor accordingly, as a precaution in case a claim for non-delivery has subsequently to be preferred. Where, however, this action has been taken, the railway company is invariably to be informed of delivery when an acknowledgment is ultimately received from the consignee.

44. When a claim is made in respect of non-delivery, the cost of carriage is to be added to the value of the stores before the usual percentage charges are calculated.

45. Admiralty assistance is to be sought when a railway company repudiates a claim for loss (or damage) and the company is considered to be definitely at fault.

46. The present method of accounting for losses of other than Naval Stores, e.g., victualling, armament, etc., is to be continued unless separate instructions to the contrary are received.

47. *Losses, Damage and Pilfering* (see also *paras. 73-75*).—It is of primary importance that the railway company should be notified of damage *within three days* of delivery of the stores (S.D.I. Articles 82 and 293); otherwise, under their general conditions, no claim can lie. (*See para. 32.*)

48. Attention is called to the fact that the giving of a clear receipt for a package on delivery does not necessarily relieve a carrier from liability in respect of damage to or loss of contents of that package, provided such damage or loss is subsequently notified to the carrier *within three days of delivery*. In such transactions the onus of proof that the gear was suitably packed rests with the sender.

49. The value of losses, damages and pilferings during transit by rail is to be recovered from the railway company in every instance in which the company is liable. In calculating the value of the stores for this purpose, care is to be taken to include the cost of carriage of any stores lost, or of any additional carriage charges incurred as a result of the damage (e.g., return of the damaged articles and despatch of replacement) and also to add the usual percentage charges.

50. When articles damaged during rail transit are considered to be repairable, the claim against the carriers should be based on the actual (or estimated) cost of repair, including the usual percentage charges.

51. For Vote 8 stores, any difference between the actual (or estimated) cost of repair so charged and the flat rate allowance should be dealt with under Item 6D of Section B of the Account No. 88.

52. In the event of certain classes of goods conveyed at "Owner's Risk" being damaged on rail, the railway company will, if desired, return the damaged articles to the sender free of charge. The repaired article or one to replace that damaged will also be conveyed at half rate. It is necessary, if advantage is to be taken of these concessions, that the damaged article be returned to the sender within two weeks and that the whole transaction be completed within two months from the date of the despatch of the first article.

53. The copies of the consignment notes on which damage or losses are shown should contain a reference to the number of the voucher, etc., on which the accounts are adjusted.

54. At all Naval Establishments a book titled the "Railway Loss and Damage Book" is to be kept. In this book, particulars of losses, damages, etc., which occur on outward traffic are to be recorded immediately they occur. This book will form a register of the action taken to trace loss, and where the railway company is liable, the original charge against the service to which the items were issued is to be relieved and the value recovered from the railway company.

55. When the railway company is not liable the value of the naval stores, etc., lost is to be written off charge under Item 5A (i) of Section B of Account No. 88A. The date and number of the adjusting voucher is to be shown in the Railway Loss and Damage Book.

56. Where one department acts as forwarding agent for another department and the cost of carriage is chargeable to a different Vote (e.g., consignments of torpedo stores handed to the N.S.O. for despatch), the forwarding department should conduct all correspondence with the carriers respecting losses, damage, etc.,

up to the point of fixing liability. A copy of the final communication from the carrier, together with a copy of other correspondence as necessary, should be sent to the head of the department owning the stores, who will be responsible for dealing with the loss, etc., on the lines defined above.

57. *Arrangements for Payment of Carriage, etc.*—Railway companies' claims for carriage of stores etc., are to be examined and paid by the establishment concerned with the following exceptions:—

*Exceptions.*

- (a) Removal of the effects of pensioners (other than Royal Marines) to their homes. Accounts will be rendered to the Accountant General of the Navy.
- (b) Forms D. 80 issued by Signal and W/T stations and by R.N.V.R. divisions for removals of furniture and household effects under Article 379, R.N.V.R. Regulations. Accounts will be rendered to the Issuing Officer and payment made by the Accountant Officer, Naval Reserves, R.N. Barracks, Chatham.
- (c) When rail carriage is chargeable against Dominion, etc., Governments in respect of stores, etc., despatched to a freight ship, where shipment has been arranged by those Governments, claims are to be rendered direct by the railway company to the officers in London of the Dominion, etc., Government concerned and the carrier's copy of the D. 80 should be endorsed accordingly. If claims are subsequently sent by the Dominion, etc., office to the officer who issued the D. 80, with the request that the rates, etc., be confirmed, such request is to be complied with.
- (d) An exception is to be made as follows in regard to the Canadian Government. The forms D. 80 supporting claims for railway carriage are to be rendered by the railway company concerned direct to the Canadian Shipping Brokers, 3, Regent Street, London, S.W.1, and not to the office of the Canadian Government.
- (e) Where, however, charges for rail carriage are incurred in connection with stores supplied on repayment for Dominion, etc., ships building at private yards, the claims are to be dealt with by the Issuing Officer and the cost recovered through the medium of Return D.72D.
- (f) Forms D. 80 issued by officers-in-charge of boom defence depôts. Claims are to be rendered to the issuing officer, who, after satisfying himself that they are in order, is to forward them to the Superintendent, R.N. Store Office, West India Docks, for settlement.

58. Forms D. 80 used for all transactions are to be endorsed to show to whom the accounts are to be rendered in the first instance.

59. *Issue of Forms D. 80 by Admiralty Overseers—Procedure to be followed.*—F.O.R. contracts for stores, etc., made under inspection will provide that contractors should apply to overseers for instructions as to despatch and as to provision of Forms D. 80.

60. Whenever convenient, Forms D. 80 are to be obtained from the Superintendent, R.N. Store Office, West India Docks, or the home yard concerned, in accordance with A.F.O. 1173/28. (See para. 63 below.)

61. Overseers may, however, themselves issue Forms D. 80 in cases of urgency and also for direct consignments to private shipbuilding firms, etc. In such instances, the railway companies will, except as shown below, render the rail carriage accounts to the overseers, except in the case of goods coming under category (iv) of para. 63 below, who, after satisfying themselves that the claims are in order, are to dispose of them as follows:—

- (a) Vote 8, material.—Claims are to be forwarded to the Superintendent, R.N. Store Depot, West India Docks, for settlement, showing against each claim the subhead and item of Vote 8 under which the material was purchased and the ship or service for which intended.
- (b) Vote 9, material.—The present procedure is to be followed, viz. :—Forms D. 80 are to be issued by the local inspectors to whom the railway companies will render the relative claims. The latter, after certification by the inspectors, are to be referred by them to Woolwich.

62. When the precise head of charge of the material is not known, the overseer is to insert on the Form D. 80, for the guidance of the paying officer, full particulars of the service, including the number and date of the relative contract, if any.

63. In response to the applications from contractors referred to in para. 61, overseers will issue instructions as follows :—

- |  |  |
|--|--|
| (i) Goods for foreign shipment...  | Firm should apply to the Superintendent, R.N. Store Office, West India Docks.  |
| (ii) Goods for Naval establishments at home (except in specially urgent cases, <i>see</i> (iii) below).              | Firm should apply to the Store Officer of the establishment concerned (A.F.O. 1173/28).  |
| (iii) Goods for shipbuilders' yards and other non-Naval establishments, also in cases of special urgency under (ii). | The Overseer will himself provide the Form D. 80.  |
| (iv) Goods ordered on direct charge to a Dominion Government for direct shipment abroad.                             | The Overseer will himself provide the Form D. 80, which he should endorse, "Claim to be rendered to the Official Secretary of the Dominion Government concerned", except in the case of Canada, when the endorsement should be :—"Claim to be rendered forthwith to the Canadian Shipping Brokers, 3, Regent Street, London, S.W.1." |

64. *Method of rendering Accounts.*—The railway companies will render monthly accounts in duplicate, not later than the 15th of the following month. The accounts are to be paid within 21 days.

65. The companies will insert the rates and charges and the amounts payable on the Government's Consignment Notes D. 80.

66. The accounts will be compiled by summarising the amounts payable, the number of each consignment note being quoted.

67. When items included in the accounts are not supported by a consignment note, *e.g.*, haulage at receiving stations debited in a subsequent month to that in which carriage is charged, detailed particulars, on railway account forms, will be given.

68. The accounts rendered will be separated under the following groups, viz. :—

- Merchandise traffic (by passenger and goods train).
- Other services.

69. *Adjustment of Differences, etc.*—Obvious errors in the account, *e.g.*, Royal Air Force charges debited to the Admiralty, errors in calculations or totals, are to be adjusted by the department prior to payment of the accounts, a detailed schedule of such corrections being furnished to the company at the time of payment.

70. No deductions other than those indicated in para. 9 are to be made prior to payment of the account except those agreed with the company. *This does not, however, apply to cases in which a department may dispute on principle.*

71. No correction is to be made in the payment of each summarised account where the net difference does not exceed 1s.

72. Overcharges made by the railway companies, not adjusted under paras. 69 and 70, will be refunded by a cash payment.

73. *Claims for Loss or Damage* (see also *paras. 41-57*).—Claims for the value of stores, lost or damaged, are to be made by the sending yard and settled locally. Claims admitted by the companies will be settled by direct cash payments.

74. With a view to facilitating the settlement of claims for Admiralty stores, etc., lost or damaged in transit to or from Naval Establishments, or on behalf of

the Admiralty, an agreement has been entered into between the Admiralty and the railway companies of Great Britain, as follows :—

- (a) All claims shall be subject to the conditions of the railway companies' standard forms of consignment note applicable to the traffic carried at the rate charged.
- (b) Any claims which may be submitted on traffic conveyed at owner's risk shall be dealt with on their merits, and such as may be entertained shall be subject to the terms of settlement contained in this agreement.
- (c) Claims for damage or loss which can be definitely located, to be dealt with on their merits, irrespective of amount.
- (d) Claims for damage or loss which cannot be cleared up or definitely located, to be apportioned as follows :—  
Admiralty to bear 50 per cent. of the net loss.  
Railway companies to bear 50 per cent. of the net loss.
- (e) The Admiralty and the railway companies to co-operate to discover causes of deficiencies and damages to clear up discrepancies and generally to prevent claims.

*Notes.*— (i) Traffic passing from private siding to private siding ; traffic passing from private siding to station ; traffic passing from station to private siding ; traffic passing from station to station ; traffic loaded by sender, unloaded by consignee ; traffic loaded by sender, unloaded by company ; traffic loaded by company, unloaded by consignee, is included in this agreement.

(ii) If the enquiries made fail to find the missing goods or to determine beyond doubt to the satisfaction of both parties where the loss took place, or who are responsible for the damage done, such loss or damage is to be regarded as not located.

(iii) Claims on traffic passing in through-wagons from station to station are to be dealt with on the same lines as claims on traffic passing from private siding to private siding.

(iv. Where traffic is loaded and/or unloaded at a railway station, the railway companies will, whenever practicable, check the goods there loaded into and/or unloaded from the railway wagons.

- (f) The foregoing arrangements are subject to six months' notice of termination from either side.

75. Whenever consignments, which appear to have been tampered with *en route*, arrive at their destination, communications are to be sent at once to the local representatives of the railway companies concerned, so as to enable the railway companies to inspect the consignments before the trucks are unloaded, and records of such requests are to be kept. In any case in which the railway company is unable to, or fails to, comply with such request, the fact that the company was not represented does not, in the opinion of the Admiralty, bring any loss or damage discovered within the condition of para. 74 (d).

(A.F.O. 1173/28.)

## 2819.—Forms S.346 for Ships Fitted with Closed Feed Systems.

(S. 10457/29.—1.11.1929.)

Forms S.346, Reports of Trials of Machinery at Sea, forwarded from ships fitted with closed feed systems are to contain a record of the average temperature of the extraction pump suction where the necessary thermometer fittings are provided.

- 2. Provision will be made for these records when Form S.346 is revised.

2872.—*Issued Confidentially.***2887.—Gas and Electric Current Supplied to the Admiralty by Public Supply Authorities—Charges for Supplies to Repayment Consumers in Admiralty Establishments at Home and Abroad.**

(C. (I) 3458/26.—8.11.1929.)

Occupants of official residences and other repayment consumers (*see* paragraph 7) who are supplied with gas or electric current which is drawn from public supply authorities and paid for by the Admiralty are, in future, to be charged for the supply made to them at the current local supply rate per unit as charged by the supply authority to its ordinary consumers in the vicinity, and not at the rate per unit paid by the Admiralty for the full supply, as hitherto.

2. Charges are also to be made for rental of meters, where they are supplied by the Admiralty, on the following basis:—

<i>Gas Meters.</i>	5 light size	...	...	...	...	1s.	per quarter
	10	”	”	...	...	1s. 4d.	”
	15	”	”	...	...	1s. 9d.	”
	20	”	”	...	...	2s.	”
	30	”	”	...	...	2s. 6d.	”
	50	”	”	...	...	4s.	”

*Electricity Meters.*—1s. 6d. per quarter for all sizes of meters normally in use, i.e., from 2½ amp. to 20 amp. Special rates will be laid down for larger meters if necessary.

3. Where differential scales for electric current for lighting and heating etc., are made by public supply authorities, and the existing circuit and metering arrangements will not permit of such scales being correctly assessed, the matter should be reported for prior Admiralty sanction with an estimate of the cost involved, in the event of the occupant desiring modifications to be carried out.

4. The revised scale of charges is to be applied to the accounts for gas and electric current supplied during Christmas quarter, 1929. The percentages authorised by Article 95, paragraph 7, of the Instructions to Officers in Charge of Works for supplies of gas to repayment consumers, other than occupants of official residences, are no longer to be made.

5. Arrangements are to be made by the Head of each Establishment concerned, as necessary, to obtain the appropriate rates quarterly from the supply authority.

6. The supply authorities' claims for gas and electric current are to be certified in the usual manner, but where a portion of the expense is chargeable to repayment consumers a statement is to be furnished showing the repayment consumers concerned, and the amounts due from them and the rate chargeable under the revised scale.

7. The rates mentioned are not applicable to supplies to other Government Departments. In such cases the actual cost of the supplies is to be charged as authorised under the existing Regulations.

8. The necessary amendments to the pertinent Books of Regulations will be issued in due course.

**2890.—Lewis Gun Mountings for Submarines—REPORT.**

(G. 6714/29.—8.11.1929.)

A new design of Lewis gun mounting for submarines has been approved, and supplies will be distributed from Chatham Yard shortly.

2. The mounting, which is to be known as "Single Lewis Mounting for Submarines, Mark XI," consists of a new pedestal, and the existing clamping ring for the gun. In future the pedestal and clamping ring are to be held on separate charge in ledgers and fixture lists.

3. On receipt of the new pedestals, the existing securing bracket and swivel, socket complete with locking pin details, are to be removed and returned to store.

4. *Chatham Yard.*—The pedestals should be issued to the vessels indicated as they become available. For vessels of "Odin" and "Parthian" classes and "M.3," clamping rings should also be supplied.

5. The mountings for "Odin" class should be issued as soon as possible.

6. In addition, four pedestals only should be packed for shipment to Australia, and a report forwarded to the Admiralty when they are ready.

7. The actual cost of manufacture of the pedestals should be reported when known, in order that a value may be assigned for rate book purposes. The value at which single clamping rings are on charge should also be reported.

*List of Submarines to be supplied.*

"Odin" ...	2	"L.14" ...	2	"L.15" ...	2	} To be issued when the vessels return to Home Waters.
"Osiris" ...	2	"L.16" ...	2	"L.19" ...	2	
"Oswald" ...	2	"L.17" ...	2	"L.20" ...	2	
"Otus" ...	2	"L.18" ...	2	"L.27" ...	2	
"Olympus" ...	2	"L.21" ...	2	"L.33" ...	2	
"Orpheus" ...	2	"L.22" ...	2			
"Oberon" ...	2	"L.23" ...	2	"Parthian" ...	2	
		"L.25" ...	2	"Perseus" ...	2	
"M.2" ...	2	"L.26" ...	2	"Poseidon" ...	2	
"M.3" ...	4	"L.52" ...	2	"Proteus" ...	2	
"K.26" ...	2	"L.53" ...	2	"Phoenix" ...	2	
"X.I" ...	2	"L.54" ...	2	"Pandora" ...	2	
"L.11" ...	2	"L.56" ...	2			
"L.12" ...	2	"L.69" ...	2			
		"L.71" ...	2			

**2894.—Submersible Salvage Pumps—REPORTS.**

(D. 4050/29.—8.11.1929.)

When any 6 in. submersible salvage pumps become no longer readily repairable, 4 in. pumps, *ex* reserves, may be employed in lieu, but in every case, in order to maintain the pumping capacity of the salvage item concerned, two 4 in. pumps should be allocated to replace each 6 in. pump.

2. In order that the salvage records may be kept up to date, a report should be forwarded through the Administrative Authority, immediately the replacement of a 6 in. pump by 4 in. pumps has been made.

**2895.—Flat Ribbon Resistances—Method of Mounting.**

(T. 3977/29.—8.11.1929.)

A report has been received from one of H.M. ships that short circuiting has occurred between adjacent turns of the flat ribbon type of resistances, due to sagging as the result of heating. The resistances in this particular instance were mounted with the flat surfaces horizontal, but it is intended that this type of resistance, for whatever purpose used, should be fitted so that the ribbon surfaces are vertical or on edge, in order to permit of the free passage of the heated ventilating air up between the resistance strips. The fitting of a resistance close under a deck also impedes the circulation of the heated air through it, and such positions should be avoided in cases where the resistances are required to carry current for any length of time. Searchlight resistances and series regulating resistances are examples of those for which particular care must be taken to ensure good ventilation.

2. Searchlight resistances should be suspended by the feet with a space between them and the deck above of six inches or more, and fixing positions should be selected where protection is obtained from driving rain and spray whilst at the same time affording the maximum circulation of air practicable.

3. The above is promulgated for information and guidance in fitting resistances in future in ships under construction.

**2896.—Mark IIB Searchlight Lamp.—REPORTS.**

(T. 4323/29.—8.11.1929.)

A modified design of Mark III searchlight lamps has been prepared in "Vernon," which will be known as the Mark IIB lamp.

2. The modifications carried out are:—

- (a) To eliminate graphite packing of carbons and to substitute brushes for taking current on to carbons.
- (b) Introduction of automatic control of positive carbon by means of a third electrode and positive control coil actuating positive feed.
- (c) Modification of positive feed arrangements consequent on modification (a) and (b).

3. A full description of modifications will be sent to ships to which these lamps are sent for trial, and it will also be published in the Annual Report of Torpedo School for 1929.

4. Twelve lamps are being modified in Portsmouth Dockyard to this design and will be issued for sea trials early in 1930.

5. The lamps will be issued as follows:—

- 1 "Vernon." (Instructional.)
- 1 "Defiance." (Instructional.)
- 2 "Repulse."
- 1 R.M. Eastney.
- 2 "Frobisher."
- 1 "Resolution."
- 1 "Royal Sovereign."
- 1 "Royal Oak."
- 1 "Ramillies."
- 1 "Curacoa."



6. Ships should report, through the Administrative Authority, on behaviour of lamp after three and six months' experience has been obtained, and whether it is recommended that all Mark III lamps should be modified, as circumstances permit, to this design.

### 2897.—Electric Cable Passages—Reduction of Temperature.

*“Queen Elizabeth,” “Royal Sovereign” and “Renown” Classes and “Tiger.”*

(D. 7118/29.—8.11.1929.)

It has been approved to alter the fans ventilating the electric cable passages in battleships and battle cruisers from exhaust to supply, as improvement has been effected by this means, lower temperatures in the passages being obtained.

2. The former natural supplies, which will now be converted to natural exhausts, should be carried to the open air above the weather deck.

3. Ships concerned should include an item for this work in their next list of alterations and additions.

### 2898.—Main Motors.

*Submarines.*

(D. 12071/29.—8.11.1929.)

In future, when modifications or important repairs are effected to main motors of submarines, such as re-winding of field coils or armatures, sea trials are to be carried out in order to ensure satisfactory running at all speeds under sea-going conditions.

### 2900.—Drawings for Ships Building—Circulation.

(S. 11048/29.—8.11.1929.)

Complaints have been received from shipbuilders building ships of the same class regarding the time and labour spent in copying prints which are circulated to them for information and guidance. In future, the following practice is to be strictly followed:—

When a shipbuilding firm, dockyard, or establishment, such as “Excellent,” “Vernon,” Signal School, A/S School, prepares drawings for a class of ships building, the *tracing* is to be forwarded to the Admiralty for approval and a sufficient number of advance prints are to be prepared for supply to all builders concerned. Advance prints of confidential drawings (*e.g.*, fire control, torpedo control, torpedo tube arrangements, depth charge fittings, T.S.D.S. fittings, wireless telegraphy drawings, A/S drawings) are to be forwarded to the Admiralty for distribution; otherwise the advance drawings are to be sent direct by the ship overseer, dockyard or establishment, to the dockyards or ship overseers concerned.

2. Building specifications for future ships will contain a clause embodying the above procedure.

3. These instructions do not apply to gun mounting items. Drawings of such items as bed plates, pad plates, training stops, index racers, gun and sight covers, and depression control gear, which require prior Admiralty approval, will continue to be issued by the Admiralty direct as at present, but in the form of prints on tracing cloth for retention.

## 2906.—Relays for Electromegaphone Circuits of "Kent" Class—Supply Arrangements.

"Kent" Class, and Chatham and Hong Kong Yards.

(N.S. 12284/29.—8.11.1929.)

Provision has been made for supply of 34 sets of relays, two for H.M.S. "Kent" and eight per ship for the remaining vessels of the class.

2. It is not anticipated that the relay boxes will be available before February, 1930. The sets for H.M. Ships "Berwick" and "Cumberland" will, therefore, not be sent to Hong Kong, but supplied to these ships from Chatham direct.

3. Particulars of the stores required and remarks in regard to supply are shown below :—

Pattern.	Description.	Requirements.		Remarks.
		Per Set.	For "Kent," "Suffolk," and "Cornwall" (Total).	
—	Relay and condenser boxes, Mark I.	1	18 of each	To be sent to Hong Kong from Chatham.
7000A	Pushes... ..			
3227	Bells ... ..			
9849	Lamp fittings... ..			
8183	Ruby shades ... ..			
693A	Lampholders ... ..			
5091	Incandescent lamps ... ..			To be supplied from Hong Kong stock.

4. *Chatham Yard.*—The relay and condenser boxes, pushes, Pattern 7000A, and lamp fittings, Pattern 9849, have been requisitioned for purchase.

(A.F.O. 2736/29.)

## 2907.—Contact Tester—Trials—REPORT.

H.M. Ships "Rodney," "London," "Malaya," "Royal Sovereign," "Revenge" and "Vernon."

(N.S. 378/29.—8.11.1929.)

Arrangements have been made for the purchase and delivery to Portsmouth of—

6 portable testing sets to specification and drawing V.53 under C.P.4014/F.1604, dated 10th June, 1929, and

6 alkaline torch batteries (2 cells per battery) under C.P.16379/F.969, dated 27th July, 1929.

2. This apparatus is to be known as a contact tester, and should be issued one to each of H.M. Ships "Rodney," "London," "Malaya," "Royal Sovereign," "Revenge" and "Vernon" for trial, and report, through the Administrative Authority, on the apparatus as compared with Pattern 1223 batteries test (Minotti Testing Sets).

## 2908.—Binoculars, Pattern 343—Attachment to Improve Definition—REPORTS.

(N.S. 12531/29.—8.11.1929.)

As a result of laboratory investigations with binoculars, it has been shown that, whereas a large field is desirable in a dim light, in a good light considerable improvement in definition can be obtained by cutting down the apparent field to something only just larger than the object viewed.

2. Eight pairs of binoculars, Pattern 343, are being fitted with an adjustable diaphragm and will be issued from Chatham to the following ships:—

	<i>Pairs.</i>
" Nelson " ... ..	2
" Renown " ... ..	2
" Furious " ... ..	2
" Endeavour " ... ..	1
" Fitzroy " ... ..	1

3. It has been suggested that these attachments will be of particular value where a recognition of detail is essential, such as navigational marks, buoys, etc., and long distance visual signals.

4. Trials should be carried out and a report in accordance with A.F.O. 629/27 forwarded through the Administrative Authority, to reach the Admiralty by 1st March, 1930. If it is proposed that these attachments should be supplied generally, the proportion of the total number of glasses carried which it is proposed should be fitted with diaphragms should be given under the heading "Recommendations made."

(A.F.O. 629/27.)

## \*2911.—Badges and Scrolls of Ships on Sale List—Disposal.

(N.S. 6605/29.—8.11.1929.)

Ships' and boats' badges and scrolls are to be removed from ships to be prepared for sale, and taken on Naval Store charge at a professional valuation for possible use in other ships of the same name. As there is no certainty, however, that further use will necessarily be found for the articles, the professional valuation at which they are taken on charge should be the value they might be expected to realise if disposed of by sale.

2. The large ships' badges and scrolls are to be deposited with the Imperial War Museum on loan until required again, the cost of packing and transport, which should be kept as low as possible, being charged against the Museum authorities. All transactions in regard to loan of badges to the Museum are to be dealt with by Chatham Yard, and any badges sent to the Museum by other yards are to be invoiced to Chatham accordingly.

3. All boats' badges removed from ships to be prepared for sale are to be sent to Chatham Yard for storage.

4. *Chatham, Portsmouth and Devonport only.*—The following badges and scrolls are now held on deposit by the Imperial War Museum, and should be accounted for in accordance with the foregoing instructions:—

<i>Ship.</i>	<i>Description of badge.</i>	<i>Yard by which supplied to the Museum.</i>
H.M.S. " Rocket " ... ..	{ 1 ship's badge ... ..	Chatham
	{ 3 boats' badges ... ..	
H.M.S. " Weymouth " ... ..	1 ship's badge ... ..	Portsmouth
H.M.S. " King George V " ... ..	2 badges and scrolls ... ..	Devonport

5. *Chatham only*.—The boats' badges held in the custody of the Manager, Constructive Department, should be transferred to the charge of the Naval Store Department. In regard to the badges which are not of approved designs, those for H.M. Ships "Thunderer" and "Ulster" should be disposed of, but it is probable that the badges for H.M.S. "King George V" would be suitable for adoption for a possible new ship of the same name, and they should therefore be retained.

### 2912.—Officers' Chests, Seamen's Bags, etc.—Conveyance at Torquay.

(C.P. 16117/29.—8.11.1929.)

Attention is called to the fact that a contract made in 1911 with C. J. Dimond (now C. J. Dimond & Son), of Victoria Road, Torquay, for the conveyance of officers' chests, seamen's bags, etc., between Torquay Pier and the railway station, is still in existence, the terms being as follows:—

	<i>s. d.</i>
Officers' chests ... ..	at 1 0 each.
Seamen's bags ... ..	at 0 6 ,,
Seamen's hammocks ... ..	at 0 3 ,,

2. When the number of packages conveyed is more than 20 of any description, those of that description in excess of 20 shall be charged at half-price.

3. The contractor will be held responsible for the prompt delivery and safe custody of the goods entrusted to him for conveyance.

4. Claims for payment to be forwarded on each occasion to the Paymaster of H.M. ships concerned.

### 2922.—Petroleum Oils Imported from Abroad—Customs Entry Forms (Dutiable Goods).

(N.S. Fuel 6597/29.—8.11.1929.)

When furnishing local customs authorities with the Customs Entry Form (dutiable goods) in connection with cargoes of petroleum oils imported from abroad, arrangements are to be made for the original and duplicate copies of such forms to be marked conspicuously on the face "NOT FOR PUBLICATION."

(A.F.O. 784/29.)

### 2925.—France and French Dependencies—Regulations for Admission of Foreign Warships to Ports.

(M. 4384/29.—15.11.1929.)

REGULATIONS REGARDING VISITS OF FOREIGN WAR VESSELS  
IN TIME OF PEACE TO ANCHORAGES AND PORTS OF FRANCE  
AND OF FRENCH PROTECTORATES AND MANDATED  
TERRITORIES.

(Decree of 29.9.29.)

#### ARTICLE 1.

Subject to compliance with the provisions of the present Decree, war vessels of foreign powers at peace with France are given standing permission to anchor in the ports included in the Naval sectors mentioned below, and also in territorial waters within six miles of low water mark.

(Note.—H.M. Government does not admit the claim to territorial jurisdiction outside the usual 3-mile limit.)

*(a) Coast of France:—*

Channel Sector from the Belgian Frontier to Brest.

Atlantic Sector from Brest to the Spanish Frontier (including islands).

Mediterranean Sector from the Spanish Frontier to the Italian Frontier, including islands and Corsica.

*(b) North African Sector:—*

Algeria, Tunisia and Morocco, both on the Mediterranean and the Atlantic, but excluding Tangier and the Spanish zone.

*(c) Levant Sector:—*

The mandated territories of Syria and Lebanon.

In any one sector the number of foreign war vessels flying the same flag shall not exceed three at any one time without special authorisation.

## ARTICLE 2.

For the purposes of the present Decree the term "war vessels" includes all vessels, including auxiliaries, whose names appear in the official list of war vessels of a Power whose Government is recognised by the French Government.

## ARTICLE 3.

Every visit of a foreign war vessel to waters or ports included in the Naval sectors mentioned in Article 1 must be notified through diplomatic channels to the Minister of Foreign Affairs at Paris, at least seven days before the arrival of the visiting vessel, unless special circumstances prevent this.

The notice must state whether the visiting vessel carries aircraft.

## ARTICLE 4.

Submarines may only enter territorial waters on the surface and are forbidden to dive therein.

## ARTICLE 5.

The provisions of the present Decree only apply to Military and Naval aircraft when they are carried or towed by a war vessel. Such aircraft must not leave territorial waters by air without having obtained the permission of the competent Naval Authority.

## ARTICLE 6.

Foreign war vessels flying the same flag may not remain more than fifteen days in one of the sectors mentioned in Article 1, without special permission from the French Government.

They will be required to put to sea within six hours if so requested by the competent Naval, Military or Civil Authority.

## ARTICLE 7.

The provisions of Articles 1 and 6 are not applicable to the following foreign war vessels:—

- (a) Vessels having on board Heads of States, members of reigning dynasties or their suites, or Diplomatic Agents accredited to the French Government.
- (b) Vessels compelled to put into port by reason of damage sustained, heavy weather, or other similar special circumstances.
- (c) Fishery protection vessels working in conformity with the international conventions relative to fishing.

## ARTICLE 8.

In the Naval ports which are the headquarters of the maritime districts or arrondissements, the right of assigning anchorage berths to foreign men-of-war or of directing them to shift berth is vested solely in the Prefet Maritime or the senior Naval Officer (Commandant de la Marine).

In other ports this right is vested in the Captain of the Port or the Port Officer discharging his duties. If there is no Captain of the Port or Port Officer, the duty devolves on the senior Commanding Officer of the French war vessels present in the roadstead or port.

In waters or ports where there is neither a Captain of the Port nor a Port Officer, and where no French war vessel is present, the representative of the senior Army Officer or, failing him, the official nominated by the highest local authority will board the foreign war vessel on arrival and indicate the anchoring berth allocated.

#### ARTICLE 9.

Immediately on arrival of a foreign war vessel in a port which is the headquarters of a maritime district, the Prefet Maritime will send an officer to call on the Commanding Officer, and ascertain his name, the object of the visit and any other relevant information.

In Naval ports and commercial ports where a Senior Naval Officer is stationed, this call will be paid by an officer under his orders.

In commercial ports where there is no Naval Officer, the call will be paid by the "Administrateur de l'Inscription Maritime" or his deputy.

#### ARTICLE 10.

Within the territorial waters and ports of the various sectors mentioned in Article 1, foreign war vessels are forbidden to take bearings of the land or soundings\*, or to carry out, without special permission, any military exercises (landings, firing exercises, torpedo practices, minelaying, etc.).

They are required to respect the fiscal laws and to conform to regulations regarding sanitation and to the port regulations to which French war vessels are also subject, and with regard to which the authority mentioned in Article 8 will supply information.

Men belonging to ships' companies and troops must be unarmed when landed. Officers and Petty Officers may carry the side arms which form part of their uniform.

The number of liberty men to be landed and the hours of landing and return on board will be fixed by agreement between the Commanding Officer of the vessel and the local Civil Authority and the officer mentioned in Article 8.

If funeral honours have to be rendered on shore by an armed party, the Commanding Officer must obtain permission from the Commandant d'Armes.

Boats from the war vessel moving in the port may not be armed.

#### ARTICLE 11.

No foreign war vessel admitted into the ports or territorial waters of the sectors detailed in Article 1 shall carry out a sentence of death therein.

#### ARTICLE 12.

In case of war between foreign Powers in which France remains neutral, the regulations for entry and stay of belligerent war vessels are contained in the Decrees of 18th and 26th October, 1912, but the provisions of Articles 3 and 10 of the present Decree with regard to previous notification or permission are applicable.

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\* In the case of a similar prohibition in a previous Decree it was ascertained by inquiry at the French Ministry of Marine that this prohibition only referred to action amounting to the making of surveys or examination by soundings. Operations necessary for safe navigation are not prohibited.

## ARTICLE 13.

Should a foreign man-of-war fail to comply with the provisions of this Decree, the local Naval or Military Authority shall first call the attention of the Commanding Officer to the infraction and request that the regulations may be observed. If this action is ineffective the said authority may then request the vessel to leave in accordance with Article 6, paragraph 2.

## ARTICLE 14.

The present Decree cancels the Decree of 31st May, 1913, containing the peace time regulations for the visit of foreign men-of-war to French ports and anchorages.

**\*2931.—Seamen and Signal Ratings—Entry in H.M. Coastguard.**

(N. 2832.—15.11.1929.)

The following particulars regarding service in H.M. Coastguard are promulgated for information and guidance. Commanding Officers should forward the names of candidates eligible under these conditions (with copies of Service Certificates and Medical History Sheets) to the Senior Staff Officer, E.M. Branch, Board of Trade, where the roster for appointments to this force is now kept.

I.—*Conditions of Service.*

All members of H.M. Coastguard are required to comply with the Board of Trade Regulations for the time being in force. Copies of the regulations are provided for reference at every Coastguard Station. The following is a brief summary of the principal conditions of employment:—

- (i) Except for members of the R.N. Shore Signal Service, the age limit for appointment to H.M. Coastguard is 45 years, and consideration will only be given to applicants who are under that age.
- (ii) Only those candidates who have had service as seamen, or who have served in the Signal Branch, R.N., can be regarded as eligible for appointment to H.M. Coastguard.  
All candidates for employment must satisfy the Board of Trade that they possess normal sight and hearing and that they are in good health. (See Part II below.)
- (iii) Employment is non-pensionable, and is normally terminable at any time by a month's notice on either side. On retirement, provided that they are not less than 60 years of age and have completed 15 years' satisfactory service under the Board of Trade, members of H.M. Coastguard are eligible for a gratuity of an amount not exceeding one week's pay for each year of service.
- (iv) The scale of pay attaching to the post of coastguardsman is 27s. per week on appointment, rising by annual increments of 1s. per week to a maximum of 32s. per week, plus the usual Civil Service bonus, which is subject to revision on 1st March and 1st September of each year. The present bonus on 27s. is 18s. 11d., making a total remuneration of 45s. 11d. per week. In addition, free unfurnished accommodation and uniform clothing are provided.
- (v) At certain stations where local conditions justify additional payment, special allowances are paid to the personnel over and above their normal pay.
- (vi) The Board of Trade are unable to make any contribution towards the cost of taking up the first appointment of a coastguardsman.
- (vii) Coastguardsmen are allowed 16 days' annual leave each year.
- (viii) Coastguardsmen are eligible for promotion to the rank of Station Officer, and Station Officers to the rank of District Officer.
- (ix) The maximum age for retirement from H.M. Coastguard is 60.
- (x) Members of H.M. Coastguard are not allowed to join the Royal Fleet Reserve, and members of this Reserve are discharged therefrom on appointment to H.M. Coastguard (*vide* Article 15, R.F.R. Regulations).
- (xi) Members of H.M. Coastguard must be willing to serve at any station in Great Britain or Northern Ireland.

## II.—*Eyesight Tests for Entry.*

By applying to the Board of Trade Mercantile Marine Office at any of the following ports, candidates for employment in the Coastguard can have their sight tested on payment of a fee of 2s. 6d. :—

Aberdeen.	Ramsgate.
Dundee.	Southampton.
Leith.	Brixham.
Shields, North.	Plymouth.
Shields, South.	Bristol.
Newcastle-on-Tyne.	Cardiff.
Sunderland.	Swansea.
Middlesbrough.	Liverpool.
Hull.	Manchester.
Grimsby.	Glasgow.
Lowestoft.	Greenock.
London.	Belfast.

2. Arrangements will be made, however, for the eyesight of seaman and signal ratings completing time for pension, who desire to place their names on the Coastguard waiting list, to be tested in H.M. Ships and Naval Establishments as part of the ordinary medical examination, prior to discharge to pension. The result of the test is to be noted on the candidate's Medical History Sheet.

3. These tests must be conducted under the strict personal supervision of the examining Medical Officer. A careful record must be kept of all mistakes made by the candidate.

### *Letter Test.*

4. All candidates are required to undergo the letter test, and until this is passed, must not be allowed to proceed with the examination.

5. The Snellens test types in use in the Royal Navy can be employed for this test. Candidates may have the option of using either eye separately or both together, but will not be allowed to wear spectacles or glasses of any kind or any other artificial aid to vision.

A candidate who is able to read 4 letters of the Snellen 6/6 type at 6 metres and 6 letters of the Snellen 6/6 type at 5 metres will be judged to possess "normal vision," as defined by the Board of Trade regulations, and to have reached the necessary standard.

### *Colour Vision.*

6. The Board of Trade are prepared to dispense with a colour test where a man's colour vision is noted as normal on his Medical History Sheet (*vide* Article 1412, Clause 4, King's Regulations and Admiralty Instructions). Where no such notation appears, arrangements should be made for candidates for the Coastguard to be tested by an ophthalmic specialist, if available; otherwise, the notation "Colour Vision Not Tested" should be clearly entered on the copy of the Medical History Sheet accompanying the application.

**2932.**—*Issued Confidentially.*

## **2939.—Torpedoes—Care and Maintenance—REPORTS.**

*Atlantic Fleet Destroyer Flotillas, Torpedo Depôts at Home,  
and Portsmouth Yard.*

(T. 3179/29.—15.11.1929.)

In the special circumstances in which the Atlantic Fleet Destroyer Flotillas are placed, with no depôt ship and with an electrical artificer carried in each destroyer, the question of parting torpedoes on board these destroyers has been under consideration.



2. As a trial measure, it has been approved for the restrictions imposed on the parting of torpedoes after running in destroyers—O.U. 5386/28, Section III, page 87—to be waived in the Atlantic Fleet. Destroyers of the 5th and 6th Flotillas may therefore part their torpedoes as required by Section III of O.U. 5386/28, at the discretion of their respective Captains (D).

3. To enable this work to be undertaken, the following will be allowed to each flotilla leader and divisional leader (3 sets per flotilla) of the 5th and 6th Destroyer Flotillas :—

*Torpedo Stores.*

- |  |        |
|--|--------|
| (a) Boxes, screw taps and dies, complete, 21 in., Mark II-IV* torpedoes. | 1      |
| (b) Instruments, measuring, B.C. adjustments :—                          |        |
| St. No. T.22 for 21 in., Mark II-II ***** torpedoes ...                  | 1 set. |
| St. No. T.23 for 21 in., Mark IV-V torpedoes ...                         | 1 „    |
| (c) Gauges, measuring lift of engine valve :—                            |        |
| St. No. T.61A for 21 in., Mark II-II*** torpedoes ...                    | 1      |
| St. No. T.180 for 21 in., Mark II****-V torpedoes ...                    | 1      |
| Adapter for use with gauges, St. No. T.61A and T.180                     | 1      |
| (d) Tools for gyroscopes :—  |        |
| Balancer without centres, St. No. T.4 ... ..                             | 1      |
| Chest complete, tools and spare gear for gyroscopes                      | 1      |
| S.R. and A.R.  |        |

*Naval Stores.*

- |   |   |
|---|---|
| (e) Crutches for 21 in. torpedoes, Patt. No. 1078B ... .. | 2 |
| Pedestals for 21 in. torpedoes, Patt. No. 1079 ... ..     | 2 |

*Fixtures.*

- (f) Strop, lifting, afterbody.

The following issues of the above-mentioned items have already been made, viz. :—

*5th Destroyer Flotilla.*

- 2 sets of items at (a), (b), (c), (e) and (f).  
3 sets of items at (d).

*6th Destroyer Flotilla.*

- 3 sets of items at (a), (b), (c), (e) and (f).  
4 sets of items at (d).

In order therefore to adjust supplies to the approved allowances, arrangements have been made for one additional set of items at (a), (b), (c), (e) and (f) to be supplied to Captain (D), 5th Destroyer Flotilla, and one set of the items at (d) is to be returned to store from the 6th Destroyer Flotilla.

Item (e) will be supplied from Portsmouth Dockyard.

4. For stripping and assembling the engines, two holes are to be cut in a training platform of one of the tube mountings. Details of the work required are shown in E.F.O. 87/29 (1). This work is to be carried out by ship's staff.

5. The trial is to continue for a period of 12 months from the date of receiving the above-mentioned stores. At the conclusion of this period, reports are to be rendered through the Administrative Authority, by Captain (D), 5th and 6th Destroyer Flotillas, on the desirability of continuing the routine. Reports will also be called for at the same time from the torpedo depôts concerned, on the general condition of the torpedoes received for overhaul from these two flotillas.

6. The necessary strops, lifting afterbody, to equip the flotilla leaders and divisional leaders of the 5th and 6th Destroyer Flotillas (3 strops per flotilla), are to be made by Portsmouth Dockyard, to the dimensions given in E.F.O. 87/29 (2) and (3), and issued to the Captains (D) of these flotillas for distribution.

**2940.—Torpedo Stores—Bars for Launching in Torpedoes,  
21 in., Mark V A.T., and 21 in., Mark VII.**

(A.S. 1384/29.—15.11.1929.)

It has been found that bars for launching in torpedoes, 21 in., Mark V, A.T., and 21 in., Mark VII, St. No. T.210A, are not entirely suitable for use with 21 in., Mark VII torpedoes, unless fitted with a sleeve adapter, which is shipped into position by passing the stop along the keyway "A" until it falls into the recess "B," as shown in E.F.O. 143/29.

2. The keyway requires to be cut in the bars, and ships carrying Bars, St. No. T.210A (irrespective of the Mark of torpedo carried), are to arrange for this work to be undertaken by ship's staff to the dimensions and position shown in E.F.O. 143/29.

3. The following nomenclature and stamp number have been assigned to the sleeve adapter, viz.:—

*Section II—*

Sleeve adapter for use with Bar, St. No. T.210A ... St. No. T.173, and supply will be made by Torpedo Engineer Officer, Portsmouth, on receipt from manufacture, without demand, to vessels carrying 21 in., Mark VII torpedoes, in the proportion of one to each Bar, St. No. T.210A allowed.

4. Whitehead Torpedo Store Accounts should be amended as necessary.

**2942.—Fire Control Instruments—Inclinometers, Types S.F.7  
and S.F.8—Modification to Graduations of Range  
Scales, etc.**

(G. 5444/29.—15.11.1929.)

Diagram E.F.O. 139/29 shows modifications to the graduations of the range scale and the addition of lining-up marks for S.F.7 and S.F.8 inclinometers. The changes made are as follows:—

- (a) The scale from 10,000 yards to 20,000 yards is graduated in 100 yard steps. The marks are 0.1 in. high and should be inserted in black.
- (b) The graduation marks for 12,000 yards and 17,000 yards have been extended upwards so as to be of the same height as the 15,000 yards mark.
- (c) The 5,000 yards and the 500 ft. marks have been marked in green with arrow heads. A new mark in green has been inserted at 31° 34' on the inclination scale. The settings 5,000 yards 500 ft. and 31° 34' give an angle of 60'. This corresponds to the upper limits of the instrument. When reassembling with range set to 5,000 yards, length to 500 ft., and coincidence head turned clockwise to its stop, the inclination scale should read 31° 34'.
- (d) The new marks can be inserted by making a scratch on the scale with a scribe and filling with indian ink or paint. The black colouring matter in the 5,000 yards and 500 ft. marks is easily removed.

2. The foregoing alterations are to be carried out by ships' staffs of the vessels concerned, viz.:—"Nelson," "Royal Sovereign," "Queen Elizabeth," "Iron Duke," "Hood," "Renown," "Tiger," "Kent," "London," "Dorsetshire" and "York" classes, and by Gunnery Schools.

### 2943.—Inclinometer Communications between Spotting Top and 13·5 in. Transmitting Station.

*H.M. Ships of "Iron Duke" Class (except "Iron Duke" already fitted).*

(T. 3930/29.—15.11.1929.)

It has been decided to fit inclinometer communications between the 13·5 in. spotting top and transmitting station, as shown in the key diagram (E.F.O. 137/29), in H.M. Ships "Marlborough," "Emperor of India" and "Benbow," as follows:—

- (i) Mean range receiver in spotting top to transmitting station, with hand transmitter in the transmitting station.
- (ii) A hand transmitter in the spotting top to a receiver in the transmitting station, to show inclination in the transmitting station.
- (iii) A hand transmitter in the spotting top to a receiver in the transmitting station, to show inclination ranges in the transmitting station.
- (iv) A cut lamp push in spotting top to a cut lamp box in the transmitting station, to work in conjunction with (ii) and (iii).

2. The communication mentioned at (i) should already be available in the ships mentioned.

3. The work of fitting the communications in H.M. Ships "Marlborough" and "Emperor of India" is to be carried out by the ships' staffs, provided sufficient spare wiring is available, between the spotting top and the transmitting station, in which case demands should be forwarded to the dockyards for the instruments, etc., required.

### 2945.—Ordnance, B.L. 7·5 in., Mark VI—Modifications to give Additional Clearances.

(G. 3025/29.—15.11.1929.)

To prevent the fouling of components in the mechanisms of 7·5 in. Mark VI B.L. guns, modifications to the carrier, bracket firing plunger and link actuating lock are to be carried out as detailed on Sketches E.F.O. 142/29 (1) and (2).

2. The work will be carried out as follows:—

On board ships	...	...	...	...	By ship's staff.
In store	...	...	...	...	By armament fitters.

### 2946.—Q.F. 2 pdr., Marks I and II—Filling of Water Jacket.

(G. 7029/29.—15.11.1929.)

Forms S.1404, recently received from the Fleet, show that in many instances no water was found in the jackets when guns were inspected.

2. Attention is called to the instructions on page 73 of O.U. 5205, and page 38 of the Handbook for 2 pdr. Pom-Pom, Mark II (late O.U. 5328).

3. The object of keeping the jacket full is not only to ensure that the gun is ready for action, but also to prevent corrosion.

**2950.—W/T—Type 47—Modification.**

(S.D. 978/29.—15.11.1929.)

*Protection of low power rectifier valves.*—Cases have occurred of the low power rectifier valves being damaged by being knocked whilst in position in the set. Provision has been made in sets to be supplied to "P" class submarines for the protection of these valves, but, in the case of "O" class submarines, protective shields will be supplied which are to be fitted by ships' staffs. These shields will be supplied direct to submarines concerned by H.M. Signal School.

2. *Position of filament alternators and charging generator.*—In certain ships where it was not found practicable to provide access plates in the forward bulkhead of the W/T office, the present position of these machines makes the slip rings and brushes very inaccessible. It has therefore been approved either to provide portable access plates or to move the machines away from the bulkhead sufficiently to allow of access being gained to the brushes, provided that no portion of any machine is brought within a distance of 13 inches of any portion of the aerial coil.

3. Should it be found that this restriction makes it impossible to move the machines sufficiently to gain access to the brushes, the aerial coils may be moved aft until the clearance between the nearest point of the after aerial coil and earth is 13 inches. The machines may then be moved aft until the distance of the nearest point of any machine from any point on the foremost aerial coil is not less than 13 inches. These sparking distances of 13 inches must not be reduced, and the present distance apart of the aerial coils is to be maintained.

4. Submarines affected are to insert an item in their next list of alterations and additions for this work to be carried out. The provision of portable access plates in lieu of moving machines is to be preferred where found to be practicable.

5. In the case of submarines in which a portable plate has been fitted to give access to the brushes, no alteration will be necessary.

6. *S/W earth lead.*—The length of the present earth lead for the S/W portion of the transmitter militates against the best results being obtained on these waves. The present earth lead between the S/W aerial ammeter and the aerial trunk is therefore to be removed and, in its place, a short lead is to be connected between the aerial ammeter and the nearest convenient adjacent point on the bulkhead where a good earth can be obtained. The earth connection is to be made by means of two coned nuts or bolts entering a sharp-edged hole. The earth bolts at present fitted at the foot of the aerial trunk are to be used for guidance in making and fitting the new earth connections. It is essential that the connection be made to a riveted-up part of the ship's structure.

**2952.—Searchlight Lamps—Mark III H.C.D.**

(T. 3965/29.—15.11.1929.)

Cases have occurred in which the stop feed pawls have become disengaged when the lamp is at high elevations.

2. Drawings E.F.O. 141/29 (1) and (2) show the modifications required to be carried out to obviate these troubles.

3. These modifications are to be carried out to lamps not already modified. In the case of lamps at sea the work is to be done by ships' staffs, and in the case of lamps in store by the dockyards concerned before issue.

**2953.—Issued Confidentially.**

**2954.—C.S.A. Apparatus in H.M. Ships—Responsibility.**

(T. 0601/29.—15.11.1929.)

In future, all responsibility for the care, maintenance and functioning of inboard chloro-sulphonic acid smoke-making apparatus installed in H.M. ships is to devolve on the Engineer Officer of ships so fitted.

2. This apparatus need no longer be regarded as "Confidential."

3. The necessary amendment to the Engineering Manual (1923) will be made in due course.

**2956.—W/T—Battery Outfits.**

(N.S. 10640/29.—15.11.1929.)

It has been decided to extend the system whereby the batteries and battery-charging apparatus for W/T, etc., sets are grouped together under battery outfits (*e.g.*, Battery Outfits BC, BE, BJ, BK, etc.), and the outfits shown in the appendix to this Order have been so arranged as to provide for all the existing standard W/T, E/S, and D/F sets at present in use in H.M. ships. A list of stores (E.156) showing components of the various battery outfits has been prepared, and copies will be distributed to services concerned in due course.

2. Some of these outfits simply group together stores which were previously shown spread over various pages of the W/T Establishment (1922 Ed.), others are repetitions with minor amendments of existing battery outfits, whilst others are entirely new. It will be seen from the appendix that the outfits are divided into two classes, viz. :—

(a) Those intended for use in ships with 6-volt batteries and bright emitter valves, or in ships which have converted from 6-volt to 4-volt batteries and dull emitter valves.

(b) Those intended for use in ships being fitted in the first instance with 4-volt batteries and dull emitter valves.

These classes are differentiated by the words "Bright" and "Dull" respectively.

3. No alteration is intended to the store allowances in ships already supplied with batteries and battery-charging arrangements, but where such stores are shown as separate articles on various pages of the Establishment of stores for the transmitting set or model outfit concerned, the appropriate Establishment will be amended to show the correct battery outfit in lieu of the separate articles.

4. List No. E.156 supersedes the following lists with respect to the portions mentioned :—

Battery Outfit in List No. E.156.	Superseding.
BM	Battery stores shown on pages 38–40 of List No. E.146.
BC	
BE	
BJ	
BK	
BG	} shown in List No. E.140.
	Battery outfit BD shown in Lists Nos. E.107 and E.131. (See note * below).
BV	{ Battery stores shown on pages 14–15 of List No. E.115. Battery stores shown on pages 25–28 of List No. E.104. Battery outfit BV shown in List No. E.102.
BG	
BF	Battery outfit BG shown in List No. E.104. Battery outfit BF shown in List No. E.134.

*Note.*—\* Battery outfit BD which was the name originally assigned to the battery outfit for Type 38 and 38S sets, has now been given to a new battery outfit for 4-volt batteries and dull emitter valves for use with Types 36S and 45.

5. The W/T Establishment will be amended in due course.

## APPENDIX.

Battery Outfit.	Sets or Services with which used.	Class of Outfit.
BA	Type 43 fitted alone.	Bright.
BC	Type 2*-34 when fitted with Type 71 or Type 2*-34, 13-34 or 71 when fitted alone.	Bright.
BD	Types 35, 35S, 36 and 36S, or Type 45 in an auxiliary W/T office of a heavy ship.	Dull.
BE	Types 37, 37A, or 37S in a 2nd W/T Office.	Bright.
BF	Type 44.	Dull.
BG	Types 35, 35S, 36, 36S, 38 and 38S, or 45 in an auxiliary W/T office.	Bright.
BJ	Types 37, 37A, or 37S in main W/T offices when approved to be supplied with Pattern 7541 cells.	Bright.
BK	Types 37, 37A, or 37S in main W/T office.	Bright.
BL	Submarine "X.1."	Bright.
BM	Type 47.	Dull.
BN	Model outfit SGX.	Bright.
BP	Types 37, 37A, or 37S in a 2nd W/T office.	Dull.
BQ	Type 45 in an auxiliary W/T office of a cruiser. 2nd offices of ships fitted with sets other than Types 37 or 44.	Dull.
BR	Model outfit SGX.	Dull.
BS	Types 37, 37A, or 37S in main W/T offices of destroyers.	Dull.
BT	Types 4 or 4-15.	Bright.
BU	Types 37, 37A, or 37S in main W/T offices of sloops and gunboats.	Dull.
BV	Types 39X, 81, 151, and 45 (1 transmitter set) and 83 if these sets are fitted alone. Model outfit SD fitted alone.	Bright.
BW	Types 38 and 38S.	Dull.
BX	Type 43 fitted alone.	Dull.
BY	Types 31, 45 (1 transmitter set) and model outfit SD.	Dull.
BZ	Types 2-16, 10-14, or 14.	Bright.

### 2958.—Distance Recorders for Motor Vehicles—Repair.

(N.S.M.T. 409/29.—15.11.1929.)

The makers of the distance recorders used on Admiralty motor vehicles have recently introduced the "1929 Super Dreadnought Recorder" to replace the original instruments supplied by the firm, viz., the "Dreadnought" and "Super Dreadnought" types.

2. The 1929 super dreadnought instrument possesses certain distinct advantages over the older types of recorders, and future orders placed for such instruments will be for "1929 Super" make.

3. A standing contract has recently been entered into with the makers covering:—

- (i) Supply of new "1929 Super Dreadnought Recorders."
- (ii) Repairs to instruments.
- (iii) Conversion from dreadnought and old super type to the "1929 Super" model.

4. The new standing contract includes a "mileage" guarantee for all new, repaired, and/or converted instruments in substitution for the "period" guarantee.

5. In future, where it is necessary to return distance recorders to the R.N.M.T. Dépôt, Albany Street, for repair, etc., the following information should be inserted on the face of the D.66 voucher or pertinent return voucher:—

- (i) Type, and mechanism number of instrument returned.
- (ii) When fitted to vehicle.
- (iii) Mileage run since fitted to vehicle.
- (iv) Reason for return, *e.g.*, oil leaking into instrument, broken driven gear, recording inaccurately, etc.
- (v) Whether damaged as a result of accident.

### **2973.—Steel Boiler Tubes—Preservation, etc.—REPORTS.**

*Yards—Home and Abroad.*

(N.S. 3130/29.—15.11.1929.)

Attention is called to the necessity of making a careful inspection of all boiler tubes drawn from stock before they are put into use, the usual mechanical tests being made of 2 per cent. of any group it is proposed to use.

2. Tubes received from other yards at home and abroad are to be examined and steps taken for proper preservation without delay, in order that possible deterioration may be prevented. In this connection experience has shown, particularly in the case of yards abroad, that inspection of all boiler tubes received, and re-preservation where required, are very necessary to obviate the consequences of—

- (a) Loose or split plugs,
- (b) Plugs driven in flush or without previous removal of the internal burrs caused by cutting off test pieces,
- (c) Insufficient quantity of lime causing rusting of tubes.

3. New seamless steel boiler tubes (Schedule 161) purchased for delivery at one yard for despatch to another yard, are in all cases to be preserved before despatch.

4. Every care should be exercised when carrying out routine examination of tubes in stock, to ensure that the tubes are efficiently preserved.

5. Yards should note particularly the condition of tubes on receipt, and report one year hence the approximate percentage of tubes that actually needed attention due to defective preservation at other yards or damage during transit, sufficient details being given to enable the tubes to be identified.

6. *Chatham, Portsmouth and Devonport.*—If the results of full trials of india-rubber plugs referred to in N.S. 11039/26/605-7, dated 11th January, 1927, cannot yet be furnished, interim reports, showing any useful information on the subject, should be furnished.

### **\*2976.—Depth Charges—Restrictions on Dropping.**

(M. 4149/29.—22.11.1929.)

In view of the detrimental effect on fish life, depth charges are to be dropped only in deep water and at a distance of not less than 5 miles from the coast.

### **\*2982.—Electrical Installation in Ships—Training of Stoker Ratings at Sea.**

(N. 3334/29.—22.11.1929.)

With reference to A.F.O. 2060/29, it has been decided that the training at sea of stokers, 1st class, in high power electricity, should be commenced forthwith in all battleships, battle cruisers, large aircraft carriers, and cruisers in full commission.

2. The following instructions are issued for guidance :—

- (i) The course should consist of 10 days' instruction in accordance with the syllabus given in para. 3 below.
- (ii) Training classes to consist of four stokers, 1st class, in heavy ships, and two or three in cruisers (depending on size). Stokers selected for the course to be taken from those undergoing training in the operation of auxiliary machinery as and when they can be spared by the Engineer Officer.

During the period of the training class these ratings should be attached to the motor section of the torpedo party in working hours, and also, if possible, during out-of-working hours, so as to gain experience in care and maintenance duties.

- (iii) Training classes should, so far as is possible, be continuous.
- (iv) Sixty-five per cent. of marks in the examination shall be taken as the standard for passing, but this will be subject to review after experience of the standard attained.

The examination is considered important, and ratings who show special aptitude should be noted.

The following notations should be made on history sheets, S. 1246a, under "Special Remarks" :—"Elect. T." for those who pass the training class, and also "Recommended" in the case of those showing special ability.

3. Syllabus of training course at sea. Length of course, 10 days.

*Course.*

<i>Day.</i>	<i>A.M.</i>	<i>P.M.</i>
1.	Conductors and insulators. Units of electrical measurement, ohm, volt, ampere. Instruments used for measurement. Voltmeter, ammeter.	Simple cell, Daniel type, for explanation of elementary theory. Menotti cell—use of. Secondary batteries, pointing out that they must not be spilled and must be kept charged up.
2.	Distinguish between conductors and insulators by testing for continuity and insulation. Use of cell tester, each man doing actual tests.	Elementary principles of magnetism and electro-magnets. Galvanometer, ammeter, voltmeter.
3.	The dynamo. Work up from the bar magnet, coil and galvo., to rotating coils. Explain the functions of commutation. Names of parts of dynamo.	Supply of power from dynamo to ring main. Function of switchboard. Visit dynamos and switchboard.
4.	Distribution of power from ring main to circuits. Necessity for fuzes and overloads, and functions of boxes and breakers.	Examine fittings of distribution system.
5.	Motors. Simple theory and construction. Types of Service machines. Necessity for starters and controllers.	Examine motors and starters and controllers. Demonstration of starting and stopping motors and precautions with same.
6.	Earth finding. Effect of an earth on a particular machine and on the rest of the system. Testing and balancing with bridge megger.	Demonstration of location of earths. What is done at switchboard and outlying positions.
7.	Emergency H.P. Supply arrangements. Care and maintenance of motors. Recognition of possible serious faults.	Make taped junctions.
8 and 9.	Join up with the motor party.	
10.	Resumé.	Oral examination. 65 per cent. marks required to qualify.

(A.F.O. 2060/29.)



**2985.—Royal Air Force Personnel in H.M. Ships, etc., and R.N. Personnel at Air Stations—Recovery of Value of Victualling Supplied.**

(N.P. (II) 2197/29.—22.11.1929.)

To facilitate interdepartmental claims between the Admiralty and the Air Ministry for the recovery of the value of Naval victualling supplied to R.A.F. personnel in H.M. Ships and Naval Establishments, and vice versa, the following procedure is to be observed as from 1st January, 1930.

(i) *Air Force personnel in H.M. Ships, etc.*—In substitution for Form S.106 (*i.e.*, Return of R.A.F. attached to R.N. for rations), "omnibus" certificates in duplicate are to be furnished (Officers and men separately) showing respectively the aggregate numbers of Officer-days and man-days victualling supplied to R.A.F. in each quarterly accounting period, sub-totals being shown for temperance and grog men.

These certificates will be signed by the Naval Accountant Officer and (where practicable) by an R.A.F. Officer, and they will form the basis of the Admiralty claim on the Air Ministry.

It is important that the certificates shall relate strictly to the normal three-monthly periods (*e.g.*, 1st January to 31st March), and that they shall be in duplicate. They are to be forwarded into office as enclosures to Ledger. Any items omitted inadvertently from the quarterly certificates should be reported specially to the Accountant-General.

It will no longer be requisite to show on the back of the Victualling Summary of the Ledger the names of Officers and airmen victualled; but it will be necessary to show the aggregate number of days' victualling, as well as a reference to the relevant Ledger folios.

(ii) *Naval Officers and ratings at Air Stations, etc.*—A generally reciprocal procedure to that shown above will be adopted, and the certificate will be rendered by the R.A.F. Accountant Officer and (where practicable) will be countersigned by a Naval Officer. As regards Officers, however, full particulars of their messing will be required *in addition—i.e.*, names of the Officers, rates of messing and periods involved.

(iii) As a check upon the certificates referred to at (ii), separate gross sub-totals of the victualling "checks" of Officers and ratings lent to Air Stations, etc., are to be shown in the Ledger Abstract.

**2987.—Issued Confidentially.**

**2988.—Director Firing Gear, Synchronous Transmission Gear—Auto-lock Units in Hunters of Messrs. Vickers' Manufacture.**

*H.M. Ships "Nelson" and "Rodney," "Kent" and "London" Classes.*

(T. 3389/29.—22.11.1929.)

Reports from ships of the above classes indicate that the small springs in the auto-lock units of the hunters in the director towers are not satisfactory, and trials have been carried out with a modified spring which show a substantial improvement.

2. The details of the modified springs are shown in E.F.O. 145/29. These springs should be made and fitted by ships' staffs as convenient. In some cases it has been found that the clearance between the driving and driven sides of the auto-lock is not sufficient to give a proper non-reversible action; in such cases the faces of the driving member marked "A" in E.F.O. 145/29 should be eased. A lost motion of about two degrees rotation of the driving member, before the drive is taken up, is necessary in order to ensure a proper non-reversible action.

**2990.—Lewis Guns—Mounting in Boats.**

(G. 2216/29.—22.11.1929.)

The positions of Lewis gun mountings in ships' boats are to be as follows:—

- (a) *Existing picket boats*.—On top of the cone support to the 3 pdr. mounting, arranged as shown in the sketch (E.F.O. 155/29).
- (b) *35 and 30 ft. motor pinnaces*.—In the cockpit abaft the fore peak. The top of the pillar to be about 6 ft. above the flat, the gunner standing on planks laid across the tops of the lockers and side benches.

In those boats where the steering position is fitted forward, the steering wheel should be dismantled, and the boat steered by tiller from aft, when it is necessary to work Lewis guns. This will enable the mounting to be placed where a good forward arc of H.A. and L.A. fire can be obtained.

In such boats, the bolts securing the steering wheel bracket are to be replaced by studs, so that the bracket can be removed without impairing the watertightness of the bulkhead.

- (c) *Pulling boats*.—The armament for existing 45 ft. launches is to remain as at present.

In pulling boats, except 36 ft. pinnaces and 42 ft. launches, the position is to be on the centre line on one of the midship thwarts, so that there is ample room all round to allow firing in any direction.

In 42 ft. launches and 36 ft. pinnaces where two mountings are supplied, one mounting is to be fitted forward, and one as far aft (before the engine) as the position of the engine will allow.

The most convenient height for an average man is for the top of the pillar to be 5 ft. above the surface on which he stands. As the pillar now supplied for use in boats is only 18 in. high, it will be necessary to mount it on top of a tripod or bent plate, as shown in the sketches (E.F.O. 155/29). These should be made by ship's staff to suit the boat.

Alternatively, the new telescopic 5 ft. pillar which will be supplied for Lewis gun mountings in ships will also be satisfactory for use in boats, and may be used for this purpose if the situation does not necessitate their retention on board for ships' use.

**2993.—Issued Confidentially.****2995.—Fireworks—Supply to R.F.A. Vessels and Yard Craft.**

(A.S. 5040/29.—22.11.1929.)

Future supplies of fireworks issued from Vote 9 stocks to dockyard and victualling yard craft and all R.F.A. vessels are to be made on repayment.

2. Credit based on the value as determined by the condition of the store is to be given to the Vote concerned in respect of returns of such stores from yard craft, etc.

3. No financial adjustment will be necessary as regards stocks of fireworks actually on board vessels at the date of this Order.

### 2997.—Magazines—Additional Inspection after any Drill, Work, etc.

*All Ships.*

(G. 7107/29.—22.11.1929.)

The inspection of magazine logs over a considerable period at the Admiralty has shown that very few ships are recording in the log the additional inspection required to be carried out *after* any drill, work, etc., has taken place in the magazines.

2. Attention is drawn to the necessity of strictly complying with Naval Magazine and Explosives Regulations, 1928, Article 121, paragraph 1, and Article 124.

### 2999.—W/T—Types 35, 35S, 36 and 36S—Modification to Signalling Circuits—REPORTS.

*All Ships Fitted.*

(S.D. 1032/29.—22.11.1929.)

With the existing wiring of the signalling circuits of Types 35, 35s, 36 and 36s, reception in all bays in the central receiving room is interrupted by the operation of the cabinet switch when transmitting on the low-power attachment. The voltage induced in the receiving aerials under these conditions is insufficient to damage receiving instruments and it is therefore both unnecessary and undesirable that the cabinet switch should operate.

2. In order to prevent the operation of the cabinet switch when transmitting on low power and, at the same time, to ensure that this switch shall operate when using the main transmitter, the modifications shown in E.F.O. 147/29 are to be made to the signalling circuit.

3. It will be seen that the *positive* supply lead to the cabinet switch bobbin is removed and a separate positive supply is wired to this bobbin from the "dead" side of switch number 12 on the board 2G distributing. The positive supply to the cabinet switch bobbin is thus only completed when switch number 12 is made, *i.e.*, when the blower is running. Care should be taken to remove the existing *positive* lead as the removal of the negative lead instead will upset the functioning of the circuit.

4. This modification is to be made by ships' staffs, the new lead being wired from any convenient point on the positive lead from the "dead" side of number 12 switch and kept as short as possible.

5. The fact of the modification having been made is to be reported in the next subsequent half-yearly W/T report.

### 3000.—W/T—Flat Roof Aerial.

*Flotilla Leaders.*

(S.D. 967/29.—22.11.1929.)

It has been decided not to proceed with the standardisation of flat roof aerials in existing flotilla leaders until the present large stocks of tubular aerial outfit stores are considerably reduced.

2. Flat roof aerials can, however, be made by utilising the stores provided for tubular aerials if considered desirable by Commanders-in-Chief.

**3004.—Issued Confidentially.****3006.—Awnings—REPORTS.***“ Kent ” and “ London ” Classes and all larger Ships.*

(D. 14422/29.—22.11.1929.)

The following extract from a report received from Malta, in respect of the awnings of H.M.S. “ London,” is promulgated for information:—

\* \* \* \* \*

“ The quarter deck awning made at Portsmouth Yard about February, 1929, had to be cut 1 ft. at the foremost end to 4 in. at the after end both sides, new cringles made and re-roped the whole length.

“ All waist awnings being too full in width had to be treated similarly.

“ It is understood from Commanding Officer that he anticipates fore-castle awning will require similar treatment.

“ The bridge awning did not fit and required considerable alteration.”

\* \* \* \* \*

2. Reports are to be furnished through the Administrative Authority, by the Commanding Officers of H.M. ships of the “ Kent ” and “ London ” classes (except “ London ”), and all larger ships, stating whether similar trouble has been experienced in H.M. ships under their Commands.

**3008.—Feed Discharge Pipes—Examination during Large Refits.**

(E.-in-C./D. 16100/29.—22.11.1929.)

During the present large refit of one of H.M. ships, the feed discharge pipes were found to be considerably wasted and pitted internally.

2. Ships’ officers should accordingly arrange to take suitable opportunities, when on Service, of ascertaining regularly the internal condition of the feed discharge system. In cases of doubt still arising as to the internal conditions, ships may, when about to be taken in hand for large refit, include in the defect lists an item for removing, cutting up for examination and renewing specified typical portions of the feed discharge system.

**3010.—Issued Confidentially.****3011.—Sextant Rangefinders and Inclinometers supplied for Torpedo Control purposes.**

(N.S./T. 3016/29.—22.11.1929.)

Reports received from H.M. ships indicate that sextant rangefinders and inclinometers supplied for torpedo control purposes are seldom used, and modern methods of torpedo control do not necessitate the use of such instruments.

2. No provision of these instruments is therefore being made for new construction.

3. Sextant rangefinders should be returned to store and taken on sale charge, with the exception of one instrument in each ship, which may be retained by the Executive Department for use of the Navigating Officer. This instrument will not be replaced.

4. The present allowance of—

Inclinometer S.F.3	...	...	...	...	...	...	...	1
Gymbal ring	...	...	...	...	...	...	...	1
Slide rule	...	...	...	...	...	...	...	1

for torpedo control purposes to H.M. ships of “ Carlisle,” “ Hawkins ” and “ D ” Classes (except “ Dauntless,” “ Danae ” and “ Dragon ”) and to H.M.S. “ Emerald ” is cancelled, but the instruments should be retained for gunnery control purposes, to which establishment they will be added.

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5. The supply of an additional inclinometer, etc., to H.M. Ships "Dauntless," "Danae" and "Dragon" is under consideration.

6. The S.F.3 inclinometers, together with their belt attachments, tripod mountings, brackets, etc., in H.M. Ships "Vernon" and "Defiance" are to be returned to store.

### 3012.—Paint for Shell Rooms and Magazines in Destroyers.

(N.S. 11381/26.—22.11.1929.)

Turpentine may be used in lieu of mineral vaporizing oil for mixing paints required for coating the shell rooms and magazines of destroyers, and A.F.O. 2816/25 is to be regarded as modified to this extent.

(A.F.O. 2816/25.)

### 3013.—Binoculars, X 3½, for Searchlight Control.

"Norfolk," "Dorsetshire," "York," "Shropshire," "Sussex."

(N.S. 4340/29.—22.11.1929.)

Arrangements have been made for the purchase of ten pairs of binoculars, X 3½, for use on the Evershed searchlight transmitters, for delivery as follows:—

Portsmouth	...	...	2	pairs for "Dorsetshire."
Devonport	...	...	2	" " " " "Norfolk"
Chatham	...	...	6	" " " " "Shropshire," "Sussex" and "York" (two per ship).

2. The binoculars should be dealt with as sea stores, and are in satisfaction of the allowance (of Pattern 343c) for Evershed's transmitters shown in paragraph 1 (II) of A.F.O. 3055/28. Any binoculars, Pattern 343c, supplied to the vessels concerned for this service should be returned to store on receipt of the new binoculars.

(A.F.O. 3055/28.)

### 3015.—W/T—Pattern 7642 Switches, Charge-discharge, 15 amps. —Increase of Allowance as Flotilla Spares.

(N.S. 13376/29.—22.11.1929.)

It has been approved to increase the allowance of spare, Pattern 7642, switches, charge-discharge, 15 amps. In future, two of these switches will be allowed to the flotilla leaders of the 1st to 6th Destroyer Flotillas as flotilla spares. The additional switch will be supplied from Portsmouth, without demand, to the ships concerned, when supplies become available.

2. The necessary amendments to the W/T establishment will be promulgated in due course.

### 3017.—Asdics—4,000 Volt Generators, Pattern Nos. 7265/A and 7269/A—Biennial Test.

(N.S. 13154/29.—22.11.1929.)

The following tests are to be carried out biennially by Superintending Electrical Engineers, Home Dockyards, on all 4,000 volt motor generators, Pattern Nos. 7265/A and 7269/A, in use for A/S purposes during the normal refitting period.

2. Each machine is to be run under full load conditions for four hours, and adjusted for satisfactory operation, mechanically and electrically. If insulation resistance of the armature falls below 2 megohms when hot, it must be subjected to the "drying out" process in vacuum before continuing the tests.

3. The remaining tests, as enumerated in Specification 4277, are to be carried out with an allowance of 20 per cent.

4. Armatures which fail to comply with the tests are to be completely re-wound and re-tested to Specification 4277, or replaced by new spares. All above tests are to be carried out in the presence of Captain A/S representative.

5. Commanding Officers are responsible that an item is inserted on the Defect Lists to cover this work once in two years. In the case of ships on foreign stations, the tests should be carried out on each occasion of returning to home ports for refit and/or commissioning, unless the tests have already been carried out within the last 12 months.

6. A special yoke which at present is being manufactured at Portsmouth, experimentally, is necessary for the carrying out of the tests. Separate communication regarding the provision of this apparatus will be made to Chatham and Devonport, and pending such facilities being available, those yards should forward the machine to Portsmouth immediately the vessel is taken in hand for the test to be undertaken at that yard.

### 3019.—Electric Dan Buoy Lamps, Type A\*\*.—REPORT.

*1st Minesweeping Flotilla, Fishery Protection Trawlers, including "Garry" and "Liffey," Surveying Vessels "Endeavour," "Flinders," "Beaufort," "Fitzroy," "Kellet," "Herald," "Ormonde" and "Iroquois," Portsmouth Dockyard.*

(N.S. 12994/29.—22.11.1929.)

Arrangements have been made for the purchase and delivery to Portsmouth of 50 electric lamps, Type A\*\*, for dan buoys. The lamps will be supplied by Portsmouth as follows :—

- (i) On receipt of demands from the Services shown at (a) and (b) of paragraph 4.
- (ii) Without demand to the Services named at (c) and (d) of paragraph 4.

2. The allowances of electric lamps for dan buoys according to A.F.O. 2702/29 are :—

Mark I outfits ... ..	4 per vessel.
Marks II, III and B.S. outfits ... ..	2 „ „
Mark IV outfits ... ..	1 „ „

3. There are 12 Type A\* lamps now in the 1st Minesweeping Flotilla which have been modified in "Vernon" and returned for further trial.

4. The allocation of the 50 lamps, Type A\*\*, is as follows :—

- (a) 16 to 1st Minesweeping Flotilla to complete up to 4 per vessel.
- (b) 16 to the Fishery Protection Trawlers (including "Garry" and "Liffey"), *i.e.*, 2 per vessel.
- (c) 8 to Surveying vessels, *i.e.*, 1 each to "Endeavour," "Flinders," "Beaufort," "Fitzroy," "Kellet," "Herald," "Ormonde" and "Iroquois."
- (d) 4 to "Vernon" for trial.
- (e) 6 spare to be utilised if and when further stocks are obtained to complete the number allowed for the remainder of the minesweeping outfits.

5. The vessels to which the lamps are supplied are to carry out the following trials, a report being forwarded to the Admiralty through the Administrative Authority after 3 months' experience :—

- (a) Lay and pick up dan buoys with lighted lamps in place, in order to test whether the lamps will withstand the ordinary rough usage of these operations.
- (b) Measure the visibility of the lights with their various shades fitted.
- (c) Test the endurance of each lamp by observing the number of hours it will burn continuously giving a full-powered light after being fully charged.

6. To ensure that the batteries are maintained in an efficient condition, attention is drawn to the instructions for maintenance contained in A.F.O. 1428/27.

7. The nine Type A\* lamps (the balance of the trial order, which are now in the 1st Minesweeping Flotilla, over and above the 12 that were converted by "Vernon") should be returned to store and earmarked for issue to vessels supplied with a Mark I minesweeping outfit, one lamp being supplied per outfit in lieu of a Type A\*\* lamp, for use with Oropesa sweep floats only; this will be only after lamps and adapters are supplied for use with the Oropesa sweep floats.

8. Pattern 8734 staffs for dan buoys should be used in conjunction with the lamp, Type A\*\*.

(A.F.Os. 1428/27 and 2702/29.)

### **3022.—Chlorosulphonic Acid for Smoke Production— Properties and Precautions.**

(N.S. 12382/29.—22.11.1929.)

The present design of storage drum for chlorosulphonic acid does not embody an acid pourer, and A.F.O. 1154/26 should accordingly be amended by the deletion of paragraph 10.

(A.F.O. 1154/26.)

### **3023.—Cylinders Containing Gas—Protection from Heat during Transit.**

(N.S. 13485/29.—22.11.1929.)

An instance has recently occurred in which a cylinder containing gas became so heated by exposure to the rays of the sun, whilst being transported in an open motor lorry, that the increased gas pressure caused the safety disc to blow out.

2. Steps are therefore to be taken to ensure that when cylinders containing gas are transported, they are protected from the direct heat of the sun.

3. If covered lorries are not available and tarpaulin covering is used, care is to be taken to ensure that an air space is provided between the cylinders and the tarpaulin.

### **3025.—“Special” or “Cost Price” Consumable Stores issued to H.M. Ships, etc., Operating the Central Storekeeping System.**

(N.S. 11330/29.—22.11.1929.)

When any of H.M. ships or establishments operating the central store-keeping system is supplied with Naval consumable stores of a non-rate book description, or which are marked “cost price” in the rate book, the prices at which such stores are debited to the ship or establishment in the Dock-yard Expense Accounts are to be communicated to the receiving unit by the Expense Accounts Officer at the issuing yard as soon as possible after the date of issue and without waiting for a request.

2. In order that ships, etc., may be able to “link up” the prices furnished with the articles supplied, the following information should be given in addition to the price:—

- (i) Register number of ship's demand.
- (ii) Date of bundle.
- (iii) Description of article.
- (iv) Quantity supplied.

**3046.—Issued Confidentially.**

### **\*3050.—Submarine Pay—Officers and Ratings Borne for Duty in New Submarines under Construction.**

(N.P. (II) 2401/29.—29.11.1929.)

When officers and men are borne for duty in new submarines under construction, payment of submarine allowance to officers at the rates laid down in King's Regulations and Admiralty Instructions, Appendix I, Part 3, No. 51, Clause 1 (i), and to men at the higher rates laid down in Appendix XVII, Part 3, No. 81, is not to be made prior to the date on which the installation of main batteries in these vessels is completed.

### **3057.—Torpedoes—Care and Maintenance—Nomenclature of Routines.**

(T./A.S. 4462/29.—29.11.1929.)

It has been noticed that ships occasionally enter in the history sheets of torpedoes, notations to the effect that an examination after transit (E.A.T.) has been carried out.

2. The expression "Examination after Transit" (E.A.T.) refers to a routine carried out in Torpedo Depôts only, and it is not to be used by ships. The routine carried out by ships when a torpedo is received on board is entitled "Examination on Receipt" (O.U. 5386/28, page 8, and O.U. 5387/28, page 13), and this expression is to be used when making a notation in torpedo history sheets.

### **3058.—Issued Confidentially.**

### **3059.—Gun Mountings, 15 in. and 13·5 in.—Hydraulic Exhaust Tanks in Turrets—REPORT.**

(G./D. 13672/29.—29.11.1929.)

During recent training trials carried out in a 15-in. mounting, defects developed in one of the hydraulic exhaust tanks fitted on the revolving structure resulting in the tank bursting.

2. On examination of the tank after the failure, it was found that the bolts securing the plate stays were sheared, allowing the bottom of the tank to bulge and strain the flange of the side plate. This, in conjunction with the pulsations of the unsupported bottom plate, developed an internal crack in the flange of the side plate and led to final fracture in the bend of the flange.

3. The plating and stays of all hydraulic exhaust tanks are to be examined, and reports are to be forwarded to the Admiralty, through the Administrative Authority, as to their condition.

4. Where it is considered necessary to renew the rivets or bolts securing the plate stays to the tank, the holes are to be reamed out and new rivets or bolts fitted. Care is to be taken that the rivets or bolts are a driving fit in the holes in the plate stays and the brackets securing the stays.

5. Any defects discovered which are beyond the capacity of the ship's staff are to be included in a Defect List.

### **3061.—Rockets, Sound, $\frac{1}{2}$ lb., Mark IV—Withdrawal—REPORT.**

*Yard Craft, etc.*

(A.S. 5736/29.—29.11.1929.)

Rockets, sound, Mark IV, will no longer be supplied to H.M. ships, R.F.A. vessels, etc., and all stocks on board, together with detonators, No. 3, Mark I, guncotton primers, Mark II, and rectifiers for same, should be landed at nearest Armament Supply Depôts as convenient.



2. Armament Supply Depôts are to report to Admiralty (C.S.A.S.) total stocks landed and in store, on receipt of which instructions as to disposal will be issued as necessary.

3. The necessary amendments to Naval Proportion Books will be promulgated in due course.

### 3063.—*Issued Confidentially.*

### 3066.—**Storing Arrangements.**

*Reserve Minesweepers, Home Dockyards, and Malta.*

(N.S. 6733/29.—29.11.1929.)

Parent ships of groups of the reserve minesweepers laid up at Malta are to be kept fully stored with permanent and consumable stores in accordance with the Main Sea Stores Establishments (*i.e.*, for two months).

2. The reserve minesweepers laid up at Chatham are to retain on board only the stores shown on the following lists, (apart from any stores drawn under the Establishment for care and maintenance), *viz.* :—

(a) Boats and carley floats, binnacles and compasses, steaming lights, searchlight projectors, searchlight pedestals, anchors and cables, cabin and wardroom furniture, towing spans, etc., hawser reels, spring mattresses, semaphores, fire irons (boiler), portable forges, vices, collision mats, pistol racks, bottom lines, W/T gear (aerials to be kept in place).

(b) Minesweeping Gear: Gallows complete and fit for service, and the Mark I outfit complete, in accordance with the Establishment of Naval Stores for Minesweeping (A.F.O. 2702/29).

N.B.—The foregoing lists (a) and (b) apply also to the remaining reserve minesweepers laid up at Malta, with the exception that articles liable to deterioration through climatic conditions, *e.g.*, boats, compasses, etc., are not to be retained on board.

3. The vessels laid up at Chatham and Malta will, on mobilisation, be stored from those yards. Special reserves of Naval Stores, to complete the vessels on mobilisation, are to be maintained at the yards, and the necessary dormant demands are to be held by the Naval Store Officer. Periodical checks are to be provided for, to ensure that the stores in question are available for immediate supply and are in good condition.

4. Arrangements for storing the vessels are to be included in the local arrangements for mobilisation.

5. Certain minesweepers are at present in commission on detached duties. These are—

“ Alresford ”	... ..	} Attached to Navigation School.
“ Caterham ”	... ..	
“ Carstairs ”	... ..	Tender to “ Erebus.”
“ Fermoy ”	... ..	Tender to “ Vulcan.”
“ Forres ”	... ..	Attached to R.N. College, Dartmouth.
“ Ross ”	... ..	Tender to “ Dolphin.”
“ Tedworth ”	... ..	Tender to “ Vivid.”

Any stores necessary to complete these vessels on mobilisation are to be reserved in store at the port to which they are attached, which port should also be regarded as their storing port while they are in commission.

6. The necessary steps are to be taken to ensure that while vessels are in the reserve, the stores and equipment detailed in paragraphs 1 and 2 are on board, and that they are in a serviceable condition. If any articles are in need of repair or require replacement, arrangements are to be made for the work to be undertaken (with dockyard assistance, if necessary) or for serviceable articles to be obtained. Opportunity is to be taken when the vessels are in dockyard hands for docking, to examine and, if necessary, repair the equipments.

(A.F.O. 2702/29.)

**3070.—Batteries for Rangefinders, Pattern 5846.**

(N.S. 13226/29.—29.11.1929.)

The batteries at present supplied as components of rangefinders, Pattern 5846, should be removed from instruments in store, and those in a serviceable condition transferred to Subhead F, Item 2A, and taken into stock for utilisation.

2. The arrangements for supply of Pattern 4976 Cells for Rangefinders, Patterns 3441, 4053 and 3442, are also to apply to Pattern 5846 Rangefinders.

**3071.—Submarine Battery Components to be carried in Depôt Ships—REPORTS.***Submarine Depôt Ships and Yards concerned.*

(N.S. 10993/29.—29.11.1929.)

It has been approved to supply the undermentioned submarine battery components as depôt ship allowances:—

(a) To be carried in H.M.S. "Cyclops":—

- 2 containers selected from Cat. Nos. X2, X4, X5, X47, X49, X54 or X56.
- 2 covers selected from Cat. Nos. X8, X10, X11 or X42.
- 1 container, Cat. No. C.H.57.
- 1 cover, Cat. No. C.H.58.

(b) To be carried in H.M. Ships "Lucia" and "Dolphin":—

- \*3 containers selected from Cat. Nos. X2, X4, X5, X47, X49, X54 or X56.
  - \*3 covers selected from Cat. Nos. X8, X10, X11 or X42.
- \* In each ship.

(c) To be carried in H.M.S. "Vulcan":—

- 2 containers selected from Cat. Nos. X2, X4, X5, X47, X49, X54 or X56.
- 1 container, Cat. No. X46.
- 2 covers selected from Cat. Nos. X8, X10, X11 or X42.
- 1 cover, Cat. No. X42 (complete with vent and float indicator fittings).

(d) To be carried in H.M.S. "Medway":—

- 3 containers, Cat. No. X5.
- 3 covers, Cat. No. X42.

(e) To be carried in H.M.S. "Titania":—

Quantities and descriptions will be promulgated later.

2. Arrangements for the supply of these components to H.M.S. "Medway" have already been made (N.S. 10993/29/16997, dated 9th September, 1929). The remaining vessels should demand on their storing yard.

3. Reports should be rendered by the ships concerned through their administrative authorities on 1st November each year, stating whether these allowances have been found suitable and adequate.

4. The necessary amendment to the Establishment of Naval Stores for Submarines will be made by errata in due course.

**\*3079.—Annual Leave with Pay for Workpeople.**

(P.L. 2485/29.—29.11.1929.)

The following decisions on questions arising out of the grant of six days' leave, with pay, to Admiralty workpeople are promulgated for information and guidance, for application during the present leave year:—

- (i) The six days are to be allowed, if practicable, to any employee who completes twelve months' service, without regard to the nearness of the end of the leave-year.

- (ii) The qualifying period of twelve months' service is to include any service previous to the last entry which would be reckonable for superannuation.
- (iii) Apprentices and boys under 18 years of age are to have the six days' leave in addition to the six holidays (including the four general holidays) allowed under the previous Regulations.
- (iv) For apprentices and yard boys attending school, the six days' leave is to be additional to the same number of holidays as for apprentices and boys under 18 years of age, and no deduction is to be made from the six days' leave, now allowed generally, on account of the six days granted on the occasion of apprentices completing a fourth year at school.
- (v) An additional holiday in lieu of Boxing Day is not to be allowed to women and young persons (apprentices and boys under 18 years of age) in consequence of Boxing Day being made a general holiday.
- (vi) Leave with pay for chargemen and others, after three years' service, is to be allowed in the same way as before. Until the leave allowed for their grade becomes due, these classes are to have the six days' leave as now allowed for workmen. The two allowances are not to overlap.
- (vii) The six days for Territorial training is additional to the general six days.
- (viii) Men paid for seven days a week are to be allowed leave corresponding to the attendance normally required for a full week as paid for at ordinary time rate. Time paid for at an enhanced or overtime rate is not to be counted as part of a normal week for this purpose.
- (ix) Instructors in training establishments are to take their leave when the establishments are closed.
- (x) The leave may be granted (in the present year) at any time whilst the man is serving, without reference to the fixed or anticipated date of discharge, but service should not be extended to enable employees to take leave of absence.
- (xi) For workmen employed in grades allowed leave in excess of that granted for the general body of workmen, leave on the higher scale will be given as may be earned in the situations for which the higher scale is allowed. In such cases, leave on the scale for workmen will be given only to the extent that it is not included in that taken on the higher scale.
- (xii) For men entered on the yard books as ordinary hired workmen, casual service immediately preceding such entry may, if properly recorded by the Cashier (or other paying officer) be allowed to reckon for the twelve months' qualifying service.
- (xiii) Leave allowed on appointment to, and return from, service under agreement at yards abroad is additional to the six days allowed to workmen in general.
- (xiv) Where, as with the electrical station staffs, workmen are paid at overtime rates for a certain portion of their routine hours of duty, the amount of leave with pay should correspond to only the hours paid for at ordinary time rates. (See line 8, paragraph 2, of A.F.O. 2329/29.)
- (xv) Apprentices on board wages over 18 years of age and not attending school should be allowed six days' leave with full pay.
- (xvi) Absence without leave should not be reckoned in the qualifying twelve months' service.
- (xvii) Part-time workers should be allowed leave equal to their normal weekly attendance.
- (xviii) The last clause of paragraph 3 of A.F.O. 2329/29 does not refer to periods of leave of absence not exceeding 28 days in the year.

- (xix) Workmen serving under building trade conditions are eligible for leave with pay to the extent of a normal working week.
- (xx) The pay issuable for periods of absence on leave with pay is the ordinary time rate. Overtime pay, piecework earnings, and non-permanent allowances, are not to be included.
- (xxi) The leave with pay is additional to the five general holidays for the workmen in general, and additional to the six holidays (including Boxing Day) for women and young persons.
- (xxii) The annual leave and additional holiday (or day in lieu) are applicable to workmen sent from home establishments for service under agreement at yards, etc., abroad.

(A.F.O. 2329/29.)

### 3091.—Entry for Pay of Midshipmen and Cadets on first Joining Sea-going Ships.

(N.P. (I) 3648/29.—6.12.1929.)

*Cadets, ex Dartmouth.*—Cadets appointed to sea-going ships are entitled to pay at the rate of 4s. a day, and should be entered accordingly with a "nil" balance as from the date of appointment. No pay documents will be forwarded from the Royal Naval College, Dartmouth.

Their parents or guardians are required to provide a private allowance of 1s. a day in order to bring the total amount up to 5s. a day, the pay of a Midshipman. This allowance should be credited to the Cadets as a debit to Vote 1, payment thereof by the parents or guardians being obtained in advance by the Accountant-General of the Navy. Any debit or credit balance remaining on completion of cadetship is to be carried forward on the officer being rated Midshipman.

*Special Entry Cadets, ex "Erebus."*—The date on which these officers join the sea-going ship is on or subsequent to the date of their being rated Midshipmen, and they should be entered for pay at 5s. a day with a "nil" balance as from the date of promotion. No pay documents will be forwarded from the training ship, any balance standing to the officer's credit prior to the date of his being rated Midshipman being payable to his guardians.

*Paymaster Cadets.*—Paymaster Cadets on first appointment to a sea-going ship should be entered for pay from the date of appointment at 4s. a day. Any balance standing to their credit to the preceding day will be reported by the Accountant Officer of the training ship, and should be paid through the cash account, being classified "Cadets in H.M. Ships—Private Allowance Account." This balance will not usually be communicated until some short time after the Paymaster Cadets have joined their ships, owing to unavoidable delays in closing their accounts for the final term in the training ship.

*Delay in joining owing to sickness.*—When Cadets or Paymaster Cadets are delayed in joining a sea-going ship owing to sickness, the fact is to be reported to the Admiralty for instructions as regards their entry for pay.

*Note.*—The rates of pay quoted are subject to revision on or after 1st July, 1930.

### 3093.—Torpedoes—Discs, I.R., for Hydro Valves—Re-introduction of St. Nos. 989 and 1266.

(A.S. 5781/29.—6.12.1929.)

In view of the possibility of distortion of Discs, I.R., for H.V., St. No. 1266a, when carrying out the 10 lb. pressure test on the B.C., it has been approved to revert to the use of Discs, I.R., St. Nos. 989 and 1266.

2. Outstanding demands from vessels for H.V. discs for 18 in. VII\*\*\*\*\* and 21 in. II-IV\* torpedoes will be met by the issue of the appropriate discs, viz., St. No. 989 to vessels armed with torpedoes fitted with D.H.V., and St. No. 1266 to vessels armed with torpedoes fitted with G.D.G.

3. Supplies of Discs, St. Nos. 989 and 1266, are now available, and future demands are to be for one or other of these separate discs, as necessary.

4. The allowances of Discs, St. Nos. 989 and 1266 (contained in Cylinders, St. Nos. T.100 and T.101 respectively), will be the same as those laid down for Discs, St. No. 1266A (contained in Cylinders, St. No. T.103).

5. Labels of cylinders and torpedo store accounts should be amended as necessary.

(A.F.O. 2880/28.)

### **3094.—Torpedoes—Stores and Tools—Springs, Elastic Rod, G.D.G.**

(A.S. 5413/29.—6.12.1929.)

It has been decided that the undermentioned item is to be withdrawn from Chests, Spare Gear, 21 in., Mark V, viz. :—

“Spring, elastic rod, G.D.G., St. No. 1387,”

and ships and vessels carrying 21 in., Mark V, and Mark V, A.T., torpedoes are to return to store the Springs, St. No. 1387, on board, and delete this item from store accounts and labels of spare gear chests.

2. The item will normally, in future, be supplied to Torpedo Depôts only, as St. No. 1274.

### **3095.—Heads, Collision—Allowance as Spares for Vessels Armed with both A.W. and S.F. Tubes.**

(A.S. 5455/29.—6.12.1929.)

It has been decided that all vessels armed with both A.W. and S.F. tubes are to receive three spare collision heads per ship, *i.e.* :—

2 spare per ship of the type required for S.F. Tubes.

1 „ „ „ „ „ A.W. „

2. Vessels concerned which at present have only 2 spare heads on board are to demand the additional head from the nearest torpedo depôt.

3. Torpedo store accounts are to be amended as necessary.

### **3098.—Director—6 in., P.XIII Type Elevation Receivers.**

*Ships Fitted and Yards.*

(G. 7268/29.—6.12.1929.)

Instances have recently been reported of damage to 6 in. P.XIII type elevation receivers. The damage is due to the bracket carrying the tilt corrector worm-wheel being replaced and secured with the worm-wheel not properly engaged in the worm on the tilt corrector motor shaft, thus causing bending and/or jamming of the shaft.

2. Tilt correctors should not be removed or adjusted except by duly authorised persons acquainted with their mechanism.

### 3099.—Director Firing Gear—16 in., 8 in., and 6 in. Elevation and Training Receivers—Modified Pointers—REPORT.

"Nelson" and "Rodney," "Kent" and "London" Classes,  
"Australia" and "Canberra."

(G. 7502/29.—6.12.1929.)

Modified pointers of a stiffer design have been manufactured for the elevation and training receivers fitted in the ships referred to above.

2. These are being delivered as follows :—

	<i>Elevation Receivers.</i>	<i>Training Receivers.</i>
<i>To Portsmouth—</i>		
Components—16 in. turrets—"Nelson" ...	8	3
"Rodney" ...	9	3
"      16 in. towers "Nelson" ...	—	3
"Rodney" ...	—	3
"      6 in. turrets—"Nelson" ...	12	6
"Rodney" ...	12	6
Spares—16 in. and 6 in. turrets—"Nelson" ...	1	1
"Rodney" ...	1	1
"      16 in. towers—"Nelson" ...	—	1
"Rodney" ...	—	1
Reserve 6 in. turret—"Nelson" ...	2	1
Dockyard sets—"Nelson" and "Rodney" ...	2	2
Reserve 8 in. turrets—"Kent" class ...	4	2
"      "      "London" class ...	4	2
<i>To Devonport—</i>		
Reserve 6 in. turret—"Rodney" ...	2	1
<i>To Hong Kong—</i>		
Components—8 in. turrets—"Kent" class ...	40	20
Spares—8 in. turrets—"Kent" class ...	2	2
<i>To Malta—</i>		
Components—8 in. turrets—"London" class ...	32	16
Spares—8 in. turrets—"London" class ...	2	2
<i>To Chatham—</i>		
8 in. receivers at Gunnery School ...	1	1

*To Devonport—*

Reserve 6 in. turret—"Rodney" ... 2 1

*To Hong Kong—*

Components—8 in. turrets—"Kent" class ... 40 20

Spares—8 in. turrets—"Kent" class ... 2 2

*To Malta—*

Components—8 in. turrets—"London" class ... 32 16

Spares—8 in. turrets—"London" class ... 2 2

*To Chatham—*

8 in. receivers at Gunnery School ... 1 1

Delivery of the sets for H.M.A.S. "Australia" and "Canberra" is being arranged by the Australian authorities.

3. The ships concerned should forward demands for the necessary pointers to the appropriate Yard and the substitution of the new pointers for the existing ones should be carried out by ships' staffs.

4. In the case of base spares and instruments on reserve mountings, the pointers should be fitted by dockyard labour.

5. On completion of the work, a report is to be forwarded through the Administrative Authority.

### 3100.—Breech Mechanism, O.B.L., 6 in., Marks XII, XIIA, XIIIB, XXII, and XXII\*—Modification to Carriers.

(A.S. 5056/29.—6.12.1929.)

To prevent possible damage when the breech mechanism of a gun is opened with the vent unmasked, the recess in the lock actuating link of the carrier is to be modified to clear lock guide bolt, in accordance with Instructional Print N.O.D. 2123/82.

2. The necessary work should be carried out by R.N. Armament Staff at depôts where facilities permit, when opportunity offers, and copies of the prints are being forwarded to depôts for guidance.

**3103.—Issued Confidentially.****3105.—Electric Cables and Fittings—Method of securing in Turrets and on Bulkheads in wake of Gun Blast.**

(T. 3587/29.—6.12.1929.)

*Electric circuits and fittings in turrets.*

(i) Wherever considerations of weight, space, accessibility of machinery and efficient communication between parts of turret, etc., permit, lead-sheathed cables should be carried on non-perforated plating or in conduits.

Cables, wires and lamp fittings are not to be fastened directly to the shields or shield supports.

(ii) Wherever practicable, lamp fittings in gun houses should be attached to the plating carrying the lead-sheathed cables supplying current to the lamp, or where the cables are fitted in conduits, the brackets carrying the lamp fittings should be attached to the conduits.

(iii) All cable clips, electric fittings, also plating and conduits carrying cables, should be secured by screws or bolts and nuts; welded screw studs should not be used for securing cable clips, fittings and plating, except in cases where their use is the only alternative to the drilling of important watertight structures.

(iv) Cable clips for lead-sheathed cables should be spaced about half the distance apart specified for general ship work.

(v) Bends in lead-sheathed cables and wires in close proximity to one another should, as far as possible, be avoided, and all bends should be of maximum radius consistent with appearance and efficiency.

(vi) Instruments should be fixed to selected positions with a grommet of rubber under the securing lugs.

*Electric cables and fittings in wake of gun blast exclusive of those in turrets.*

(i) Perforated plating should be used for carrying cables and fittings on bulkheads in wake of gun blast. Preferably gear should not be mounted on these bulkheads if other places can be found.

(ii) Cables and lamp fittings on the underside of the deck should be fixed on plating secured to the beams.

(iii) Welded stud fastenings should not be used for securing cable clips, fittings and plating, except in cases where their use is the only alternative to the drilling of important watertight structures.

(iv) Clips for small lead-sheathed wires and cables should be spaced about half the distance apart specified for general ship work.

*Note.*—The remarks contained in clause (iii) of the foregoing instructions are not to be held to cancel the existing instructions, that important watertight structures are not to be drilled for securing cable clips and similar fittings.

**3106.—Two-wire Telephone Exchanges.**

*"Nelson," "Rodney," "Australia," "Canberra," "Kent," and "London" Classes.*

(T. 4908/29.—6.12.1929.)

The shore connection jack unit of the main exchange is provided with a 120 ohm choke coil connected from the jack spring to the negative terminal.

2. This coil was originally provided to prevent the application of the buzzer call up of the ship's exchange, to the shore line, when using condenser coupling from ship to shore. This coil has been rendered redundant by fitting the repeater coil, G.P.O. Pattern 4006A, for transformer coupling, and the communication is improved with this coil disconnected.

3. The choke coil should be disconnected in the shore connector jack units of the exchange, the work being done by ships' staffs.

**3108.—Drifters—Survey—REPORT.**

(D. 16857/29.—6.12.1929.)

Arrangements are to be made for all Admiralty drifters now on service, to be surveyed by the dockyards concerned, when these vessels are next in hand for docking, and reports furnished on their general condition, stating the further life of the hull, machinery, boilers, and electrical machinery.

2. Particular attention should be given to those parts of the hulls which are usually inaccessible, and the survey should embrace all important features, such as dynamo, windlass, etc.

3. All opening up, removal of linings, etc., preparatory to survey, is to be carried out by ship's staff, also replacement, etc., after survey.

**3109.—Ships' Galleys—Steaming Pipes and Tubs—Precautions against Accidents.***H.M. Ships.*

(D. 16846/29.—6.12.1929.)

A serious accident occurred recently in the galley of one of H.M. ships on a cook rating, in stepping backwards from making up the fire, slipped and fell backwards into a steaming tub containing boiling soup.

2. The following recommendations of the report of the Court of Inquiry are promulgated for general information and any action desired:—

“Some form of lagging might, with advantage, be fitted to the upper portion of the steaming pipe. This lagging would have to be capable of being scoured.”

“A cover, formed of battens or of metal wire, placed over the steaming tubs when the latter are unattended, might be of advantage.”

**3111.—A/S Installations, Types 112, 113A, B and C, 114, 115, 116 and 117—Use of Dull Emitter Valves with Patt. 6721 Amplifiers M7, and Patterns 7475 and A. Amplifiers M20.—REPORT.**

(N.S. 10325/29.—6.12.1929.)

It has now been established that the following additional instruments will also use dull emitter valves without modifications:—

Pattern 6721	...	...	...	...	Amplifier M7.
Pattern 7475A	...	...	...	...	Amplifier M20.

2. It has therefore been approved to issue Pattern 7407 valve wireless NR17 to all vessels fitted with an amplifier M7 after the stocks of Pattern 6720 valve NR12 are exhausted.

3. No further purchases of Pattern 6720 valves NR12 will be made.

4. Any demands for valves for amplifiers M7 are, for the present, to be made out for the existing pattern valves, though it is possible that Pattern 7407 valves NR17 may be supplied in lieu. It is important that on receipt of the valves these should be carefully examined to ascertain whether bright or dull emitters have been supplied. A further A.F.O. will be issued later, giving information that stocks of the old valves are exhausted and that future demands are to be made for the Pattern 7407 valve.

5. In the same way demands for valves for heterodyne K5 are to be made out for Pattern 5427 NR7 valves, though Pattern 7406 valve NR14 may be supplied in lieu. The same examination of newly received valves is to be made to see which type has been supplied.



6. As soon as a ship receives dull emitter valves of either type for A/S purposes, care is to be taken that the necessary modifications to battery arrangements are carried out.

7. Any ship receiving dull emitter valves, either NR14 or NR17, is then to demand a complete outfit of dull emitter valves on the basis of the present allowance, and report the quantity of redundant bright valves carried (including any that may be partly used) to the Senior Officer of the Squadron or Flotilla for consideration of transfer direct to other ships who have not yet turned over to dull emitter valves.

8. Bright emitter valves which have already been in use should be included in any such transfer and should be accompanied by a history sheet, stating the number of hours which they have already been burnt.

9. With regard to the two Pattern 7475 amplifiers M20, lent to the 6th Destroyer Flotilla and "X.1," valves and adaptors will be forwarded on loan from H.M.S. "Osprey," Portland.

10. For the Pattern 7475A amplifier M20 now being supplied to H.M.S. "Cornwall" to replace the Pattern 7475 originally issued, dull emitter valves are also being forwarded by Superintending Naval Store Officer, Portsmouth. The existing stock of Pattern 7400 valves is to be returned to store.

11. Commanding Officers of A/S fitted vessels are to inform Captain A/S, through their Senior Officers, when the new pattern valves have been supplied, and confirm that the battery modifications have been made.

12. The necessary corrections to the Establishment of Stores for A/S Purposes will be made in due course.

### 3113.—H.C.D. Searchlight Lamps—Spare Part Boxes.

(N.S. 12501/29.—6.12.1929.)

Spare part boxes for Mark III H.C.D. lamps vary in pattern and design, as they were manufactured and supplied before the standard box, Pattern 114, was evolved.

2. Ships should check the items shown in the appended list to ensure the boxes being complete.

3. It is proposed not to modify existing boxes to Pattern 114, but ships should modify their boxes as required to contain all the necessary spare parts.

4. Ships having Mark IV H.C.D. lamps should use Mark III spare part boxes, and for any special items not contained therein a demand on "Vernon" Electrical Department should be made.

#### LIST OF ITEMS THAT SHOULD BE IN MARK III SPARE PART BOX.

Pat. No.	Item.	No.
5714	Nut feed for positive cartridge ... ..	2
5722	Wormwheels for heads ... ..	2
5723	Worms for wormwheels ... ..	2
5724	Armature for motor ... ..	1
5725	Field coils for motor ... ..	1 pair
5727	Ball bearings, complete, for motor ... ..	2
5728	Series striking coils ... ..	1
5729	Rheostat ... ..	1
5730	Couplings, complete, for armature shaft ... ..	2
5734	Washers—phosphor bronze for heads ... ..	2 sets
2045	Carbon brushes for motor ... ..	6
313	Brush, wire, cleaning cartridge ... ..	1
15	Brush, hair, cleaning gears ... ..	1
5711	Positive head casting ... ..	1
5716	Positive head facing discs ... ..	7

<i>Patt. No.</i>	<i>Item.</i>	<i>No.</i>
5717	Negative head casting ... ..	1
7897	Graphite contact, positive ... ..	3
7898	Graphite contact, negative ... ..	3
7894	Positive cartridge, complete ... ..	2
7895	Negative cartridge, complete ... ..	2
7896	Nut feed for negative cartridge ... ..	2
5731A	Springs for thrust fork ... ..	2
7904	Carbon holder for arc striker ... ..	1
7902	Tool for grindery, positive contacts ... ..	1
7903	Tool for grindery, negative contacts ... ..	1
7899	Cutting tool for positive head ... ..	1
7900	Cutting tool for negative head ... ..	1
7901	Handle for cutting tools ... ..	1
7905	Arc beater ... ..	1
7908	Gauge for trimming carbons and registering position of arc beater ... ..	1
7906	Wormwheel for main drive ... ..	1
7907	Fire start worm for wormwheel ... ..	1
7909	Insulating coupling ... ..	6
7913	Tap for cartridges ... ..	1
7914	Handle for cartridge tap ... ..	1

### 3115.—Stores—Theft.

(N.S. 12650/29.—6.12.1929.)

Particular attention is called to the necessity for prompt reporting to the police of losses of stores which are believed to be due to theft whilst vessels have been open to visits by the civilian public. Notifications of such losses are to be sent to the Chiefs of the Borough Police Forces at the places which were visited when the losses were first discovered.

(*K.R. and A.I., Article 1938.*)

### 3117.—Cinematograph Films landed from H.M. Ships.

(N.S. 14470/29.—6.12.1929.)

Delay has occurred recently in the clearance by H.M. Customs of cinematograph films landed from one of H.M. ships on arrival from abroad, owing to the certificate required by A.F.O. 3120/23 not having been furnished, and the attention of ships' officers is called to the necessity for compliance with paragraph 2 of this Order.

2. The following specimen label may be used :—

*Label to allow immediate relanding of cinema films from H.M. ships free of duty.*

This label has been prepared in accordance with A.F.O. 3120/23 (N.L. 5612/23 23/11/23) and should be filled in and gummed on to each box of films shipped on board.

Title of film.....  
 Owner of film.....  
 Shipped at.....on.....19 .

(Being a British or North Irish Port).

Received on board H.M.S.....by.....  
 Rank.....

(*A.F.O. 3120/23.*)

### 3119.—Tubes for Condensers of "War" Class Oilers.

(N.S. Fuel 4993/29.—6.12.1929.)

Tubes of Admiralty mixture are to be used for any renewals in the condensers of "War" class oilers, and when condensers of these vessels are opened up provision is to be made in the horizontal division plate of the water box for a number of air relief holes about  $\frac{3}{8}$  in. in diameter, if these are not already provided.

### 3120.—Furniture Lent to Civilian Social Clubs, Recreation Rooms, Etc., and N.A.A.F.I.—Percentage Charges—RETURN.

(N.S. 8885/29.—6.12.1929.)

The percentage charges for furniture lent under Admiralty approval to civilian employees' social clubs, recreation rooms, etc., has been fixed at the rate of 9 per cent. per annum for permanent articles and 20 per cent. per annum for consumable articles. These rates are to be applied from 1st October, 1929, except in cases where instructions have already been given for such rates to operate from an earlier date.

2. These rates will also be charged as from 1st October, 1929, for any furniture supplied to the N.A.A.F.I. for use in living accommodation for canteen staff or for use in accommodation in excess of the standard scale, unless such excess accommodation is necessarily occupied owing to the structural nature of the room.

3. Only such articles of furniture as are normally stocked may be supplied, and no furniture is to be provided specifically for issue on loan.

4. Heads of yards and establishments are to furnish to the Admiralty (N.S. Department), through the respective Commanders-in-Chief, a list of the clubs, recreation rooms, etc., considered to come within the scope of this A.F.O., a nil return being furnished where applicable.

### 3124.—Motor Transport Statistical Returns D.536.

(N.S.M.T. 507/29.—6.12.1929.)

Difficulty has been experienced in examining the Motor Transport Statistical Returns D.536, owing to the fact that some of the returns are rendered in pencil, which is difficult to read under artificial light.

2. It is therefore requested that arrangements may be made for future Returns D.536 to be rendered in ink.

### 3158.—Blind Material, Brown Holland, Linen—Government Department Specification.

(N.S. 13054/28.—6.12.1929.)

A Government Department specification (T.C. 113) for brown holland, linen, Pattern T.339, has now been approved and sealed patterns have been distributed to home yards from the Admiralty Pattern Rooms.

2. Copies of the specification will be distributed in due course.

3. In all future demands provision should be made under the new patterns, the existing stocks of patterns replaced being grouped with the new description.

4. Details of the new pattern and of the patterns which are being replaced are as follows:—

<i>New Specification.</i>				<i>Admiralty Patterns Replaced.</i>			
<i>Patt. No.</i>	<i>Description.</i>			<i>Patt. No.</i>	<i>Description.</i>		
T.339	Holland, brown, linen:—			755	Holland, brown ...	...	32 in.
	36 in. wide	...	...	755A	" "	...	33½ in.
				60	" drab	...	36 in.
	42 in. "	...	...	61	" "	...	42 in.
	48 in. "	...	...	50	Tammy, brown	...	42 in.
	54 in. "	...	...	62	Holland, drab	...	48 in.
	60 in. "	...	...	63	" "	...	54 in.
	72 in. "	...	...	64	" "	...	60 in.
				65	" "	...	72 in.

5. The necessary amendments to the Authorised List of Naval Stores will be effected in due course.

**3162.—Issued Confidentially.**

### 3172.—Railway Warrants—Supply, Custody, and Issue.

(C. (II) 5642/29.—13.12.1929.)

The following instructions regarding railway warrants are promulgated for information and guidance. It is important that these instructions should be strictly observed.

1. *Description of Railway Warrants.*—The railway warrants in use are as follows:—

<i>Number and Colour of Form.</i>	<i>Size of Books.</i>	<i>Purpose for which each Form is to be used.</i>
A.G.800 (blue) ... (Duty).	In books containing 50 and 100 forms respectively.	For the use of Naval officers and ratings travelling on duty.
A.G.800 (blue) ... (Duty.)	In books containing 25 forms.	For the use of Naval officers on special detached duty who are unable to obtain warrants from books in general use in ships or establishments.
A.G.833 (white)... (Duty).	In books containing 50 forms.	For the use of civilian officials and workmen travelling on duty.
A.G.844 (blue) ... (Repayment.)	In books containing 25 forms.	For the use of Naval officers and men in cases where the cost is recoverable from the bearer.

2. *Demands for Railway Warrants.*—(i) Demands should be made on the Accountant-General of the Navy for supplies of books of warrants.

(ii) Demands from officers, other than Commanding Officers of ships and heads of establishments, should be countersigned by a superior officer. If the officer is asking for a book for the first time, the demand should be accompanied by a statement of the reasons which necessitate the issue of a separate book, showing definitely why it is not possible for warrants to be obtained as necessary from the Commanding Officer of the ship or establishment to which the officer in question is attached.

(iii) First applications from ships acting as tenders should be sent in through the Commanding Officers of the parent ships, who should certify that it is necessary for a separate supply to be made.

3. *Custody of Books of Railway Warrants.*—(i) It is essential that the books shall be kept under lock and key, and that a responsible officer (a Commissioned Officer in Naval cases) shall be deputed to take them into custody and supervise their issue.

(ii) Special care is to be taken to prevent unauthorised persons from obtaining access to the books.

(iii) Officers holding personal books of warrants should bear in mind that they are personally responsible for the safe custody and use of the forms in their possession.

(iv) A record is to be kept in ships and establishments of the dates of receipt of railway warrant books, and of the return to the Admiralty of unused warrants or counterfoils.

(v) The Commanding Officer of the ship or establishment or a responsible officer deputed by him, is to satisfy himself by periodical inspections, that this record is properly kept and that the railway warrants actually in hand are as shown in the record. This inspection should be made at least once a month, and should include such detailed examination of the book or books of warrants as will ensure the detection of the abstraction of any unused warrants.

(vi) Should any warrants be lost, an immediate report with full particulars of the circumstances, and the steps taken with a view to their recovery, should be sent to the Accountant-General of the Navy.

4. *Disposal of Books of Warrants.*—(i) Subject to the rule laid down in the next paragraph, the counterfoils of used warrants may be retained for reference for a period not exceeding six months and should then be returned to the Accountant-General of the Navy (Branch 8).

(ii) No warrant book is to be kept in a ship or establishment or by an individual officer without special authority for longer than two years. At the expiration of that period, if the book is still required and unused warrants remain in it, the serial numbers should be reported to the Accountant-General with the request that the book may be retained for a further period not exceeding two years.

(iii) Commanding Officers of ships paying off, and officers holding books of warrants for personal use, should take particular care to see that books are returned to the Admiralty when no longer required.

(iv) In no circumstances should a book of warrants be transferred to another ship or establishment or (where officers hold books for their personal use) to any other officer.

5. *Issue of Warrants.*—(i) Responsible officers are to exercise strict supervision over the issue of railway warrants, as failure to observe the various instructions causes unnecessary correspondence with the Admiralty, and gives rise to difficulties with the Railway Companies.

(ii) All warrants are to be made out in ink and signed in manuscript by the issuing officer. It should be particularly noted that, except for those which have been specially issued to officers on detached duty for their personal use, warrants must be signed, not by the bearer, but by a responsible officer deputed by the Commanding Officer of the ship or establishment concerned.

(iii) Care is to be taken that all details required to be shown on the warrant forms are duly filled in. Special attention is drawn to the following points:—

(a) The date of issue must always be inserted.

(b) The number of days for which the warrant is available for presentation at railway booking offices must be inserted in the space provided at the top of the form. The period shown should not usually exceed seven days, as warrants should ordinarily be exchanged for tickets within a day or two of the date of issue; the period must never exceed 30 days, as there is a standing arrangement with the Railway Companies that no warrant is to be recognised by booking clerks unless it is presented within that time.

(c) As a rule warrants should be made out to cover both the outward and return journey if the latter is expected to be made within the ordinary period of availability of a return ticket. If in such a case the return journey is not made by train, the return portion of the ticket should be forwarded to the Accountant-General, and a reference given to the number of the warrant against which it was issued.

(d) Various cheap facilities, *e.g.*, tourist, workmen's, week-end, day, and excursion tickets, are granted by the railway companies. Advantage should be taken of these facilities when practicable, if a saving would be effected as compared with the ordinary cost of a railway warrant, which in the case of civilian personnel travelling is equivalent to that of the full public fare and in the case of Naval personnel is usually three fourths of that rate.

In such cases the description of ticket required should be indicated on the warrant, and where the grant of the reduced fare depends on the date of return, the warrant should also be marked "Returning same day" or "Returning on . . . (date)," as the case may be.

In deciding whether advantage is to be taken of the ordinary Government or reduced fare arrangements, it will be necessary to take into account any extra payment of subsistence allowance which might be due if the trains under the cheap fare arrangements are restricted to certain services. Also, if the period of duty is at all uncertain, it must be borne in mind that no refund of fare will be made by the railway companies for any reduced fare ticket not used within the stipulated period for the return journey.

303-4/21

- (e) Sufficient details must be shown of the duty for which a warrant is issued to enable the warrant to be passed at the Admiralty without difficulty. Vague general descriptions such as "Duty" or "Admiralty Service" are insufficient, and lead to unnecessary correspondence. In the case of "Duty at Admiralty" or "Visit to Admiralty," the name of the Department of the Admiralty concerned should be noted on the warrant.
- (f) The rank of the bearer of the warrant must be clearly defined. Particular attention to this rule is necessary for Overseers who should not be described generally as "Overseer" or "Assistant Overseer," but under their proper ranks, *e.g.*, "Engineer Commander," "Inspector of Fitters," etc.
- (g) The Government rate (usually three-fourths of the ordinary fare) is applicable to railway journeys of Naval or Royal Marine officers on the retired list when travelling on duty, even where such officers are paid on a civilian basis. Consequently, the Naval Duty Warrant, Form A.G.800, is to be issued to such officers.
- (h) Special attention is drawn to the necessity for showing on the "Chargeable" Warrant, Form A.G.844, the rate of fare, in accordance with the classification on the back of the form, *i.e.*, "3/4ths" for absentees and deserters returning to their ships and "Full" for all others. The circumstances must also be borne in mind in assessing the charge against the bearer of the warrant on the slip detached from Form A.G.844.
- (i) Railway warrants contain a printed instruction that tickets must be issued *via* the recognised direct and cheapest route. Consequently, if it is impracticable for Service reasons that the direct route be followed, the printed instruction should be overruled by a specific manuscript instruction written on the warrant itself, in order that the appropriate ticket may be issued.
- (iv) Where deserters or absentees are conveyed by an escort, the conveyance of the deserter or absentee only is to be provided for on Form A.G.844, a separate warrant, Form A.G.800, being issued for the escort.

3173. }  
3178. } *Issued Confidentially.*

### 3179.—2¼ lbs. Dry Guncotton Primers—Precautions in Fitting.

(T. 2913/29.--13.12.1929.)

Cases have occurred of difficulty being experienced in fitting 2¼ lb. dry guncotton primers on account of the holes for the detonators being too small.

2. Also, the rectifier, Mark IV, is too small to ensure that the holes are large enough for the detonators.

3. In future, only the Mark VI rectifier is to be used before fitting 2¼ lb. dry guncotton primers.

4. When undue difficulty is experienced in inserting the Mark VI rectifier, the guncotton disc or discs are to be returned to a Naval armament depôt.

5. If a rectifier, Mark VI, is not available, a tin of No. 9 or No. 15 detonators, filled later than March, 1927, should be opened, and the rectifier, Mark VI, extracted from it. If no detonators of this date are on board, a rectifier, Mark VI, is to be demanded from a Naval armament depôt.

6. As soon as a rectifier, Mark VI, has been obtained, all rectifiers, Mark IV, not inside sealed detonator tins are to be returned to a Naval armament dépôt.

7. Naval armament dépôts are to report to Admiralty (C.S.A.S.) the number of guncotton discs landed in accordance with paragraph 4.

### 3180.—Schermuly Line-Throwing Rocket Apparatus—Issue and Instructions.

(A.S. 2340/29.—13.12.1929.)

The Schermuly line-throwing apparatus has been approved to be introduced into service to supplement the existing Coston line-throwing gun.

Issues of Schermuly rocket units will at present be made as follows:—

1 unit (2 lb. rockets) to each battleship, battle cruiser, and aircraft carrier in full commission.

1 unit (1 lb. rockets) to each cruiser in full commission, and each gunnery school.

Demands should be made by H.M. ships, etc., accordingly, and supplies will be arranged as stores become available.

The necessary amendments to Naval Proportion Book will be made in due course.

A general description of this apparatus, including instructions as to use, stowage, etc., is appended.

The existing Coston line-throwing gun will remain in general service use, and it should be clearly understood by all concerned that *the Schermuly apparatus is a supplementary supply which must be used only on rare occasions and in emergencies.*

#### APPENDIX.

The apparatus consists of a rocket and line fired by a small charge from a special pistol. It is supplied to ships in two sizes. The larger size pistol fires a 2 lb. rocket with a length of 200 yds. of  $\frac{3}{4}$ -in. line, and the smaller a 1 lb. rocket with 250 yds. of  $\frac{1}{2}$ -in. line.

2. The line is supplied in a box, coiled down ready for running. For subsequent coiling down, a metal former is supplied.

3. *To use the apparatus.*—See the line properly coiled down for running. Make the inboard end fast in the ship. Take the free end and bend it on to the eye of the tail wire of the rocket.

Grasp the pistol with the left hand by the "barrel handle," and hold it horizontally in front of the body, muzzle to the front with the breech open.

Take the rocket in the right hand and place it home in the muzzle of the pistol. Insert a cartridge with the right hand and close the breech by bringing the pistol grip up to the barrel.

Elevate the pistol to an angle of 30°, hold it firmly, close to the body with the left hand at the barrel handle and the right hand at the pistol grip.

Cock the pistol with the thumb of the right hand and it is then ready for firing.

4. *Method of preparing and preserving line for running.*—As stated in paragraph 2, the line as supplied in its box is ready for immediate running when the lid is removed. After use, to prepare for immediate running again, proceed as detailed in (i) to (iv) below.

(i) The loose plate is put inside former, handle downwards.

(ii) About 1 ft. is left free and line taken inside top row of pegs, over three pegs on right, and back over two pegs on left. This is repeated until lower flake is complete.

(iii) Turn the former round and repeat the operation at right angles to the lower flake. Repeat these operations to the end of the line.

(iv) Place former inside box, handle up, withdraw former, keeping loose plate pressed down to push line off former, and leave it in box. Loose plate can then be removed.

Care must be taken not to reeve the line on too taut, and not to cause any damage to the pegs of the former.

A diagram illustrating the method of replacing lines is pasted on the inside of lid of each rocket box, and the undermentioned is to be added to the list of ammunition labels, Form O.6, by Armament Supply Depôts, viz. :—

*Where used.*

N.696.—Rocket, line-carrying, Schermuly— Inside lid of box for  
method of flaking lines. lines.

*Undamaged* lines are to be thoroughly dried and then replaced as above. The outside of the box should be stencilled "Used" and "Repacked," together with dates.

Care should be taken to avoid any unnecessary damage to the lines, but broken or damaged lines should be repaired on board by means of a long splice before repacking and re-use with a line-carrying rocket. The word "Repaired" and date of repair should be stencilled on all boxes containing repaired lines.

5. The apparatus is issued in units, each unit comprising the following items:—

*2 lb. Unit.*

Rockets, 2 lb. ... ..	£
Pistol, rocket, line-carrying, Schermuly, 2 lb., Mark I ...	1
Lines, $\frac{3}{8}$ -in. ... ..	2
Formers ... ..	1
Box for lines, M.33 ... ..	2
Cartridges, rocket ... ..	10

*1 lb. Unit.*

Rockets, 1 lb. ... ..	12
Pistol, rocket, line-carrying, Schermuly, 1 lb., Mark I ...	1
Lines, $\frac{1}{2}$ -in. ... ..	2
Formers ... ..	1
Box for lines, M.32 ... ..	2
Cartridges, rocket ... ..	20

6. As regards stowage, the rockets and cartridges should be stowed in the same manner as other rockets and cartridges, signal, viz., in accordance with Article 250 of the Naval Magazine and Explosives Regulations. Remaining stores should be stored in the gunners' store room, care being taken that stowage of the former is such as to preclude damage to the pegs. Cartridge boxes should not be opened on board until actual firing is to take place.

### 3181.—Proving Cupboards in H.M. Ships' Bakeries— Heating Arrangements—REPORTS.

(D.E.E./V. 1317/29.—13.12.1929.)

Reports have been received confirming the desirability of providing some means of heating the proving cupboards in ships fitted with electrically heated baking ovens.

2. It is desirable that this heating should be obtained electrically, and from calculation, loadings of 1.4 kws. and 1 kw., should be satisfactory for the size of proving cupboard fitted in "Kent" class and "Norfolk," respectively.

3. At present it is not intended to include the provision of electric heating generally as a permanent feature in new purchases of proving cupboards, as heating is only an occasional requirement, and it is considered that the simplest method of obtaining heat in such cupboards, is by using one or more standard non-luminous type radiators as required.



4. Commanding Officers of H.M. ships fitted with proving cupboards in which some form of heating arrangement is desired, are informed as follows:—

- (a) One or more standard non-luminous type radiators, Pattern No. 288 (100 volts, 750 watts) or Pattern No. 514 (220 volts, 840 watts), according to the voltage of supply and the size of cupboard fitted, should be placed horizontally on the bottom within the cupboard.
- (b) The radiator or radiators should be switched on about 1 hour before dough is placed in the cupboard for proving. This period may be varied by trial according to the size of cupboard and temperature rise required.
- (c) When moist heat is required, a pan of water should be placed on the radiator within the cupboard.
- (d) The number of additional radiators required should be reported and demanded from the storing yard, and the work of fitting should be carried out by ships' staffs.
- (e) Ships concerned should report, through the Administrative Authority, the action taken and experience gained after three months' use.

### 3183.—Tinsel-cored Flexible Cables for Telephones, Mark IV, IV\*, and IV\*\*—Trial—REPORT.

*“Nelson,” “Rodney,” and “London” Class.*

(N.S. 13215/29.—13.12.1929.)

Arrangements have been made for the purchase of the undermentioned special electric cable and cords, with tinsel cores, from Messrs. Siemens Bros. & Co., Ltd., under C.P.19654/F.5615, dated 2.11.29, for delivery to Chatham for issue to ships named without demand.

	<i>Quantity Ordered.</i>		
	<i>Cable.</i>	<i>Cords, 16 ft.</i>	<i>Cords, 3 ft. 3 in.</i>
	200 yards.	100	100
		<i>Allocation.</i>	
“London” class (each ship) ... ..	30 yards.	15	15
“Nelson” and “Rodney” (each ship)...	40 yards.	20	20

2. The cable and cords are being supplied for trial in comparison with cable, Pattern 992A, as flexible leads to Mark IV, IV\*, and IV\*\*, telephones, and will be finished with a red braiding to distinguish them from Pattern 992A. The cable should be fitted as soon as received, using both “made up” cords and the unfitted cable.

3. Some difficulty may be experienced by the ships' staffs in making efficient terminal connections with the tinsel core and the cable is therefore being supplied partly as “made-up” cords (ready for fitting) and partly as unfitted cable, in which case the terminal connections are to be made as required.

4. Reports are to be forwarded, through the Administrative Authority, after six months' experience with the cable, stating—

- (a) The suitability for flexible telephone leads of the new cable as compared with Pattern 992A.
- (b) Ships' experience in making up cords from the unfitted cable.
- (c) Remarks as to the type of terminal connection considered most suitable when the cords are made up by ships' staffs.

**3185.** { **Teak and Mahogany—Economy in use.**  
**British Borneo Hardwood—Use as a Substitute.**

(N.S. 11168/29.—13.12.1929.)

There is a considerable and increasing shortage in supplies of teak of Admiralty quality which is not expected to disappear for some time to come. A similar shortage, though not so acute, is being felt in regard to supplies of mahogany of suitable quality. This shortage has resulted in a considerable advance in price. The greatest care and economy is therefore to be shown in the use of these timbers, and they are not to be used for any service for which other timber is available and suitable.

2. Purchase has recently been made of a quantity of Borneo white hardwood in planks and boards, of prime quality, fully seasoned and ready for immediate use. This timber is to be used instead of teak and mahogany for all purposes where it can be used as an economical and efficient substitute. Purposes for which the use of this timber has been recommended include boat seats, benches and flats, locker tops, benches, etc., of steam launches and pinnaces (other than Admirals' barges), also inboard ladders of H.M. ships; ordinary carcass work on furniture in cabins and offices and other joinery work other than parts requiring to be polished. Pending further experience in the use of Borneo white hardwood, it should not be used as a substitute for teak for decks, where hard wear is anticipated, for mahogany for boat planking, nor for parts of furniture required to take polish.

It is essential that Borneo white hardwood should have been thoroughly seasoned, in plank or board form, prior to use.

3. These instructions are applicable to supplies to H.M. ships and Naval Establishments, as well as to ordinary dockyard services.

**3186.—Valves for M.T. Vehicle Engines.**

(N.S.M.T. 534/29.—13.12.1929.)

Arrangements have now been made for the supply of exhaust valves manufactured from silicon-chrome steel, instead of 3 per cent. nickel steel as heretofore.

2. In order to distinguish exhaust valves from inlet valves, which latter are still made of 3 per cent. nickel steel, the heads of exhaust valves are now stamped with the letters E.X., whilst the inlet valves are stamped with the letters I.N.

3. All future demands on Albany Street for engine valves should state the actual quantity of the particular valve required, *i.e.*, whether exhaust or inlet.

4. Where it is necessary to demand a valve for inclusion in the spares carried on the vehicle, an exhaust valve should be demanded for this purpose.

5. The only exceptions to the above procedure relate to Ford and Fordson machines for which engines the makers' own valves are supplied.

**3187.—Lime—Precautions when using.**

(N.S./N.L. 3218/29.—13.12.1929.)

A serious accident recently occurred to a rating at a shore establishment whilst mixing unslaked lime and water, and the following precautions are to be observed in future, *viz.* :—

- (a) The water should be added to the lime, stirring carefully meanwhile, and not the lime to the water.
- (b) If it is necessary to increase the strength of the mixture, the lime should be added very gradually and only in powdered form. On no account should lumps be used, or explosion may result.
- (c) Protective goggles should be worn by ratings employed when mixing lime and lime washing.

2. Whiting, Pattern 62, should be used in shore establishments for marking lines on parade grounds and for similar purposes; and the use of unslaked lime limited, as far as possible, by keeping a stock of previously slaked lime if practicable.

### **3189.—R.I.M. Dockyard, Bombay—Custody and Handling of Naval Stores.**

(N.S. 11394/29.—13.12.1929.)

Since the reopening of H.M. Naval Yard at Trincomali, the Royal Indian Marine Dockyard, Bombay, no longer has any storage or staff set aside for Admiralty purposes, as was the case prior to 1924, and this should be taken into consideration in connection with the arrangements made for shipment of all stores for and from H.M. ships on the East Indies Station.

3196. } *Issued Confidentially.*  
3197. }

### **3211.—Varnish or Enamel Brushes—Distributions of Fresh Patterns.**

(N.S./C.P. 23172/29.—13.12.1929.)

Arrangements have been made for the provision of fresh patterns of varnish or enamel brushes, Patterns C.288 and C.289, to enable these brushes to be supplied set either with ordinary cement or with vulcanized rubber. When sealed, the patterns will be distributed from the Admiralty Pattern Rooms.

2. Erratum slips will be distributed for amendment of specification T.G.11.

3. On receipt of the new patterns, existing sealed patterns are to be returned into store, those at the Pattern Rooms being returned to Chatham Yard.

### **3215.—Egypt—Passports and Visas.**

(M. 5033/29.—20.12.1929.)

An arrangement is in force whereby military and Air Force personnel serving in Egypt have their passports endorsed "stationed in Egypt" or "on duty in Egypt," according to whether they are posted to or serving temporarily in that country. In such circumstances a visa is unnecessary.

2. This arrangement is also applicable to the personnel of the Royal Navy. It follows, therefore, that passports and visas are necessary for personnel visiting Egypt, but in the case of officers and men sent to Egypt on duty, or to join H.M. ship in Egyptian waters, it will only be necessary for passports to be endorsed "on duty in Egypt," followed by the number and date of the authority, for proceeding to Egypt. This endorsement must be signed by an officer of Commander's rank or above.

### **3219.—Torpedo Transporting and Loading Rails—Pivoted Points.**

*New Construction.*

(T. 4109/29.—20.12.1929.)

Satisfactory reports of the pivoted points fitted to the overhead torpedo transporting and loading rails of "London" class having been received, it has been decided to adopt this type of junction in new construction, as shown in the sketch E.F.O. 164/29.

**3220.—***Issued Confidentially.*

### 3221.—Evershed Systems for Gun Control, also Telephone and Buzzer Communications for Star Shell Gun Control—Modifications.

*Battleships and Battle Cruisers of "Royal Sovereign," "Queen Elizabeth," "Iron Duke" and "Repulse" Classes, "Hood" and "Tiger," Cruisers of "Hawkins," "Concord," "Caledon," "Ceres," "Carlisle," and "D" and "E" Classes.*

(T. 4430/29\*—20.12.1929.)

It has been decided to effect the following alterations and modifications in the above-mentioned systems and ships:—

#### I.—Evershed Gun Control Systems.

##### (A) Battleships and Battle Cruisers:—

(i) *Main Armament* ... .. Disconnect and remove all Evershed receivers, operating gear, open-faced and special indicators, at all turrets, except "X" turret (*i.e.*, controlling turret).

(ii) *Secondary Armament* ... (a) Fit an additional Evershed transmitter on each side of the compass platform (except in the case of "Hood," where the separate transmitters are already available) and cross-connect these transmitters to the gyro bearing indicator. The transmitters to be connected to the selector switches, thereby enabling them to control the transmitters in the other control positions and receivers at the secondary armament directors through these switches. The receiver at the H.A.C.S.I. director and the secondary armament transmitters in the spotting top to be arranged for local control direct from the bridge transmitters.

(b) Arrange for the present combined secondary armament and star shell Evershed transmitters on each side of the compass platform, to control the H.A. and secondary armament guns for star shell firing only, *i.e.*, as star shell control transmitters. The receivers at the secondary armament guns to be entirely disconnected from the selector switches and connected direct to the star shell transmitters of their respective sides through an "On" and "Off" switch, so that they may be cut off when not required for star shell firing. The receivers on the centre line triple mountings in the "Repulse" and "Renown" will be arranged so that they may be connected to either the port or starboard compass platform transmitter.

If an initial salvo of star shell is fired from the secondary armament, the guns are to be spread by Evershed and fired by director.

(iii) *Secondary Armament* ... Disconnect and remove the Evershed receivers, operating gear and open-faced indicators from the 6 in. guns. The initial star shell salvo from these guns to be spread from the director.

(B) Cruisers (except "Hawkins" class). Disconnect and remove the Evershed receivers, operating gear and open-faced indicators, from all main armament guns, except the directing guns and the Nos. 3 and 4 guns (used, if required, for star shell firing).

(C) Cruisers ("Hawkins" class) ... Disconnect and remove the Evershed receivers, operating gear and open-faced indicators from the 7.5 in. guns, except those at the directing gun.

II.—*Telephone and Buzzer Communications for High Angle Gun and Star Shell Control.*

"Royal Sovereign," "Queen Elizabeth" and "Repulse" classes, "Hood" and "Tiger." (a) To fit an additional telephone in the high angle calculation position and alter the connections in the calculating and H.A. control position, as shown in the key diagram (E.F.O. 162/29), so that sided communications are provided to the H.A. guns of the respective sides.

(b) To dispense with the additional telephone and buzzer at present fitted to Nos. 1, 2 and 6 secondary armament guns each side, for communication with the bridge, as these guns are no longer required for subsequent illumination now that two H.A. guns are available each side for this purpose. The existing telephone and fire gong communication to be used if an initial star shell salvo is fired.

2. The work of removal of the Evershed gear mentioned at I (A), (i), (iii), (B) and (C) in ships in full commission, is to be carried out by the ships' staffs as opportunity occurs. The work of removal of this gear from other ships affected is to be carried out by the Dockyards, where the ships are taken in hand for refits.

3. The whole of the apparatus removed is to be returned to the Dockyards and brought to produce by the Yard concerned, the platinum contacts in the receivers to be first removed and accounted for separately.

4. Where instruments are removed by the ships' staffs, leaving bare ends of lead-cased main run cables, these ends should be carefully taped up and insulated, so that such main run cable may be subsequently used for other services if required.

5. Where the instruments are removed by the ships' staffs, the cable into the selector switches and junction boxes in the transmitting station is to remain in place; but in order to avoid the possibility of the wiring being inadvertently connected to the transmission, the cores should be disconnected in the selector switches and cut short.

6. In the case of ships in hand at the Dockyards, and ships taken in hand before the instruments, referred to in paragraph 2 above, are removed, the work of removal is to be carried out by the respective Yards.

7. Where ships are being rewired (*i.e.*, undergoing large repair), the whole of the wiring and junction boxes are to be removed, as well as the liberated instruments.

8. The alterations mentioned at I (A) (ii) (a) and (b) are to be carried out by the Dockyards when the ships are taken in hand for installing the H.A.C.S.I., provided that the altered junction boxes and change-over switches are available. Diagrams showing the alterations to be made in the Evershed secondary armament system to embody these modifications, together with instructions and information regarding the supply of the additional and altered gear, will be circulated in due course to the ship and Yards concerned.

9. The work of fitting the additional telephones and making the alterations to the local wiring and junction boxes in the high angle control and calculating positions, and the removal of the telephones and buzzers from the 6 in. guns, as mentioned at II (a) and (b), is to be carried out by the ships' staffs. Spare wiring is available in the main run cable between the high angle control and calculating positions for the altered communication. The additional telephone required for II (a) is to be obtained from those liberated by II (b). The remaining liberated telephones and buzzers are to be returned to the Dockyards.

10. The alterations to the telephone communications mentioned at II (a) are embodied in the diagrams, which are being circulated separately for guidance in fitting the H.A.C.S.I. in H.M. Ships of the "Queen Elizabeth" and "Royal Sovereign" classes, and will be embodied in the diagrams, which will be prepared for guidance in fitting the H.A.C.S.I. in H.M. Ships "Repulse," "Renown" and "Tiger." The alterations necessary in H.M.S. "Hood" are embodied in the revised diagrams, secondary armament and H.A.C.S.I., in course of preparation for this ship.

11. Separate instructions will be issued regarding the alteration to be made in the existing H.A.C.S.I. wiring in H.M. Ships "Malaya" and "Revenge," in order to embody the modifications mentioned in II (a).

12. An item for carrying out the work mentioned at I (A) (ii) of paragraph 1 above is to be included in the next list of alterations submitted by the ships concerned.

### **3222.—O.Q.F., 2 pdr., Marks I and II and Machine Guns— Standardised Patterns for Chains.**

(G. 2830/28.—20.12.1929.)

Dockyard Pattern 327A chain only is to be used in future for replacement of chains where necessary in Q.F., 2 pdr., Marks I and II guns and machine guns.

### **3224.—Gun Drill—Safeguarding the Opening of the Breech at all natures of Guns except 16 in. Guns.**

(G. 7106/29.—20.12.1929.)

Arising out of a recent fatal accident, where it was erroneously thought a gun had fired when actually a hang-fire occurred, the duties of the breech worker have been under consideration for all types of guns and mountings.

2. It has been decided to introduce, as a standard safeguard, the following additions to the detail in the drill for all guns (turret or otherwise).

Salvos ... .. 2 — reports — READY and watches the gun constantly.

Fire ... .. — 2 on seeing the gun recoil opens the breech, or in the case of the 8 in., holds up his hand as a signal for the Captain of the gun to open the breech.

*Note.—At Loading Drill.*—In order to accustom 2 to his responsibility for watching for the recoil of the gun, at loading drill he is to report "GUN RECOILED" before the breech is worked.

3. The drill for 8 in. turrets has already been amended to include the above, with the exception of the note, which is now to be incorporated in the amendment.

The above is to be an additional safeguard to the Breech-Churn lever interlock which will eventually be fitted to these mountings.

4. The necessary amendments to 16 in. gun drill will be promulgated separately.

### **3226.—Gun Mountings, 7·5 in., C.P., Mark V—Assistant Layer's Handwheel—Stop to be fitted to prevent Running Down.**

(G. 6084/29.—20.12.1929.)

During a firing practice carried out with a 7·5 in., C.P., V mounting, it was found that the assistant layer's handwheel, which was not manned, revolved when the gun recoiled and allowed the gun to run down. A stop was fitted, as shown on E.F.O. 158/29, and no further difficulty was experienced.

2. Similar stops are to be fitted to all component 7·5 in., C.P., V mountings, the work being carried out by ships' staffs.

**3231.—Issued Confidentially.****3232.—Door Switches—Replacement of Pattern 4422.**

(T. 1003/29.—20.12.1929.)

A new type of door switch, giving a positive push-on and pull-off, has been introduced, and will be used in lieu of Pattern 4422 when stocks of the latter become exhausted. In new construction the new type of switch should be installed.

2. Present stocks of Pattern 4422 represent requirements up to 31st March, 1930, plus a reserve equal to six months' expenditure.

3. The switch is made in left-hand and right-hand types, so called from the side at which the striker enters the switch when looking at the cover of the latter. The following pattern numbers have been assigned:—Right-hand type, Pattern 1184; left-hand type, Pattern 1183. The pattern number of the striker which is common to both types is 1185.

4. The drawing, E.F.O. 151/29 (1), illustrates typical applications of the switch to different types of doors.

5. Where several independent circuits have to be controlled by one door, one of these switches should be used as a master switch to make and break the circuit of small solenoid operated switches controlling the several independent circuits.

6. Drawing E.F.O. 151/29 (2) shows typical applications of these solenoid operated switches.

7. An approved design of such solenoid operated switch will be circulated in due course.

8. No further purchases of Pattern 4422 are contemplated, and where replacements are necessary in ships undergoing refit, the new type of switch should be used in lieu as soon as available.

**3233.—Sockets and Plugs, Patterns 8138/9—Modification of Design.***H.M. Submarines.*

(D. 16184/29.—20.12.1929.)

As a result of experience gained under sea-going conditions, it has been found necessary to modify slightly the design of sockets and plugs, Patterns 8138/9, used for external lighting in submarines.

2. Commanding Officers of ships concerned are to include this modification as an item in their next lists of alterations and additions.

**3237.—War Games—Alteration in Basis of Supply and in Constitution.**

(N.S. 14533/29.—20.12.1929.)

The question of the extent to which the two types of war game at present supplied are used, and of any modifications necessary to meet modern requirements, has been under consideration, and it has been approved to take the following action:—

- (a) All tactical games (Naval) King Hall's, to be withdrawn from service. This game will be deleted from the Rate Book and Establishments of Stores.
- (b) The present Naval war game, Pattern 51, to be amplified by the addition of certain items which are detailed in the Appendix to this Order.
- (c) The basis of supply of the modified Pattern 51 war game to be one set to each of the ships and services enumerated in the Appendix to this Order.

2. All King Hall's tactical games, and any Pattern 51 war games in excess of the revised allowances, should be returned to the nearest dockyard. Supply of the additional components for the Pattern 51 war game will be made from Portsmouth, without demand.

3. *Dockyards only*.—The King Hall's tactical games returned should be disposed of, except the models of ships and boxes for models. The models and boxes accruing from the games returned to home dockyards and Malta and Gibraltar should be sent to Portsmouth for utilisation. Models and boxes received at other Naval yards abroad should be retained for the present, quantities being shown in the Annual Demands, Subhead E.2. Pattern 51 Naval war games returned should be sent to Portsmouth by all dockyards at home and abroad.

4. *Portsmouth only*.—Provision and distribution of the new components for the Pattern 51 war game for all ships and services now entitled should be made by Portsmouth. Notes as to the method by which supplies are to be obtained are included in the Appendix to this Order, and the Director, Senior Officers' Technical Course, Portsmouth, should be consulted in regard to any points of detail.

5. The necessary corrections to the Rate Book of Naval Stores (component parts section), and to the Establishments of Stores affected, will be made in due course.

## APPENDIX.

Component parts for Naval War Game, Patt. 51, additional to those shown in Appendix to Rate Book (component parts).

<i>Items.</i>	<i>Method of Provision.</i>
16 No. brass ships, red, with bow wave painted on.	} From Patt. 51. Sets surrendered under new distribution.
16 No. brass ships, blue, with bow wave painted on.	
20 No. brass ships, small red	} To represent single destroyers and submarines.
20 No. brass ships, small blue	
6 No. wooden battens, 12 in. by $\frac{1}{2}$ in., red	} Representing one flotilla. (Scale, 10 in. = 1 mile.)
6 No. wooden battens, 12 in. by $\frac{1}{2}$ in., blue	
6 No. wooden battens, 6 in. by $\frac{3}{8}$ in., red	} Representing one flotilla. (Scale, 5 in. = 1 mile.)
6 No. wooden battens, 6 in. by $\frac{3}{8}$ in., blue	
6 No. American cloth sheets, black, matt surface, 80 in. by 140 in., marked in 1 in. squares, the 10 in. square markings being accentuated.	American cloth to be purchased locally by Portsmouth and painted in the Yard, with white lines in 1 in. squares.
$\frac{1}{2}$ lb. crêpe hair—brown	} To be purchased locally by Portsmouth.
$\frac{1}{2}$ lb. crêpe hair—grey	
$\frac{1}{2}$ lb. cotton wool—white	
$\frac{1}{2}$ lb. cotton wool—red	
$\frac{1}{2}$ lb. cotton wool—green	

The basis of supply of the modified Patt. 51 war game is as follows:—

One set to each:—	One set for shore use to:—	
Battleship ... ..	C.-in-C., Portsmouth, for S.O.T.C.2.	To be accounted for in the accounts of R.N. Barracks, Portsmouth.
Battle cruiser ... ..	C.-in-C., Mediterranean ...	Do., H.M.S. "Egmont."
Aircraft carrier ... ..	C.-in-C., China ... ..	Do., H.M.S. "Tamar."
Cruiser flagship ... ..	C.-in-C., America and West Indies.	Do., H.M.S. "Malabar."
Rear-Admiral (D) ... ..	C.-in-C., East Indies ...	Do., C.-in-C.'s flagship.
Commodore (D) ... ..	C.-in-C., Africa ... ..	Do., H.M.S. "Flora."
	Staff College, Greenwich...	Do., the College.



**3242.—Meteorological Instruments—Charts.**

(N.S. 15330/29.—20.12.1929.)

A communication has been received from the Meteorological Office, stating that demands are frequently received for charts for barographs.

2. Charts for all meteorological instruments in use in H.M. Naval Service are treated as Naval Stores, and ships should forward demands to their storing ports, stating the type of instrument for which the charts are required.

3. Charts for barographs which are included in the Establishment of Naval Stores for Executive purposes, page 166, have been assigned pattern number 514, and are shown on page 635 of the current edition of the Rate Book of Naval Stores.

**3245.—Naval Stores supplied to Units of the Fleet Air Arm embarked in H.M. Ships and Submarines.**

(N.S. 13836/28.—20.12.1929.)

*Aircraft Carriers.*

Stores required by Fleet Air Arm units in aircraft carriers are to be drawn from Naval stocks on board where the Naval patterns are suitable.

2. Such stores are indicated in the Unit Equipment Table for aircraft carriers (Air Publication 1259). All stores for incorporation in the structure of an aircraft must be obtained from R.A.F. sources to ensure previous inspection by the Aeronautical Inspection Directorate.

3. Stores common to the two Services are to be supplied from Naval stocks on board under the following conditions and procedure:—

- (a) When a Fleet Air Arm flight proceeds on board an aircraft carrier, flight equipment, including tool kits for flight mechanics, is to be completed from R.A.F. sources before the flight embarks. The tool kits for first supply to the mechanics attached to the headquarters staff on board are to be demanded by the R.A.F. Stores Officer of the carrier from the R.A.F. Stores Depôt. All these items are to be accounted for in the Flight Inventory and "Articles in Use" ledger, kept by the R.A.F. Stores Officer of the carrier.
- (b) The following are to be obtained from the Naval Accounting Officer of the carrier, in so far as they are included in the list of "common" stores:—
  - (i) The first supply and replacements of equipment for general use in the workshops.
  - (ii) Replacements of articles in the tool kits of mechanics in the flight.
  - (iii) Replacements of articles in the tool kits of R.A.F. mechanics on the headquarters staff.
- (c) All exchanges and demands from Fleet Air Arm Headquarters unit and flights are to be raised on R.A.F. Forms 674 and 675, and those relating to "common" stores are to be taken direct to the Naval Accounting Officer, in duplicate, when the articles are obtainable from Naval stocks.
- (d) After issue or exchange by the Naval Accounting Officer the duplicate voucher is to be transmitted to the R.A.F. Stores Officer, the original being held by the Naval Accounting Officer in support of his accounts. The duplicate copies of vouchers are to be given a registered number by the R.A.F. Stores Officer, who endorses them with the notation "supplied from Naval stocks." The duplicate copies are thereafter filed by the R.A.F. Stores Officer.

- (e) Consumable stores drawn by Fleet Air Arm officers from Naval stocks are to be regarded as expended when drawn, and no account is to be kept by the flight or R.A.F. Stores Officer, other than the registration, endorsement and filing of the duplicate copies of vouchers. Non-consumable stores are normally issued by the Naval Accounting Officer "on permanent loan," and included in the lists of such items held by the Flight Commander.
- (f) Only in cases of exchange or where an issue is certified by the Flight Commander to be in replacement of an article lost is the issue of non-consumable stores from Naval stocks to be regarded as final and the Naval store accounts cleared.
- (g) Any additional permanent stores approved to be drawn by the flight in excess of the allowances in the tool kits are not to be transferred to the R.A.F. Flight Inventory, but retained in the "permanent loan" lists raised by the Naval Accounting Officer until the flight is ordered elsewhere, when the additional items are to be returned. Any items required permanently by a flight and approved to be supplied, which it is known will accompany the flight on departure from the carrier, are to be transferred to the R.A.F. Flight Inventory, and "Articles in Use" ledger and the Naval store accounts cleared.
- (h) Stores which are shown in the R.A.F. vocabulary as non-consumable, but which are considered by the Admiralty to be consumable, are to be regarded as non-consumable, for the purposes in question.
- (i) When replacement of a non-consumable article of common stores is necessary, the damaged, broken, or repairable article is to be returned on the exchange voucher to the Naval Accounting Officer, when a new item is drawn.
- (j) The Unit Equipment Table for aircraft carriers shows which items of Admiralty pattern can be used in lieu of R.A.F. stores, and is to be adhered to. If necessary the question of suitability of any particular item of Naval pattern is to be raised by the Flight Officer.

4. Issues of consumable stores made under the above procedure are to be valued at *current Rate Book rates*, as the total value of such issues is required periodically in connection with annual estimates, etc., and no steps are to be taken to assign financial credit to the Air Ministry for stores or materials returned, whether in good condition or condemned and brought to arisings. The total value of the Naval consumable stores supplied to the Fleet Air Arm during each quarter is to be reported in the Valuation Return S.1095A.

#### *H.M. Ships (other than Aircraft Carriers) and Submarines.*

5. The principles outlined for aircraft carriers apply equally to Fleet Air Arm units in H.M. ships (other than aircraft carriers) and submarines.

6. A R.A.F. establishment of initial equipment for each type of aircraft is laid down by the Air Ministry, and the issue of such initial equipment is arranged by that department.

7. In order to simplify procedure in H.M. ships, where the Naval Accounting Officer is responsible for custody, etc., the R.A.F. equipment (except air frames and engines—*see* paragraph 9) is accounted for in the Central Store Ledgers in the same way as Naval stores, except for valuation of R.A.F. consumable material.

8. Replenishment of R.A.F. equipment (except air frames and engines) is to be obtained as follows:—

- (i) By vessels in home waters—on Naval demands from:—
  - (a) R.A.F. stores depôts, or
  - (b) R.A.F. bases in cases of emergency.

(ii) By vessels abroad—on Naval demands from:—

- (a) R.A.F. bases.
- (b) Fleet Air Arm stores sections.
- (c) N.S.Os., H.M. dockyards (if holding R.A.F. stocks to meet requirements for special circumstances), and
- (d) Aircraft carriers in cases of emergency.

Replenishments of stocks at H.M. dockyards, referred to in (ii) (c), are to be demanded from R.A.F. home stores depôts on R.A.F. Form 600 by the Naval Store Officer.

9. Air frames and engines in vessels other than aircraft carriers are to be held on inventory charge from A.O.C., Coastal Area, both initial issues and replacements being arranged by the Air Ministry.

10. When it is desired to return R.A.F. equipment from a ship in home waters for reasons other than unserviceability, a representative of Headquarters Coastal Area will visit the ship immediately on its arrival and decide, in conjunction with the Naval authorities, upon the disposal of the equipment. In general, it is preferable for the equipment to be returned to a stores depôt.

11. Airmen's tool kits are to be checked by the Naval Accounting Officer before the airmen leave the ship, and any loss or damage, other than as a result of fair wear and tear, disclosed by the check, is to be charged against the airmen concerned.

12. Standard tool kits and aircraft engine tool kits are to be accounted for as complete items. Unserviceable items in complete tool kits may be exchanged for serviceable tools in accordance with the R.A.F. Stores Regulations.

### 3248.—Enamel for Battery Tanks in Submarines.

(N.S. 8341/29.—20.12.1929.)

In submarines of "Odin," "Parthian" and "Rainbow" classes and in "Oberon," "X.1" and "K.26," the battery tanks are coated overhead and around the sides at the top with white anti-sulphuric enamel.

2. Tests which have been carried out at Portsmouth Dockyard have demonstrated that the ordinary Service white enamel, Pattern 10, is quite efficient as regards acid resisting qualities.

3. No further quantities of the special white anti-sulphuric enamel will therefore be provided for this service and after present stock has been exhausted, requirements should be met by the use of white enamel, Pattern 10.

### 3250.—Valves, etc.—Dewrance & Co.

(C.P. 18901/29.—20.12.1929.)

Messrs. Dewrance & Co. have agreed to allow a 2½ per cent. cash discount against monthly account on all orders placed with them, except for pressure gauges.

### 3253.—Brown Paper and Twine for Binding Bundles— Incidence of Charge.

(N.S./Sta. 4348/29.—20.12.1929.)

The cost of the brown paper and twine used for binding bundles of store vouchers, etc., for record purposes is chargeable to H.M. Stationery Office, and this procedure should be followed in future at all yards and depôts where a different method of accounting for such items has hitherto obtained.

### 3260.—Pattern 7822, Towing Wires for H.S.M.S.—Testing to Destruction.

(N.S.Dd. 2384/29.—20.12.1929.)

Previous instructions in regard to the testing to destruction of 5 per cent. of paravane towing wires fitted in dockyards, apply only to *protector* paravane towing wires and are *not* intended to apply to Pattern 7822 towing wires for H.S.M.S.

### \*3264.—Royal Naval Shore Signal Service—Conditions of Entry and Rates of Pay—Future Entries.

(N. 3620.—27.12.1929.)

Vacancies now exist in the Royal Naval Shore Signal Service, and a number will arise in 1930 and subsequently.

The following reprint of the original scheme issued in 1925, revised and brought up to date, is issued for the information of prospective candidates for the Royal Naval Shore Signal Service.

#### Organisation.

The Royal Naval Shore Signal Service is organised as follows :—

- (a) *Signalman (S.S.S.)*.—Recruited from men of the Visual Signal Branch as indicated in paragraphs 8 and 9.
- (b) *Petty Officer (S.S.S.)*.—Men who have passed for and have been promoted to Petty Officer (S.S.S.). (Men who have passed the educational test for Petty Officer will not be required to pass that test again.)
- (c) *Chief Officer (S.S.S.)*.—Chief Officers (S.S.S.) promoted to that rank from Petty Officer (S.S.S.).
- (d) *Senior Chief Officer (S.S.S.)*.—Promoted by selection from Chief Officers (S.S.S.).

Officers and men will not be allowed to serve after reaching the ages of 55 and 50 respectively. The normal period of engagement for ratings will be five years, but men will have no claim to be retained for the whole of this period. They may be permitted to re-engage for a further period of five years or to complete time to the age limit, should their services be so long required.

2. Personnel serving in the Royal Naval Shore Signal Service, in addition to drawing the pensions which they have been awarded in respect of their previous Naval service, are paid as follows :—

	<i>Rate from 5th October, 1925.</i>	
	<i>Per diem.</i>	
	<i>s.</i>	<i>d.</i>
Signalman (S.S.S.) on entry ... ..	5	10
Signalman (S.S.S.) after 2½ years in the rating if passed for Petty Officer (S.S.S.) ... ..	6	4
Petty Officer (S.S.S.) on promotion ... ..	7	7
Petty Officer (S.S.S.) after 2½ years in the rating if passed for Chief Officer (S.S.S.) ... ..	8	1
	<i>Standard Rate.</i>	<i>Rate from 1st July, 1927.</i>
	<i>s.</i>	<i>d.</i>
Chief Officer (S.S.S.) on promotion. (Ranking with but after Warrant Officer, R.N.) ... ..	14	0
Chief Officer (S.S.S.) after 2½ years in the rank. (Ranking with but after Commissioned Officer from Warrant Rank, R.N.) ... ..	15	6
Chief Officer (S.S.S.) after 5 years in the rank. (Ranking with but after Commissioned Officer from Warrant Rank, R.N.) ... ..	17	0
Chief Officer (S.S.S.) after 10 years in the rank. (Ranking with but after Commissioned Officer from Warrant Rank, R.N.) ... ..	18	6
Senior Chief Officer (S.S.S.). (Ranking with but after Lieutenant, R.N.) ... ..	20	0

*Note I.—Officers and Men.*

These rates of pay are inclusive of Provision Allowance, and subject to an abatement in that respect if the officer or man is subsisted in hospital or in H.M. ships or establishments.

*Note II.—Officers.*

The rates of pay of Senior Chief Officers and Chief Officers are subject to further revision on 1st July, 1930, and triennially thereafter.

*Note III.—Men.*

The rates of pay for men will be subject to revision in the event of the rate of Provision Allowance for the Active Service falling below 2s. 1d. per diem.

*Note IV.*

Allowance to Station Signaller, 3d.

Kit Upkeep Allowance—*see* paragraph 15.

3. *Special Allowances.*—The following permanent and temporary allowances are payable in the circumstances stated :—

(a) *Lent Allowance.*—A special allowance of 1s. per diem, to meet the extra cost arising from the maintenance of two homes where married officers and married ratings are separated from their families owing to the exigencies of the Service.

(b) *Marriage Allowance.*—Marriage allowance to the ratings of the Shore Signal Service at the rates and under the conditions promulgated from time to time in Admiralty Fleet Orders, subject to an abatement of 7s. weekly in respect of free quarters or the allowance in lieu.

(c) *Extra Pay* at the rate of 9d. per hour for work done in connection with the Works Department by men of the Shore Signal Service.

4. *Free Quarters.*—Every married officer and man in the Shore Signal Service is provided with free quarters or an allowance in lieu. The undermentioned "fixtures" are supplied by the Admiralty in the quarters provided :—

3 tables.

6 chairs.

3 sets of fire-irons.

1 coal scuttle.

1 fender for each fireplace.

1 bedstead (double).

1 meat safe (where necessary).

Single men, not provided with official quarters, receive Lodging Allowance only, while they remain unmarried.

5. *Travelling Allowances.*—Special allowances to cover expenses while travelling on duty are payable under the conditions laid down in the Instructions for the R.N. Shore Signal and Shore Wireless Services.

6. *Removal Expenses.*—Reasonable expenses incurred for the removal of families, furniture and effects, will be repaid (a) on joining the Shore Signal Service (subject to a deduction of £3 in the case of men who have already been removed at the public expense on leaving the Fleet); (b) on transfer from one station to another; and (c) on finally leaving the Shore Signal Service (except when discharge is for misconduct, or at the man's own request, "free" or by purchase).

7. *Gratuities*.—Gratuities will be paid on discharge from the Shore Signal Service as follows :—

Signalmen (S.S.S.)	...	20s. for each complete calendar month served as Signalman (S.S.S.).
Petty Officers (S.S.S.)	...	25s. for each complete calendar month served as Signalman and Petty Officer (S.S.S.).
Chief Officers (S.S.S.)	...	The standard rate is £4 10s. for each complete calendar month served as Signalman, Petty Officer and Chief Officer (S.S.S.). For officers retiring on or after 1st July, 1927, the rate is reduced by approximately 6 per cent. to £4 4s. 7d. a month. The rate is subject to further revision after 30th June, 1930.
Senior Chief Officers (S.S.S.)		The standard rate is £6 for each complete calendar month served as Signalman, Petty Officer, Chief Officer and Senior Chief Officer (S.S.S.). For officers retiring on or after 1st July, 1927, the rate is reduced by approximately 6 per cent. to £5 12s. 10d. a month. The rate is subject to further revision after 30th June, 1930.

*Note V.*

The discharge gratuities of Senior Chief Officers and Chief Officers will be calculated, for the whole period of their service reckoning for gratuity purposes, at the rate in force on the date of discharge in each case.

*Note VI.*

Not more than 15 years' service will be allowed to reckon for gratuity in the case of Senior Chief Officers and Chief Officers, and a fraction of a month in a period of service reckoning for gratuity will be ignored.

*Note VII.*

An officer or man discharged before reaching the age limit or completing his engagement, as the case may be, will be eligible for the gratuity already earned by service up to the date of his discharge, except as otherwise provided for in paragraph 12, or on discharge at own request ("free" or by purchase).

*Note VIII.*

In the event of an officer's or man's death whilst serving, the amount of gratuity will be credited to his estate.

8. *Ratings eligible to Join*.—The Shore Signal Service is open only to ratings (of any grade) of the Visual Signal Branch of the Royal Navy in receipt of a long service pension.

9. *Qualifications*.—To qualify a man for entry in the Shore Signal Service, his character must have been assessed as "V.G." during the last five years; he must not previously have been awarded a lower character than "Good"; and his efficiency for the last five years must not have been below "Satisfactory." He must be under the age of 41.

He must also satisfy the following conditions :—

- (a) He must, if still serving, be within six months of being pensioned, and be recommended by his Commanding Officer.
- (b) He must sign a Naval Non-continuous Service Engagement (Form S.56) to serve in the Shore Signal Service for a minimum period of five years, should his services be so long required, in any part of the United Kingdom to which he may be appointed. (Necessary forms will be supplied to candidates when selected.)
- (c) He must have qualified in First Aid.

10. Applications for entry are to be forwarded to the Admiral Commanding Reserves, 58, Victoria Street, London, S.W.1. In all cases a copy of the candidate's Service Certificate, together with a medical certificate of his physical fitness, must accompany his application.

11. *All Ratings from Afloat to Join as Signalman (S.S.S.)*.—All ratings will join the Shore Signal Service as Signalmen (S.S.S.) at the lowest scale of pay, irrespective of the ratings held by them whilst afloat.

*Note IX.*

Royal Fleet Reservists are ineligible for service in the Shore Signal Service. On entry in the Shore Signal Service any men who have previously joined the Royal Fleet Reserve, Class A, will be discharged therefrom, and will forfeit all claim to the Reserve pension of 5*d.* a day for which they might otherwise have qualified at the age of 50, in so far as it arises from service prior to joining the Shore Signal Service (*see* paragraph 13).

12. *Discharge.*—(1) (a) Officers and men of the Shore Signal Service are liable to discharge by the Admiralty at any time for misconduct.

(b) The services of any officer or man are liable to be terminated for unsuitability at any time.

(c) The services of any officer or man are liable to be terminated for medical unfitness.

(d) The services of any officer or man are liable to be dispensed with at any time at 28 days' notice.

(2) The following regulations govern such discharges:—

*Under (a):—*

- (i) Gratuity is forfeited.
- (ii) Removal expenses of family and effects must be borne by individual.
- (iii) Pay will be issuable up to date of discharge inclusive.
- (iv) Value of kit supplied on entry in the S.S.S. will be recovered if discharged within two years.

*Under (b):—*

- (i) Gratuity earned to date of discharge is payable.
- (ii) Reasonable removal expenses will be borne by the Crown.
- (iii) Pay will be issuable up to date of discharge inclusive.
- (iv) Kit supplied on entry in the S.S.S. will be withdrawn if discharged within three months. If discharged after three months, but within two years, the value of kit will be recovered or otherwise as ordered by the Admiral Commanding Reserves when approving discharge.

*Under (c) and (d):—*

- (i) Gratuity earned to date of discharge is payable. (The extension of pay to ratings under (iii) is allowed to count for the purpose of this gratuity.) This gratuity may be reduced at the discretion of the Admiralty in the case of any officer or man who is invalided for causes within his own control.
- (ii) Reasonable removal expenses will be borne by the Crown.
- (iii) Officers will normally cease pay on the date of discharge. 28 days' pay, without any allowances, may be given to any man invalided, or to any man discharge under (d) in lieu of notice.
- (iv) Kit may be retained.

13. *Eligibility for the Royal Fleet Reserve on Discharge from the Shore Signal Service.*—Petty Officers and men discharged from the Shore Signal Service for reasons other than misconduct will be eligible for enrolment or re-enrolment in the Royal Fleet Reserve if under the age of 45½ years, the condition of enrolment within one year of discharge to pension being waived if they are otherwise eligible under the R.F.R. Regulations. Former service in the Shore Signal Service or the Royal Fleet Reserve will not, however, be allowed to reckon towards Reserve pension. All men on discharge from the Shore Signal Service are liable equally with other pensioners to be called up for service in the Fleet on mobilisation, whether enrolled in the Royal Fleet Reserve or not.

14. *Uniform.*—The uniform worn by officers and men of the Shore Signal Service is as follows:—

*Officers.*

- Senior Chief Officer, S.S.S. As for Lieutenant, R.N.
- Chief Officer, S.S.S., over 2½ years' seniority. As for Commissioned Signal Boatswain, R.N.
- Chief Officer, S.S.S., on promotion. As for a Signal Boatswain, R.N.

Dresses Nos. 1 to 4 inclusive are not required.

Chief Officers, S.S.S., are expected to provide their own kit, towards which a grant of £25 is paid on promotion. They do not receive kit upkeep allowance.

Any officer who fails to serve for two years from the date of becoming eligible for the grant will be liable to refund the whole, or a portion, of the grant under similar conditions to those laid down in respect of similar grants to officers of the Royal Navy.

*Men.*

Petty Officer, S.S.S. ... As for confirmed Petty Officer, R.N., with over one year's service as Petty Officer. Badges—on the left arm, in place of the Petty Officer's badge of rating, a badge consisting of crossed flags surmounted by a crown with the letters—S.S.S.—below. No other badges will be worn.

Signalman, S.S.S. ... As for confirmed Petty Officer, R.N., with over one year's service as Petty Officer. Badges on the left arm, in place of the Petty Officer's badge of rating, a badge consisting of crossed flags with the letters—S.S.S.—below. No other badges will be worn. Cap badge—red instead of gold.

15. Ratings of the Shore Signal Service will be provided with a gratuitous initial issue of such articles of kit as are not included in the uniform worn in the last rating held in the Active Service. Kit Upkeep Allowance is payable at rates which are subject to alteration from time to time according to the rise or fall in the Issuing Prices, and which are promulgated from time to time in Admiralty Fleet Orders. The rates of Kit Upkeep Allowance for the Shore Signal Service will not necessarily be the same as for the Active Service.

16. *National Health and Unemployment Insurance.*—The procedure for dealing with the insurance of Signalmen, S.S.S., and Petty Officers, S.S.S., is that laid down for active service ratings.

17. The declaration on the non-continuous service engagement signed by all ratings on entry, re-engagement or re-entry in the Shore Signal Service is to be amended in manuscript to read:—"I declare that, to the best of my knowledge and belief, the answers to the foregoing questions are correct; and I agree to serve honestly and faithfully in the Royal Naval Shore Signal Service under the conditions of non-continuous service as set forth in the King's Regulations, modified by the conditions in the attached statement, from.....19....." The statement attached to the engagement form recapitulates the main conditions of service laid down in this Order.

18. In respect of sickness or injury attributable to the conditions of service, officers and men of the R.N.S.S.S. are eligible for the same award of compensation (according to the scale for disablement only) and under the same conditions as would be granted, whether by way of additional retired pay, pension or gratuity, in like circumstances to an officer or man of the Royal Navy, and such compensation shall be in addition to any award for which they may be eligible in respect of service.

19. Discharge prior to the term of the engagement entered into cannot be claimed, but if a rating should be so discharged at his own request he may be required to serve for 28 days from the date of approval of his discharge.

20. The pension earned by a rating before the date from which his current engagement has effect will be paid to him during service in the Royal Naval Shore Signal Service, and subsequently in the same manner and subject to the same conditions as Naval pensions generally. Service in the Royal Naval Shore Signal Service will not count for increase of such pension.

### **3267.—Nose Lines for Recovery of Torpedoes—Spring Hooks, Patterns 1907, 1908, 1909.**

(T. 5215/29.—27.12.1929.)

Spring hooks, Pattern 1907, were proved unreliable and ordered to be returned and brought to produce in 1927. As some of these hooks appear to be still in existence ALL SHIPS EQUIPPED FOR PICKING UP TORPEDOES ARE TO EXAMINE THEIR SPRING HOOKS, AND ANY PATTERN 1907 HOOKS FOUND ARE TO BE RETURNED TO SHIPS' STORING PORT AND BROUGHT TO PRODUCE FORTHWITH. Spring hooks, Pattern 1908 or 1909, should be drawn in lieu.



2. Spring hooks, Pattern 1908, as first issued, suffered from a similar disability to Pattern 1907, but were satisfactory when modified. Ships supplied with spring hooks, Pattern 1908, are to modify them by rivetting a filling piece to the spring mousing as shown in sketch E.F.O. 59/26.

3. No further purchases of spring hooks, Pattern 1908, have been made, the latest design being Pattern 1909, and these will be issued as stocks of Pattern 1908 are exhausted.

4. WHEN TORPEDOES ARE TRANSFERRED FROM ONE SHIP TO ANOTHER, SHACKLES ARE TO BE USED ON THE NOSE LINES IN LIEU OF SPRING HOOKS.

### 3268.—Gun Mountings, 4·7 in., C.P.VI\*\*—Modification to Shields.

*“Amazon” and “Ambuscade,” and Portsmouth and Malta Yards.*

(G. 7004/29.—27.12.1929.)

The shields of the 4·7 inch C.P.VI\*\* mountings are to be modified in a similar manner to the one already modified in H.M.S. “Ambuscade.”

2. *“Amazon” and “Ambuscade.”*—An item for this work is to be included in the next lists of alterations and additions.

3. *Portsmouth and Malta Yards.*—An estimate of cost is to be forwarded for modifying the shields on the reserve mountings. Drawings showing the modifications will be circulated.

### 3269.—Gun Mountings, 8 in., Mark I—Strengthened Design of Pusher Hoist Pawls.

*“Kent” and “London” Classes and Dockyards.*

(G. 7040/29.—27.12.1929.)

In view of the frequent reports of minor distortion of pusher hoist pawls in the 8 in., Mark I gun mountings, which necessitates the renewal of pawls, it has been decided to strengthen the design of pawls as shown in E.F.O. 163/29 (1-4).

2. All replace pawls ordered in future for 8 in., Mark I, gun mountings should be of the strengthened type, and the pawls ordered for reserve stock for “London” Class at Malta Dockyard, and those ordered as replacements for “Kent” Class, which are nearing completion at the contractor’s works, will be of the strengthened type.

3. No change in design of pawl operating gear is necessitated by the introduction of the strengthened type of pawls, and attention is drawn to the note, “Strengthened type N.S.” which will be stamped on the new design pawls to distinguish them from those of the existing design.

4. *Dockyards only.*—If replace pawls for 8 in., Mark I gun mountings are ordered from Messrs. Vickers-Armstrong’s, the firm’s drawing number and item numbers shown in E.F.O. 163/29 (1-4) should be quoted.

### 3271.—Mark VI, H.C.D. Searchlight Lamps, Special Spanner for use with Screws fitted in it.

(T. 4851/29.—27.12.1929.)

Drawing E.F.O. 166/29 shows a design of spanner which is very useful and handy for working on square headed screws of Mark VI, H.C.D. searchlight lamps.

2. These spanners should be made by ships’ staffs as required.

**3272.—Welding Apparatus—Supply.***Battleships and Battle Cruisers.*

(D. 6019/29.—27.12.1929.)

As the result of trials carried out with 36 in. searchlight motor generators of Messrs. Laurence Scott, and of Newtons (Derby), Ltd., manufacture adapted for light arc welding operations, it has been decided to extend these arrangements to one 36 in. searchlight motor generator fitted on each of the undermentioned battle ships and battle cruisers.

Ships.	Type of Motor Generator.
"Barham," "Benbow," "Emperor of India," "Hood," "Marlborough," "Tiger," "Ramilies," "Revenge" and "Valiant."	} Messrs. Laurence Scotts, Ltd.
"Malaya," "Queen Elizabeth," "Resolution," "Royal Oak," "Royal Sovereign," and "Repulse."	

2. The modification to the searchlight motor generator connections and the additional apparatus required are as follows:—

*Messrs. Laurence Scotts, Ltd., Motor Generator.*

An external link box is to be fitted near the machine in order that the transfer of the machine from SEARCHLIGHT to WELDING can be easily effected by changing over the links. The modification is shown on drawing E.F.O. 157/29 (2).

*Messrs. Newtons (Derby), Ltd., Motor Generator.*

The machine is to be modified by completely open-circuiting the demagnetising series fields A and B, and connecting the brush arms S and S, direct to the negative supply.

This alteration can be performed by inserting a change-over switch "X," Pattern 2438, in the circuit as shown on Drawing E.F.O. 157/29 (1).

An additional change-over switch, "Y," is also included for convenience in changing over the supply from the motor generator to either SEARCHLIGHT or WELDING circuits. If considered necessary, the two switches X and Y can be linked so as to perform the change over in one operation.

3. When a searchlight motor generator is used for welding operations, the main generator used as a source of supply of electrical energy is to be isolated from the ring main and the searchlight motor generator should be supplied through one of the ship's emergency boards.

4. The modifications to the existing circuits and the fitting of the additional apparatus are to be carried out by ship's staff.

5. *Devonport only.*—The link boxes, change-over switches, Pattern 2438, electrode holders and resistances are to be supplied by Devonport Dockyard.

**3273.—High Speed Mine Sweep—Retention—Preservation.**

(N.S. 13106/29.—27.12.1929.)

It has been decided that when vessels fitted with high speed mine sweeps are brought forward for sale, the ship's fittings and other special gear which would not be transferred to general stocks should be overhauled and put in a state of preservation before being placed in store at the yards at which the vessels are prepared for sale.

2. The outfit stores should also be maintained for these sweeps, as laid down in A.F.O. 2362/29.

3. The 1st and 2nd destroyer flotillas, and the following vessels in reserve, etc., are fitted with H.S.M.S., viz. :—

“ Wakeful,”	“ Verdun,”	“ Teazer,”
“ Wrestler,”	“ Vanity,”	“ Thisbe,”
“ Vanoc,”	“ Violent,”	“ Waterhen.”

4. Any high speed mine sweep fittings, etc., *ex* H.M.S. “ Tormentor,” should be similarly dealt with at Sheerness, at which yard this vessel was prepared for sale.

(A.F.O. 2362/29.)

### 3275.—Piston Rings—Local Purchases.

(C.P. 14668/29.—27.12.1929.)

Wellworthy, Ltd., of Lymington, Hants, have been noted as eligible to tender for Admiralty requirements of piston rings of all sizes up to 24 in. diameter in cast iron and other metals, and the firm may be included in future when inviting local tenders for such items.

### 3285.—Fairleads for use with Minesweeping Outfits.

*Home and Foreign Yards.*

(N.S. 14366/29.—27.12.1929.)

Arrangements have been made for distribution from Portsmouth of fairleads (VAM 1400), one to each Mark V minesweeping outfit allocated to dockyards for use, if and when required, in those vessels detailed to use these sweeps.

2. Distribution will be as follows:—

	<i>No.</i>
Malta ... ..	2
Singapore ... ..	7
Hong Kong ... ..	5
Trincomali ... ..	3
Bermuda ... ..	1
Simonstown . . . . .	1
Portland ... ..	2
Devonport ... ..	2
Portsmouth ... ..	2
Sheerness ... ..	1

3. Eighty-nine No. fairleads (VAM 1400) and 50 port, and 50 starboard (VAM 35A (1)) are also being retained at Portsmouth for use when required, for fitting drifters with Mark III minesweeping outfits.

## I.—GENERAL INDEX.

(A.F.O.s concerning the Gunnery, Torpedo and  
Signal Departments are shown separately—  
*see* Sections II—IV.)

*C.A.F.O. Numbers are in Italics.*

### A

A/S. <i>See</i> Anti-submarine.	
Aaland Islands—neutralisation ... ..	3/22
Ablution compartments—position ... ..	1650/26
Abroad. <i>See</i> Foreign.	
Absentees and deserters in Ireland ... ..	449/23
Accidents:—	
Capstans—auto-control gear of V.S.G. unit ... ..	133/29
Collisions, etc.—claims by or against private owners—disclosure of information to owners ... ..	1273/26
Damage in transport of heavy machinery, gear wheels, etc.— packing ... ..	3049/28
Damage to boats during gun trials ... ..	1923/25
Damage to cables, etc., through drilling holes ... ..	1218/26
Damage to colliers by H.M. ships ... ..	287/10
Injuries on duty to be reported immediately ... ..	2876/27
Lime—precautions ... ..	3187/29
Motor cars, private, in naval establishments—liability ... ..	768/27
Motor driven mincing machines ... ..	2772/28
Naked lights in confined spaces, etc. ... ..	1012/28
Portable guard rails ... ..	3498/26
R.F.A.s, Oilers, etc. ... ..	2459/29
Ships' galleys ... ..	3109/29
Soda water machine—bursting of container ... ..	1002/21
Steam cooking apparatus ... ..	2015/25
Survey of masts and yards for flagstaffs ... ..	3008/28
Swivel blocks—lubrication ... ..	244/26
Towage operations—precautions ... ..	952/22
W/T aerials ... ..	1013/29
Accountant Branch. <i>See</i> Paymaster Branch.	
Account-s-ing:—	
Accounts of receipt—shipment of stores by H.M. Ships ... ..	597/26
Binnacles ... ..	1214/27
Dockyard. <i>See</i> Dockyard Accounts.	
Fire torpedo and searchlight—control gear ... ..	1372/27
Oxygen, gas, etc., cylinders ... ..	547/26
Repayment services for other Government departments and private individuals. <i>See</i> Repayment Services.	
Stores:—	
Arrangements for "Greenwich" leaders and destroyers in " Maintenance Reserve " ... ..	667/29
For boom defences ... ..	521/24
Of submarine ... ..	1674/29
Ships store accounts—losses ... ..	1694/28
Transfer to fixture lists ... ..	120/27
Typewriters, duplicators, printing presses, etc. ... ..	1102/27
Victualling stores for R.F.A.s ... ..	1304/23
Accumulators. <i>See also</i> Batteries.	
Air loaded, of submarines ... ..	1046/25
Acetylene cylinders—tests, etc. ... ..	626/26, 2437/27

Acting appointments. <i>See</i> Civil Staff.	
Acting mates. <i>See</i> Mates.	
Acting sub-lieutenants:—	
Courses ... ..	1644/29, 2277/29, 2278/29, 2279/29, 2280/29
Action Look-outs—Instruction and training ... ..	2341/29
Action organisation of ship's company ... ..	110/29
“ Adcol ” dust allaying floor oil—flammability ... ..	1307/28
Addresses. <i>See</i> Correspondence.	
Administration:—	
Home Command limits ... ..	914/25
Admiralty:—	
Officers serving at—allowance ... ..	2963/23
Visits of officers ... ..	2024/16
Advancement. <i>See also</i> Promotion.	
Chief Petty Officer and Chief Yeoman of Signals by Captain ...	1333/26
Form B.13 ... ..	2065/29
Leading Telegraphist—educational qualification ... ..	2041/28
Officers' cooks ... ..	1607/28
Ordinary seaman (Tr.) to able seaman—recommendations ...	2559/27
Ratings lent to Dominion Navies ... ..	2933/28
Recommendations ... ..	46/29
Recommendations on history sheets ... ..	180/29
Rosters—information regarding position of ratings ... ..	1286/27
S.507—inaccuracies in return ... ..	1492/26
Supply branch ... ..	1696/27
Advances, cash. <i>See</i> Cash.	
Aeroplanes. <i>See</i> Aircraft.	
African ratings—pay, service, etc. ... ..	382/28
Air Arm, Fleet. <i>See also</i> Observers.	
Accidents—salvage ... ..	936/29
Air co-operation in Naval exercises ... ..	1403/28
Air navigation exercises ... ..	1453/29
Aircraft apprentices—R.F.A.—Service nominations ... ..	1043/29
Aircraft defective parts—tracing ... ..	3518/25
Aircraft—permission to foreign officers to inspect ... ..	2871/24
Airships—landing, mooring and towing ... ..	1519/29
Attachment to R.A.F.—applications to terminate ... ..	2382/27
Catapult trials afloat—allocation of responsibilities ... ..	3028/28
Commanders Air Course ... ..	2444/27
Compasses—adjustment ... ..	3364/26
Cypher telegrams—use ... ..	1319/26
Deck landing afloat ... ..	241/29
Fireworks ... ..	1197/27
Flying demonstrations—undue strain on aircraft ... ..	2085/28
Flying off aeroplanes. <i>See</i> Aircraft.	
Flying off telegraphs—order communications ... ..	392/28
Flying operations—personnel carried in attendant destroyer ...	2661/28
Kit, flying—retention during general service ... ..	514/29
Local purchases of equipment ... ..	2208/29
Look-outs—instruction and training ... ..	2341/29
Naval officers at R.A.F. stations—lodging and provision allowances ... ..	719/27
Number of spare engines to be carried on aircraft carriers ...	2602/27
Observers— <i>See</i> Observers.	
Parachutes—supply and instruction in use of ... ..	775/27
Pilots—conversion courses ... ..	240/29
Prevention of fires during petrol filling operations ... ..	2064/27
R.A.F. personnel in R.N.—allowances ... ..	2528/25
Reduction in aeroplanes and engines ... ..	1053/26
Stores ... ..	3245/29
Training of flights, responsibility, and returns of practices ...	2441/27
Transmitters, Type T.21A—fire precautions ... ..	1420/26
Wind in the upper atmosphere ... ..	2607/27
Air:—	
Force. <i>See</i> R.A.F.	
Ministry. <i>See</i> R.A.F.	
Air compressors, H.P.:—	
Fitting for zinc protective pieces ... ..	950/29
Air cones—for oil fired pinnaces ... ..	1981/29

## Aircraft :—

Accumulators—charging in parallel in H.M. ships ... ..	373/26
Aeroplane platforms—removal of working portions ... ..	654/29
Aeroplanes and engines—reduction in establishment ... ..	1033/26
Airships—landing, mooring and towing ... ..	1519/29
And foreign men-of-war—regulations for the use of W/T or telephony at British ports ... ..	3, 29
And foreign war vessels—regulations for visiting British overseas ports ... ..	2/29
Apprentices, R.A.F.—entry ... ..	1043/29
At anchor or moored on water—lights ... ..	1951/27
Aviation spirit—supply in bulk to aircraft carriers, etc. ... ..	3211/26
Aviation spirit—use of pattern 91 drums ... ..	1905/26
Bombing tactics ... ..	256/27
Bombs—demanding ... ..	159/27
Carriers :—	
Aviation spirit ... ..	3014/25
Aviation spirit—supply in bulk ... ..	3211/26
Aviation spirit and paraffin—stowage in bulk ... ..	2135/27
Benzol and petrol mixture—storage ... ..	1746/24
Berthing at low tide ... ..	1611/24
Catamaran fenders—modification to width ... ..	140/28
Charts for reading thermograph ... ..	303/29
Confidential nature ... ..	3162/29
Deck landing afloat ... ..	241/29
Docking plans ... ..	2714/27
Flying operations—personnel carried in attendant destroyer	2661/28
Landing on after aerobatics, high-speed flying, etc—precautions ... ..	337/25
No of spare aircraft engines to be carried ... ..	2602/27
Side screens—abolition ... ..	195/28
Catapults in ships ... ..	2771/27
Catapults—stowage of spare parts ... ..	333/29
Compasses—adjustment ... ..	3364/26
Compasses—determination of errors and maintenance ... ..	875/26
Co-operation with Surveying Service ... ..	250/27
Cypher messages—use of ... ..	1319/26
Dart—carrying of 520 lb. bombs ... ..	2799/28
Defective parts—tracing of ... ..	3518/25
Fire precautions—petrol lighters, etc. ... ..	1210/29
Fires through sparking of aerial wire ... ..	1421/26
Fleet Air Arm—permission for foreign officers to inspect ... ..	2871/24
“Flycatcher”—Jaguar ship-plane—air speed necessary for launching ... ..	1389/26
Flying-off platforms reconstructed for “Flycatcher” aeroplanes	2637/25
Flying off telegraphs—order communications ... ..	392/28
Foreign—Visits to British Ports ... ..	1871/29
Fuelling—prevention of fire ... ..	201/29
Greek territory ... ..	16/29, 17/29
Marking—Civil ... ..	1785/27
Marking—R.A.F. ... ..	1686/27
Netherlands—distinguishing marks ... ..	23/29
Official nomenclature and identification marks ... ..	2172/23
Passing over prohibited areas—identification ... ..	2294/27
Routes, commercial—gunnery practice precautions ... ..	89/25
Salvage wire and pendant ... ..	936/29
Swedish territory ... ..	36/29
Use of searchlights against, at night ... ..	1277/27
W/T equipment precautions ... ..	2070/26
W/T instruments—failure owing to damp ... ..	4/28
Airmen. <i>See</i> Air Arm and R.A.F.	
Alcohol supply fittings, Patt. 4230—condemnation ... ..	2145/29
Aldershot military prison—prisoners returning to service ... ..	493/28
Allotments and marriage allowances—remittances system ... ..	1367/29
Allowances :—	
Accommodation and victualling for ratings serving on shore abroad ... ..	938/27
Colonial, to Naval Officers—applications for, etc. ... ..	59/23
Lodging. <i>See</i> Lodging.	
Marriage. <i>See</i> Marriage.	
Observers—officers lent for flying duties ... ..	362/29

Allowances—*cont.*

Officers attached to Army Units—expenses	... ..	2175/29
Officers serving at Admiralty	... ..	2963/23
Officiating ministers and other part time employees	... ..	1640/24
Overpayment—procedure	... ..	762/24
Provision. <i>See</i> Victualling.		
R.A.F. personnel in R.N.	... ..	2528/25
Royal Tournament—officers attending	... ..	1131/25
Subsistence. <i>See</i> Subsistence.		
Tropical-switchboard watchkeepers	... ..	633/28
Valuation—central storekeeping	... ..	212/29
Victualling store	... ..	3041/28
Alterations and additions to H.M. ships:—		
Anti-submarine apparatus	... ..	2003/25
Electrical circuits	... ..	4651C/18
Fleet shore establishments	... ..	2194/24
Important items deferred by shortage of labour—instructions	... ..	691/24
Magazine regulations—compliance	... ..	1701/22
Monthly summary of liabilities and expenditure	... ..	2729/26
Procedure for dealing with proposals and policy of Admiralty	... ..	171/28
Procedure—ships taken in hand for large repairs, etc.	... ..	283/23
Submarines “L,” “L.50” and “M” classes—forwarding of proposals	... ..	1427/26
Transmitting stations of “Hawkins” class	... ..	249/28
Unnumbered items and dockyard estimates of cost	... ..	870/25
Ventilation items to include sketch	... ..	2890/25
Aluminium:—		
Alloy fittings threaded parts—protection from corrosion	... ..	481/29
Fittings—cleaning	... ..	3397/26
Fittings in ships building	... ..	3453/26
Paint powder	... ..	2480/24
Silicon alloys	... ..	148/28
Ambulances, motor—use	... ..	2426/28
America. <i>See</i> U.S.A.		
Ammunition hoists—swivel hook blocks	... ..	2230/28
Ammunition lockers, ready-use (armed merchant cruisers)	... ..	3290/26
Anchor-s:—		
Cable holder brakes—use	... ..	2197/29
Destroyers on sale list	... ..	1247/29
Hawsers for weighing by hand	... ..	518/28
Moorings	... ..	1327/29
Anemometers for ventilation systems	... ..	2107/26
Anti-fouling composition—application	... ..	2052/25
Anti-gas:—		
Apparatus:—		
Care of, by ratings	... ..	1894/29
Capsules, lachrymatory	... ..	902/26
Deviations produced in magnetic compass	... ..	2895/26
Dominion personnel	... ..	3249/27
No protection against poisonous atmosphere such as carbon monoxide, etc.	... ..	1977/17
Chemical warfare—organisation	... ..	2666/26
Collective protection	... ..	2797/29
Collective protection—test for gastightness	... ..	1464/29
Course for new entry officers	... ..	368/28
Defence—inspection reports	... ..	3163/27
Instruction—officers	... ..	1894/25
Lead fumes produced by burning off paint, etc.	... ..	1884/28
Respirators—danger when wearing in a Neil-Robertson stretcher	... ..	3120/27
Schools—courses for instructors	... ..	1899/25
Anti-submarine:—		
Alterations and additions affecting apparatus	... ..	2003/25
Apparatus—accounting	... ..	2160/29
Asdics—use of term	... ..	1737/29
Course, specialist	... ..	1257/29
Anzac day for R.A.N.	... ..	1517/29
“Apex” blocks in submarines	... ..	459/24
Appeals—promotion of civil staff	... ..	709/23

Appointments :—	
Abroad—passages ... ..	1175/24
Civil Staff. <i>See</i> Civil Staff.	
Officers—duration ... ..	556/26
Surgeons and Physicians to the King—regulations governing ...	3030/28
Appropriations-in-Aid—Vote 8, Section III, Subhead I. ... ..	3270/25
Arisings :—	
Gunmetal and copper articles—sale ... ..	3296/25
Gigs, gauges, etc., at contractors' works ... ..	2455/25
Scrap metal—storage ... ..	1552/27
Armament :—	
Merchant vessels—stiffening to allow ... ..	1699/21
Armaments :—	
Washington Naval Treaty ... ..	2544, 23
Armed Merchant Cruisers. <i>See</i> Merchant Cruisers.	
Armistice Day :—	
Ceremonial for the observance in ships and establishments ...	6/29
French ceremonial ... ..	6/29, 7/29
Italy ... ..	6/29
R.A.N. ... ..	1517/29
Arms, etc. :—	
Ireland—carrying by ratings ... ..	3680/20
Arms export Prohibition order 1921—	
Procedure for Government export ... ..	2991/28
Army :—	
And Admiralty—joint orders under N.D.A. ... ..	413/29
Attachment of Naval Officers—expenses ... ..	2175/29
Military prison, Aldershot—Naval ratings returning to the	
Service ... ..	493/28
Officers—messing and victualling in H.M. Ships for passage ...	1007/24
Rifle ranges—use by R.N. ... ..	288/26
Stores supplied to ... ..	1270/27
War Office stores supplied to Admiralty—accounting ... ..	2706/28
Artificer apprentices—supply of tools ... ..	2193/28
Asdics—use of term ... ..	1737/29
Asiatic ratings—pay, service, etc. ... ..	382/28
Atlantic Fleet—storing ports ... ..	1421/24
Australia, Western—group settlements—position of R.F.R.'s ...	2565/27
Australian Navy. <i>See</i> R.A.N. and Dominion.	
Auteautite fabric for upholstery ... ..	1233/29
Auxiliary patrol. <i>See</i> Fishery Protection and Minesweeping patrol.	
Aviation. <i>See</i> Air Arm, Aircraft, R.A.F.	
Aviation spirit. <i>See</i> Spirit.	
Awnings ... ..	3006/29
Awnings—Method of hauling out ... ..	104/27

## B

B.13 ... ..	2065, 29
Badges :—	
And scrolls of ship for sale ... ..	2911/29
H.M. Ships—reproduction ... ..	2293/22
Baggage—Conveyance of—dockyard workmen on passage abroad ...	1561/27
Baggage—Conveyance at Torquay ... ..	2912/29
Bakery. <i>See</i> also Bread.	
Bakery plant—classification on purchase ... ..	1993/28
Ball bearings. <i>See</i> Bearings.	
Band-s :—	
Musical instruments—supply in excess to establishment ...	815/29
Ranks—instruction afloat of candidates for promotion ... ..	1871/28
Banquet. <i>See</i> Dinner.	
Barter of stores to inhabitants of islands ... ..	2703/26
Battery-ies :—	
Cells for telephones for field guns ... ..	2629/26
Cells, secondary, for gun firing circuits of A.M.C.s—storing ...	134/27
Nickel iron type for use with "Oldham" Hewer type lanterns ...	1428/27
Primary and secondary cells—reserves ... ..	664/29
Submarine. <i>See</i> Submarines.	
Battery—accumulators—aircraft, charging in parallel—precautions ...	373/26



Bearings :—	
Ball and roller ... ..	2755/29
Ball and roller, in electrical machines ... ..	2461/27
Ball and roller—procedure for demanding, etc. ... ..	2089/27
Ball—procedure in purchasing ... ..	3328/26
Motor—responsibility for design and construction ... ..	1371/24
Bedding—Linen sheeting, ticken, etc. ... ..	915/29
Bedding—naval ratings on draft ... ..	1739/27
Bedding—R.F.A.s ... ..	1765/28
Belgium—Regulations for visits by foreign war vessels ... ..	8/29
Benefit societies for lower deck ... ..	3657/20
Benevolent Trust, R.N. <i>See</i> Royal Naval Benevolent Trust.	
Benzol and petrol—storage in aircraft carriers ... ..	1746/24
Berthing :—	
Alongside “Eagle” ... ..	3458/23
Fenders—“Hermes” ... ..	144/24
“Hermes” and other aircraft carriers at low tide ... ..	1611/24
Berths and moorings, Admiralty—use by private vessels ... ..	744/23
Billiard tables ... ..	1337/29
Binding—S.519, Junior Officers’ Journals ... ..	510/27
Binnacles and compasses—“Flotilla” type ... ..	2411/29
Binnacles, accounting ... ..	1214/27
Binoculars :—	
For gunnery purposes and searchlight control—allowances ... ..	3055/28
For searchlight control ... ..	3013/29
Patt. 343—attachment to improve definition ... ..	2908/29
Patt. 343—trial—shade attachment for—report ... ..	3224/28
Blinds—Brown holland material ... ..	3158/29
Blocks. <i>See also</i> Lifting Gear :—	
Apex, in submarines ... ..	459/24
I.I. with beckets ... ..	1904/29
Swivel hook blocks for hoisting ammunition ... ..	2230/28
Wood and internal iron bound ... ..	1302/26
Board of Trade :—	
Notification of sale of ships ... ..	2959/25
Boarding of merchant ships at naval ports by “Officer of the Guard” ... ..	2910/27
Boat-s :—	
Damage during gun trials ... ..	1923/25
Drop keel dinghies ... ..	876/25
Falls—swivel ring shackles ... ..	2906/26
Harbour service launches—glass screens ... ..	758/29
Lifting appliances ... ..	1575/28
Lowering gear—use of a lizard—accidents ... ..	2752/17
Mercantile type—survey of lifting hooks, keel plates, bolts, etc. ... ..	466/23
Motor. <i>See</i> Motor Boats.	
Oars, ash trials ... ..	957/29
Pinnaces, oil fired—air cones ... ..	1981/29
R.A.F. ... ..	3020/24
R.N.V.R.—refits ... ..	2113/28
Shipment for conveyance home—receipt ... ..	597/26
Steam, oil fired—air trunks—access doors ... ..	1473/29
Boiler-s :—	
Babcock and Wilcox—handhole fittings ... ..	3399/26
Babcock and Wilcox—wear of headers ... ..	2416/28
Oxygen in feed water—estimating ... ..	1617/29
Plate thicknesses when making drill tests, etc. ... ..	2308/28
Repairs during large refit ... ..	1902/27
Room doors—alterations (sloops) ... ..	136/29
Rooms (submarines)—re-wiring ... ..	1772/25
Smoke—formation of, in relation to efficiency ... ..	2080/26
Tubes :—	
Retubing of destroyers—procedure ... ..	874/26
Sketch plates ... ..	2794/28
Steel—preservation ... ..	2973/29
S.W. brushes for cleaning ... ..	1176/29
Superheater ... ..	1492/28
Uptakes—rain water catchments ... ..	2696/29
Yarrow—shape of fire row tubes ... ..	1372/25

Bolts and studs subjected to high temperature ... ..	1549/29
Bombay Dockyard, R.I.M. stores—handling, etc. ... ..	3189/29
Bombs :—	
Bombing tactics of aircraft ... ..	256/27
Dart aircraft—carrying of 520 lb. ... ..	2799/28
For aircraft—demanding ... ..	159/27
Bonus—officiating ministers and other part-time employees—decrease in allowances ... ..	1611/24
Book wrappers—use ... ..	1561/23
Books, Publications, etc. <i>See also</i> Libraries :—	
Confidential. <i>See</i> Confidential.	
Official use. <i>See</i> O.U.	
Of reference—accounting ... ..	319/29
Secretary's course ... ..	931/27
Text—establishments ... ..	2463/29
Text—supply on repayment ... ..	61/25
Bookstalls ... ..	391/29
Boom defences :—	
Accounting for stores ... ..	521/21
Courses ... ..	1604/28
Bom defence—opening of training school, Rosyth ... ..	2545/26
Organisation matters for D.T.M. ... ..	1128/21
Boot 'topping compositions. <i>See</i> Composition.	
Borrowing and appropriation—charges of theft ... ..	2026/26
Bottom compositions. <i>See</i> Composition.	
Boxes :—	
Cash for mess, etc., funds ... ..	773/26
Branch Breakers—Oil type, 50/250 amps. ... ..	1223/29
Bread :—	
Proving cupboards in bakeries—heating ... ..	3181/29
Breech mechanisms—Courses for W.O.O.s, etc.—pay arrangements	2168/27
Brewerton course recorders ... ..	3069/26
Bridles :—	
And slings for motor boats ... ..	1641/22, 530/28
British War Medal. <i>See</i> Medals.	
Broadcasting. <i>See</i> W/T.	
Brushes :—	
Carbon ... ..	2316/29
S.W., for cleaning boiler tubes ... ..	1176/29
Varnish or enamel ... ..	3211/29
Bugler—relinquishment of rating ... ..	2091/28
Buildings, Admiralty shore. Position of main cables to avoid risk of fire ... ..	1186/28
Buildings—Interference or obstruction of defences ... ..	1870/29
Bulge compartments—removal of wood filling ... ..	2081/25
Bulges—berthing alongside "Eagle" ... ..	3458/23
Bulges—examination ... ..	1968/29
Bulkheading of enclosed messes in H.M. ships ... ..	2853/28
Buoyancy tanks—dinghies of submarines ... ..	433/27
Buoyancy—tests of boats ... ..	2516/25
Buoys. <i>See also</i> Moorings :—	
Moorings ... ..	1327/29
Night life and life buoy lights ... ..	3387/18
Bulged ships—fendering between auxiliary vessels ... ..	2358/27
Burial arrangements—workmen dying abroad ... ..	418/25
Burials—funerals and graves, funeral parties, etc. ... ..	416/27
Burials—wreaths, presentation—sanction of Admiralty ... ..	3240/26

## C

C.B. <i>See</i> Confidential Books.	
C.M.B.s. <i>See</i> Coastal Motor Boats.	
CO <sub>2</sub> and NH <sub>3</sub> plant—additional spare pinions ... ..	2638/25
Cables :—	
Chain and anchors :—	
Heat treatment and annealing ... ..	1654/28
Chain :—	
Destroyers on Sale List ... ..	1247/29
Moorings ... ..	1327/29

Cables— <i>c mtd.</i>	
electric :—	
Damage ... ..	192/28
Damage by drilling holes in ships structure ... ..	1218/26
Descriptions on demands ... ..	1526/27
Fire precautions—insulation ... ..	1286/26
Junction boxes low power—diagrams ... ..	1903/27
Paper insulated multicore—sealing ends ... ..	1444/29
Passages—temperature ... ..	2897/29
Risk of fire in Admiralty shore buildings ... ..	1186/28
Steel clips ... ..	1670/29
Holder brakes—use ... ..	2197/29
Passages—reduction of temperatures in ... ..	66/29
Telegraph. <i>See</i> Telegraph.	
Cadets :—	
Corps, Volunteer—assistance to funds ... ..	1608/28
Dartmouth—syllabus of training afloat ... ..	980/27
Pay on joining sea-going ships ... ..	3091/29
Cameras :— <i>See</i> Photography.	
Canada :—	
Stores—package for shipment ... ..	879/25
Packing materials to be used ... ..	2041/29
Canadian Government, Navy and ships. <i>See</i> R.C.N. and Dominion.	
Candidates—Naval, for Parliament. <i>See</i> Parliament.	
Cans. <i>See also</i> Drums :—	
Oil, light shale, Patt. 29A ... ..	1254/26
Canteens :—	
Funds—Contributions to R.N. Benevolent Trust— <i>See</i> R.N. Benevolent Trust.	
Groceries, etc., supplied to officers and men for family use ... ..	1070/26
Navy, Army and Air Force Institutes. <i>See</i> Institute.	
Operated by N.A.A.F.I. at naval shore establishments ... ..	71/29
Royal Marines—transfer to N.A.A.F.I. ... ..	519/29
Sailor's rests, etc.—Naval jurisdiction ... ..	573/28
Canvas cots ... ..	900/28
Capstan :—	
Auto control gear—failure ... ..	183/29
Cable holder brakes—use ... ..	2197/29
Spindles and deck brushes—examination ... ..	2137/27
Carbon brushes ... ..	2316/29
Carbon packing for turbine glands—local purchases ... ..	70/29
Carbons :—	
Agreement with G.E.C. for supply ... ..	3367/24
Carley floats. <i>See</i> Floats.	
Carpets :—	
Curtains, etc., for W.O.s' messes ... ..	2042/29
Carriage—Rail. <i>See</i> Railway.	
Cases, empty—return to contractors ... ..	916/27
Cases, packing. <i>See</i> Packing.	
Cash :—	
Advances to masters of R.F.A.s ... ..	2710/29
Boxes for mess funds ... ..	773/26
Loss of keys to confidential document chests ... ..	2907/28
R.A.N. ships—advances to ... ..	1274/26
Treasury notes—deficiencies in packets ... ..	1437/23
Casks, oil, 25-gallon—care, use, return, etc. ... ..	1736/26
Castings :—	
Nozzle, for Brown-Curtis turbines ... ..	511/28
Catapults :—	
Aircraft, in ships—demarcation of work ... ..	2771/27
Ships fitted with—spare parts stowage ... ..	333/29
Trials afloat—allocation of responsibilities ... ..	3028/28
Cats—importation of ... ..	38/29
Cells. <i>See</i> Batteries.	
Cement sacks, empty—return ... ..	24/27
Cement washing of after-peaks of minesweepers ... ..	85/28
Cenotaph—arrangements for visits of organised parties ... ..	1908/27
Central storekeeping. <i>See</i> Storekeeping and Stores.	
“Centurion”—fleet frings at—damage ... ..	1470/28
Ceremonial for the observance of Armistice Day ... ..	6/29

Certificates, Service:—	
Inspection—rectifying omissions ... ..	82/27
Stoker ratings—notation of examination ... ..	499/25
Ceylon Police Force ... ..	1334/28
“Ceymal” upholstery ... ..	1233/29
Chain cables. <i>See</i> Cables.	
Chains—steel, electrically welded ... ..	388/29
Chair, swivel for W/T cabinet ... ..	1752/29
Charities, officers', central clearing house ... ..	1728/29
Character assessments—alterations ... ..	287/25
Charts:—	
Demands ... ..	3242/29
For meteorological instruments ... ..	303/29
Chemical warfare—organisation ... ..	2666/26
Chernikeef logs. <i>See</i> Logs.	
Chests—losses of keys ... ..	2907/28
Chests—mess, etc., funds ... ..	773/26
Chief officer—permanent cruiser service—Regulations ... ..	1555/22
Chief Petty Officer—advancement to by captain ... ..	1333/26
Chief Petty Officers' and Petty Officers' messes. <i>See</i> Messes.	
Chloride of lime—containers ... ..	2546/29
Chloride of lime, stabilised—examination ... ..	732/29
Chlorosulphuric acid drums—marking ... ..	147/29
Church of England. <i>See</i> Officiating minister.	
Cigarette lighters—Fire precautions ... ..	1210/29
Cinema. <i>See also</i> Photography.	
Film-s:—	
Instructional—circulating film library ... ..	1353/27
Re-landed ... ..	3120/23
“Selo” of British manufacture—reports ... ..	1511/28
High speed camera ... ..	965/27
Civil engineer officers—diving regulations ... ..	2154/27
Civil Establishments—gas and electric light ... ..	2887/29
Civil Service Approved Associations regulations and list of organisations ... ..	2324/28
Civil staff. <i>See also</i> Dockyards and Yards:—	
Acting appointments—promotion to substantive rank—super-annuation ... ..	355/29
Armament Supply Department. <i>See</i> Civil Staff—Supply and Accounting Departments.	
Bonus—cost of living. <i>See</i> Bonus.	
Civilian pensioners. <i>See</i> Pensioners.	
Claims for hurt pay or compensation ... ..	525/27
Compensation for eye injury and hurt pay ... ..	521/27
Death abroad—compensation for damage to effects ... ..	1105/25
Discharge on redundancy—re-employment—(Shorthand Typists)	1267/28
Diving regulations for civil engineer officers in C.E. in C.'s Dept	2154/27
Draughtsman. <i>See</i> Draughtsman.	
Female staff. <i>See</i> Civil staff—women.	
Increments, mixed—application to Department Clerical Class ...	2607/24
Injured while attending trials or tests of submarines—compensation ... ..	1913/28
Leave. <i>See</i> Leave.	
Legal representative or next-of-kin while serving abroad ... ..	1941/27
Malta—warning against goats' milk ... ..	1102/25
Medical boards—leave to attend... ..	972/29
Motor cars, private—use for official journeys ... ..	2382/28
Organisations approved under Civil Service Regulations... ..	2324/28
Overseers. <i>See</i> Overseers.	
Overtime. <i>See</i> Overtime.	
Probationary service ... ..	2219/24
Promotion—certifying officers for annual reports (D.271) ... ..	709/23
Promotion—general principles and procedure ... ..	709/23
Quarterly Return Form E.40 ... ..	3199/27
Railway class accommodation ... ..	3227/25
Recorders of weights—conditions of service ... ..	1461/26
Shorthand typists, temporary—re-employment when discharged on redundancy ... ..	1267/28

Civil staff—*contd.*

Sick leave under Federated Universities' Superannuation Scheme	623/26
Subsistence allowance at outposts ... ..	1463/26
Subsistence allowance regulations ... ..	2268/29
Superannuation. <i>See also</i> Pensions:—	
Acting officers substantively promoted ... ..	355/29
Certificates of character—absence without leave ... ..	2488/24
Forms—service with R.I.C. ... ..	2512/25
Scheme under federated universities ... ..	1804/29
Service with forces claimed on D.73 ... ..	3363/24
Unhealthy places ... ..	585/29
Temporary clerks—gratuities on discharge ... ..	163/29
Temporary clerks—notice of discharge... ..	2176/22
Temporary staff—engagement ... ..	2381/28
Territorial, R.N.V.R., etc.—arrangements <i>re</i> enlistment ... ..	1465/26
Typing grades, established ... ..	1348/29
Transferred—removal expenses, etc.— <i>See</i> Removal Expenses.	
Uniform—free issue to civilian employees ... ..	545/26
Women:—	
Employees—marriage gratuities ... ..	1290/25
Tracers—new conditions of service ... ..	1162/27
Writing assistant, typists, etc.—substitution pay ... ..	2377/29
Claims:—	
By or against private owners—disclosure of information to owners	1273/26
Damage to fishing gear by submarines ... ..	2174/23
For hurt pay and compensation ... ..	525/27
Stores, etc., supplied by War Office ... ..	2706/28
Work done for and stores supplied for repayment services. <i>See</i> Repayment Services.	
Clasps, medal. <i>See</i> Medals.	
Clerical duties—labourers employed on ... ..	2041/25
Clerical staff. <i>See</i> Civil Staff.	
Climates, hot. <i>See</i> Tropics.	
Clocks:—	
Patt. 307—loss of keys ... ..	2452/25
Clothing. <i>See also</i> Kit and Uniform:—	
Royal Marines—accounting ... ..	2391/28
Technical Committee on Textiles, etc., patterns ... ..	816/28
Wrapping materials supplied for stationery purposes not to be used for packing ... ..	452/27
Clubs. Furniture lent ... ..	3120/29
Coal:—	
And coke—consumption in shore establishments ... ..	2469/27
And oil fuel expenditure ... ..	2973/28
Bituminous—smoke reducing ... ..	3043/18
Explosives, detection ... ..	515/15
Fired firehearths and cooking apparatus ... ..	1558/26
For galley—supply at ports abroad ... ..	2500/25
Fuel and light for official residences ... ..	2341/24
Land engine and furnace ... ..	2169/24
Reserves in vicinity of Dockyards ... ..	3626/20
Shipments from South Wales ... ..	587/29
Steam vessel—annual statement of cost for handling ... ..	2909/27
Coast guard:—	
Entry of seamen and signal ratings ... ..	2931/29
Exercises, firing, etc.—notification to local authorities ... ..	41/29
Coastal motor boats:—	
Hulls used as towed targets—distinguishing letters ... ..	628/27
Towage as targets ... ..	1043/25
Coating. <i>See</i> Composition, Paint, Varnish, etc.	
Cockburn's safety valves—discs—purchase... ..	2782/28
Cockroaches—insecticides for extermination ... ..	312/29
Coding cypher messages—degrading ... ..	2909/26
Coke and coal—consumption in shore establishments ... ..	2469/27
Collective protection ... ..	2797/29
Colliers:—	
Damage by H.M. ships—repairs... ..	287/10

Collisions :—	
Claims by or against private owners—disclosure of information to owners ... ..	1273/26
Damage to colliers by H.M. ships—repairs ... ..	287/10
Colonial allowance ... ..	522/29
Colonial ports—notification of visits of H.M. Ships to... ..	4/29
Colonies. <i>See</i> Dominions.	
Colours. <i>See also</i> Paint :—	
Piping system ... ..	2494/25
Command of destroyers—examination for ... ..	2187/25
Commanders air course ... ..	2444/27
Commanders for R.N.R. and Mercantile Marine duties ... ..	1948/29
Commands, Home—limits ... ..	914/25
Commissioned officers from warrant rank. <i>See</i> Warrant.	
Committee :—	
Packing materials ... ..	3392/26
Technical, on textiles and clothing—patterns ... ..	816/28
Commissioning :—	
Coating of bottom on re-commissioning ... ..	1590/27
Mediterranean destroyers, re-commissioning and refitting at home ports—procedure ... ..	3237/26
Re-commissioning, building, passing into Reserve or Dockyard control—drafting of central storekeeping staff and instructions as regards stores ... ..	605/26, 1225/26
Commonwealth—anti-gas apparatus ... ..	3249/27
Communications :—	
Internal—term not to be used ... ..	3145/26
Official—Soviet government ... ..	28/29
Commutation—weekly payments under Workmen's Compensation Act ... ..	913/27
Compartments—apparatus protecting from monoxide gas, etc. ... ..	1977/17
Compass-es :—	
Aircraft—adjustment ... ..	3364/26
Aircraft—errors and maintenance ... ..	875/26
And binnacles—"Flotilla" type... ..	2411/29
Binnacles, etc.—accounting ... ..	1214/27
Department—retired pay of Naval and Marine officers serving in ... ..	2252/25
Equipments—drifters ... ..	2747/29
Establishment :—	
"Dorsetshire," "Exeter," "Norfolk" and "York" ... ..	1487/29
"Folkestone," "Hastings," "Penzance," etc. ... ..	1613/29
"Keith" and "Beagle" class ... ..	1556/29
R.C.N. destroyers "Saguenay" and "Skeena" ... ..	1754/29
Submarines "Rainbow," "Rover," etc. ... ..	1850/29
Gyro :—	
And magnetic—examination and test ... ..	1267/27
Equipment—accounting ... ..	2541/29
Equipment—"Vectis" ... ..	1731/27
Logs—rendering ... ..	2642/27
Pattern 1504, commutator type transmitter ... ..	1577/28
Repeaters—responsibility for testing ... ..	2402/27
Rotor bearings ... ..	2032/29
Scraping and polishing of binnacles, etc. ... ..	1895/29
Magnetic—deviations produced by anti-gas apparatus ... ..	2895/26
Magnetic—trials ... ..	542/29
Provision allowance to officers ... ..	2769/29
R.F.As. ... ..	1014/29
Compensation. <i>See also</i> Injuries and Hurt Pay.	
And claims for hurt pay ... ..	525/27
And claims for injuries—light duties, etc. ... ..	3103/27
And hurt pay, eye injury, etc.—civil employees ... ..	521/27
Civil staff injured while attending trials of submarines ... ..	1913/28
Damage to effects of civil staff dying abroad ... ..	1105/25
Private motor cars in accidents in naval establishments ... ..	768/27
Compensation Act, Workmen's :—	
Commutation of weekly payments ... ..	913/27
Diseases ... ..	2557/29
Instructions ... ..	524/27
Medical and hospital treatment ... ..	68/28
Re-assessment of average weekly earnings ... ..	353/27

Complaints—lower deck grievances ... ..	1207/21
Complement :—	
Winter—surveying ships ... ..	2264/22
Compliments—to officers by ratings at dinners ... ..	2697/22
Composition. <i>See also</i> Paint.	
Anti-fouling—application ... ..	2052/25
Boot topping :—	
Use of black and grey ... ..	2017/25
Waterline and funnel markings of destroyers ... ..	3141/25
Bottom and boot-topping, for R.A.N. ... ..	2866/26
Bottom on re-commissioning ... ..	1590/27
Bottom—removal of old ... ..	2198/29
Coating of R.F. tanks (minesweepers, twin-screw) ... ..	2968/24
Outer bottom ... ..	1846/29
Outer bottom—authority for changes ... ..	1029/22
Protecting for pontoon tanks, etc. ... ..	1398/29
Condenser doors and oil cooler bodies ... ..	952/29
Condenser shell plates—corrosion ... ..	2354/28
Condenser tubes :—	
American manufacture ... ..	757/27
“War” class oilers ... ..	3119/29
Conduct—assessments of character—alterations ... ..	287/25
Confidential books :—	
C.B. 1799 (29) ... ..	611/29
Confidential :—	
Aircraft carriers—confidential nature ... ..	3162/29
Maps and plans—care and custody ... ..	1441/27
Nature of submarines ... ..	249/27
New Construction ... ..	1324/29
Submarine fittings ... ..	2397/29
Confined spaces, pipe systems, brine evaporators, etc.—naked lights danger ... ..	1012/28
Consignments. <i>See</i> Shipments.	
Construction, new. <i>See</i> Ships, building.	
Contractors—assistant—appointments ... ..	2550/29
Consular officers—British—Precedence, salutes ... ..	5/29
Consular officers of foreign powers—enquiries by ... ..	57/28
Consular Officers—expenditure incurred on behalf of Admiralty ... ..	2879/27
Containers, empty—return to contractors ... ..	916/27
Contract-or-s :—	
Articles supplied by contract—dockyard work to make service- able ... ..	2370/27
Ball bearings ... ..	3328/26
Certification of instalments due to contractors ... ..	1548/27
Delivery of periscopes, rangefinders, etc. ... ..	1496/28
Discs for Cockburn’s safety valves—purchase ... ..	2782/28
Empty containers—return ... ..	916/27
Foreign Powers—reports ... ..	469/22
Hydroplane equipments ... ..	954/29
Inspection of contract work by dockyards—Vote 8 III F. ... ..	715/23
Jigs, gauges, etc., arising at contractors’ works—disposal... ..	2455/25
Job numbers—use instead of ships’ names in War... ..	919/28
Local purchases—Admiralty approval ... ..	714/28
Local purchases—conditions ... ..	264/28
Orders placed locally for small repairs to fire control instru- ments, etc. ... ..	2599/23
Patents and Designs Act—record of unpatented inventions ... ..	1295/24
Procedure as to supplementary work on repairs, etc. ... ..	1967/29
Rail carriage in connection with F.O.R. contracts ... ..	1173/28
Rawhide, etc., pinions and gears—local purchases ... ..	176/27
Ships building—stores ... ..	2160/28
Stores—Survey ... ..	2383/29
Submarine batteries—incidence of cost of repair ... ..	1558/25
Survey of stores from ... ..	618/27
Telephones for use of—rental ... ..	1651/29
Values inserted in estimates in respect of contract issues, Vote 8/III ... ..	1684/27
Visits of unauthorised persons to contractors’ works ... ..	1559/27

Cooking apparatus :—	
Coal-fired ... ..	1559/26
Cooking, etc., plant—classification on purchase ... ..	1993/28
Steam accidents ... ..	2015/25
Stoves ... ..	810/27
Cooking—steam apparatus—accidents ... ..	2015/25
Cooks, advancement ... ..	463/29
Cooks, officers'—drafting ... ..	414/27
Copper and gunmetal—arisings—sale ... ..	3296/25
Copper, Electrical purposes—conductivity ... ..	48/27
Copper, old, and scrap metal—transfer between Votes ... ..	2923/26
Cordage :—	
Indian tarred—trials ... ..	150/28, 2146/29
Manila—safe working load ... ..	2073/24
Correspondence :—	
Priority, urgent, etc. ... ..	3474/26
Registered letters and parcels for R.F.A.s—custody ... ..	1527/27
Submarines building ... ..	1345/29
With Admiralty depts.—to be in duplicate ... ..	2708/29
Cost of living bonus. <i>See</i> Bonus and Pay.	
Cotton, coloured for making curtains and overcases ... ..	1663/26
Course-s :—	
Acting sub-lieutenants. <i>See</i> Acting Sub-Lieutenants.	
Anti-gas. <i>See</i> Anti-gas.	
Anti-submarine. <i>See</i> Anti-submarine.	
Boom defence ... ..	1604/28
Commanders' air—details and syllabus ... ..	2444/27
Educational—for rank of Lieutenant ... ..	2280/29
Electrical, for engineer officers ... ..	751/24
Engineering. <i>See</i> Engineering.	
(G) advanced—syllabus ... ..	251/24
Gunnery—for rank of Lieutenant ... ..	2277/29
Gunnery specialist ... ..	1256/29
Mates (E) acting, at Greenwich—syllabus ... ..	1427/23
Navigation. <i>See</i> Navigation.	
Observers ... ..	405/29
Petty officers, leading seamen, stoker petty officers and leading stokers ... ..	966C/20
Pilots, air arm ... ..	240/29
Recorders—Brewerton type ... ..	3069/26
Reduction in time for signalmen and telegraphist revisional courses ... ..	517/29
R.I.M. officers—accommodation, messing, etc., charges ... ..	229/25
(S) advanced—syllabus ... ..	6/24
Secretaries'—books ... ..	931/27
Senior officers :—	
Technical, etc. ... ..	3168a/24
1930 ... ..	2872/29
Signal. <i>See also</i> Signal.	
Signal specialist ... ..	3243/26
Staff Colleges—Navy, Army and Air Force ... ..	1308/29
Telegraphists for P.M.G.'s certificate ... ..	927/29
Torpedo—for rank of Lieutenant ... ..	2278/29
Torpedo specialist ... ..	1255/29
Vocational training. <i>See</i> Vocational training.	
Courts, legal—service expert witnesses—fees ... ..	2758/24
Croats, Serbs and Slovenes—W/T regulations ... ..	27/29
Cruiser service, permanent ... ..	1555/22
Cruisers :—	
“C” and “D” class—trim when docking, etc. ... ..	2737/29
“D” class—aeroplane platforms ... ..	654/29
“D” class—magazine floors ... ..	2395/29
Weight compensation—gear landed on deposit ... ..	1426/26
Cupboards containing valuable stores—keys ... ..	1563/25
Cupboards, lock up for valuables—access ... ..	314/29
Curtains—coloured cotton for ... ..	1663/26
Customs :—	
And excise—cinematograph films reloaded from H.M. Ships ... ..	3120/23
Cinematograph films landed from H.M. Ships ... ..	3117/29



Customs—*contd.*

Declaration on private effects sent home ... ..	495/28
Dues—exemption of dutiable goods for ships in Irish waters ...	1865/24
Dutiable stores other than tobacco and spirits (R.F.A.s) ...	3162/26
Local purchase abroad of dutiable articles ... ..	3265/27
Oil, petroleum from abroad ... ..	2922/29
Petroleum oils ... ..	784/29
Private effects landed at Malta ... ..	846/27
Cylinders :—	
Acetylene gas—reports ... ..	2437/27
Acetylene—tests, etc. ... ..	626/26
Blocks of A.E.C. lorries—accumulation of rust, etc. ... ..	3504/26
Gas ... ..	3023/29
Oxygen, gas, etc.—accounting ... ..	547/26
Oxygen, with commercial valves ... ..	1635/28
Cypher :—	
Messages—degrading ... ..	2909/26
Use in telegrams relating to aircraft ... ..	1319/26

## D

D.6G ... ..	1798/28
D.73—superannuation ... ..	3363/24
D.211—destroyers—preparation ... ..	3483/25
D.271 ... ..	709/23
D.284—destroyers—preparation ... ..	3483/25
D.476A. Book wrappers ... ..	1561/23
D.536 ... ..	3124/29
D.739B ... ..	3103/27
D.786B ... ..	2704/29
“Daffodil” and “Delphinium”—stores ... ..	3137/25
Damage. <i>See</i> Accidents.	
Damp—protection of stores against deterioration ... ..	1171/28
Dances—attendance of officers at functions given by ratings ... ..	2697/22
Danish :—	
Regulations for admission of foreign warships to Danish waters	10/29
Royal salutes ... ..	11/29
Dart aircraft—carrying of 520 lb. bombs ... ..	2799/28
Dartmouth harbour—traffic signals ... ..	2911/27
Davits. <i>See also</i> Lifting Gear :—	
Head pins, Delahay's patent ... ..	1562/25
Death :—	
Abroad of civilian officials—compensation for damage to effects	1105/25
Abroad of English agreement workmen—funeral arrangements	418/25
Disposal of personal effects—R.A.F. men in R.N. ... ..	451/26
Deck composition, “Teakoid,” etc.—precautions ... ..	2206/28
Decks, Ungalvanised—coating ... ..	1020/24
Defect lists :—	
Diesel engines, etc.—relaxation in procedure ... ..	1849/23
Duplicate and triplicate copies (Forms S.340 and S.340B) ... ..	385/27
Use of inside sheets ... ..	1544/26
Defects :—	
Turbine reduction gearing ... ..	805/28
Defences—buildings interfering with or obstructing ... ..	1870/29
Delahay's patent davit head pins ... ..	1562/25
De-Laval turbo electric generators—instructions for care and maintenance ... ..	1653/27
De-Laval turbo generators—“Saint” class tugs and “Moor” class vessels ... ..	2479/27
Demands :—	
Stores. <i>See</i> Stores, Demands.	
Denmark. <i>See</i> Danish.	
Dental :—	
Civilian mechanics—pay and conditions ... ..	497/28
Examination on discharge ... ..	3038/26
Officers—private practice ... ..	273/29
Treatment—General Regulations ... ..	1999/28

Departmental clerical class. <i>See</i> Civil Staff.	
Depth charges—restrictions on dropping ... ..	2976/29
Deputy Judge Advocate of the Fleet ... ..	3032/26
Derricks. <i>See</i> Lifting gear.	
Deserters and absentees in Ireland ... ..	449/23
Destoring. <i>See</i> Stores.	
Destroyers :—	
Boiler tubes—procedure for being taken in hand for re-tubing...	874/26
D.284 and D.211—displacement weights ... ..	3483/25
Examination for command ... ..	2187/25
Fitted with permanent streamline cages—modification of docking plans and draft marks ... ..	867/25
Hull surveys ... ..	2726/28
Mediterranean—recommissioning and refitting at home ports—procedure ... ..	3237/26
Petrol and paraffin stowage ... ..	2405/27
Steam heaters for living spaces—disposal ... ..	1032/29
Stores reserves ... ..	3010/29
Storing arrangements of destroyers building... ..	1901/28
“ V ” and “ W ” classes—storing periods ... ..	1021/29
“ V,” “ W ” and repeat “ W ” classes—compensating weights... ..	1475/25
Detention :—	
Punishment of offences committed in ... ..	1203/28
Diagrams. <i>See</i> Drawings.	
Diesel engines. <i>See</i> Machinery.	
Dinghies of submarines—buoyancy tanks ... ..	433/27
Dinners—compliments to officers by ratings ... ..	2697/22
Dinner toasts when foreign officers present ... ..	202/27
Diphtheria and tetanus anti-toxic sera ... ..	84/27
Disability pensions. <i>See</i> Pensions.	
Disabled ex-service civil staff—leave to attend medical boards ... ..	972/29
Discharge :—	
Assistance to ratings at Quarry House, St. Leonards-on-Sea ... ..	2387/27
Civil Staff. <i>See</i> Civil Staff.	
Gratuities to temporary clerks ... ..	163/29
“ Guide to Civil Employment ” ... ..	2373/28
Invalided ratings re-entered for Reserve Fleet working parties... ..	435/28
Medical and dental examination and record ... ..	3038/26
Medical examination ... ..	1990/24
National Association for Employment of Regular Sailors, Soldiers and Airmen ... ..	1794/27
“ Services no longer required ” applications—procedure ... ..	2023/23
Temporary clerks—notice ... ..	2176/22
Discs for Cockburn's safety valves—purchase ... ..	2782/28
Disinfecting rooms with formaldehyde gas ... ..	12/21
Dismissal—applications for—procedure ... ..	2023/23
Displacement. <i>See</i> Weight.	
Disposal of ships and vessels. <i>See</i> Ships.	
Disposal—personal effects of R.A.F. men dying while in R.N. ... ..	451/26
Distemper, white—in lieu of “ Duresco ” ... ..	721/29
Divers—instruction in fittings of submarines ... ..	2676/29
Diving dress—smoke helmet, Patt. 200—discontinuance of use as ... ..	3162/28
Diving dresses ... ..	1119/29
Diving regulations for Civil Engineer Officers ... ..	2154/27
Dock, harbour and port dues ... ..	3536/25
Dock-s :—	
Floating—care and maintenance... ..	367/23
Docking :—	
Aircraft carriers ... ..	2714/27
Plans—modification—destroyers fitted with permanent streamline cages ... ..	867/25
Precautions (sloops, “ Flower ” class) ... ..	110/25
Survey of oil fuel tanks ... ..	331/24
Trim of “ C ” and “ D ” class cruisers ... ..	2737/29
Dockyard-s. <i>See also</i> Civil Staff and Yard.	
Abroad—locally entered writers ... ..	2290/24
Abroad—Repairs of ships ... ..	1161/29

Dockyard-s—*contd.*

Accounts :—	
Maintenance and repair stores ... ..	382/26
Returns, D.72 ... ..	1354/29
Torpedo tubes—classification of expenditure ... ..	209/26
Aircraft catapults in ships—demarcation of work ... ..	2771/27
Alterations and additions—important items deferred by shortage of workmen—procedure ... ..	691/24
Alterations and additions—large repairs, etc.—procedure ... ..	283/23
Alterations and additions—unnumbered items and dockyard estimates of cost... ..	870/25
Defective articles made serviceable by dockyards at contractors' cost ... ..	2370/27
Electrical gear of ships—repairs to spare parts ... ..	1939/24
Fire precautions when burning or welding ... ..	618/28
Gear reported for disposal—procedure... ..	2792/28
Harbour service launches—glass screens ... ..	758/29
Inspection of contract work—Vote 8 III F. ... ..	715/23
Leave for workpeople ... ..	2329/29
Pensions—payment—signatures of pensioners ... ..	2101/27
Programme—yard machinery, control of expenditure ... ..	1300/25
Refits, large—stores and fixtures of ships paid off, etc. ... ..	605/26, 1225/26
Refits—work by naval ratings ... ..	215/21, 222/27
Regulations, Home—application ... ..	3202/28
Repairs, small, to fire control tables, instruments, etc.—orders placed locally ... ..	2599/23
Repairs to private vessels ... ..	3111/26
Repayment services. <i>See</i> Repayment Services.	
Seniority of civilian staffs ... ..	998/23
Spare gear—reports ... ..	1139/26
Telephone systems ... ..	103/28
Textiles—inspection and test ... ..	2111/29
Work done for private individuals, etc. <i>See</i> Repayment Services.	
Workmen—compensation. <i>See</i> Compensation.	
Workpeople. <i>See</i> Workpeople.	
Dogs :—	
Importation of ... ..	38/29
Landing at Gibraltar ... ..	3/28
Rabies treatment ... ..	1531/25
Dominion navies. <i>See</i> R.A.N., R.C.N., etc.	
Dominions. <i>See also</i> Colonial :—	
Advancement of R.N. ratings lent ... ..	2933/28
Anti-gas apparatus ... ..	3249/27
Attachment of students to other services during vacation ... ..	1308/29
Loan of candidates for warrant rank ... ..	2596/28
Overseas League Migration Bureau for retired officers ... ..	2171/29
Transfer and loan of personnel—distinction ... ..	925/28
Dough. <i>See</i> Bread.	
Douglas fir and pitch pine mast pieces ... ..	1993/29
Drafting :—	
Officers' cooks ... ..	414/27
Ratings to "Greenwich" ... ..	2158/28
Draught marks—destroyers fitted with permanent stream-line cages... ..	867/25
Draughtsmen :—	
Arbitration award ... ..	2378/29
Constructive, engineering and electrical—hours of attendance, overtime, subsistence allowance, etc. ... ..	457/27
Drawing-s :—	
Alterations and additions—ventilation items to include sketch ... ..	2890/25
And fixture lists—correction ... ..	3433/21
" As fitted " electrical machinery removed from H.M. ships ... ..	3104/22
D.E.E. and D.T.M.—distribution ... ..	2305/24
D.E.E.—issue ... ..	611/26
Diagrams inside L.P. junction boxes of H.M. ships ... ..	1903/27
Electrical ... ..	970/28
Electrical equipment ... ..	1992/28
Electrical—revision ... ..	2539/29, 2713/29
Maps and plans—care and custody ... ..	1441/27

Drawing-s— <i>contd.</i>	
Ships building ... ..	2900/29
Sketch plates for boiler tubes ... ..	2794/28
Small scale, to ships under construction ... ..	2347/27
Tracing cloth ... ..	3409/26
Drifters :—	
And trawlers—preparation for sale ... ..	553/26
Compass equipments ... ..	2747/29
For sale, etc.—destoring ... ..	3214/25
Inventories and fixture lists ... ..	310/29
Pilotage ... ..	2758/28
Survey ... ..	3108/29
Wood—survey of planking, etc. ... ..	838/26
Drilling holes—damage to cables, etc. ... ..	1218/26
Drill tests—plate thickness of boilers, etc. ... ..	2308/28
Drinking water. <i>See</i> Water.	
Drums. <i>See also</i> Cans :—	
Aviation spirit ... ..	1905/26
Empty—return to contractors ... ..	916/27
Marking—titanium, tetrachloride and chlorosulphuric ... ..	147/29
Dues—port, dock and harbour ... ..	3536/25
“ Duresco ”—use of white distemper ... ..	721/29
Dust allaying oil “ Adcol ”—inflammability ... ..	1307/28
Dutch. <i>See</i> Netherlands.	
Dutiable goods. <i>See</i> Customs.	

## E

(E). <i>See</i> Engineering.	
E.40—quarterly return of civil staff ... ..	3199/27
“ Eagle ”—berthing alongside ... ..	3458/23
Economy—alterations in ships and equipment ... ..	171/28
Economy—labels—use ... ..	421/28
Educational course for rank of Lieutenant ... ..	2280/29
Educational facilities abroad for families of civil staff—report... ..	1778/27
Effects, personal—R.A.F. men dying while in R.N.—disposal... ..	451/26
Effects, private—Customs declaration ... ..	495/28
Effects, private, landed at Malta—customs ... ..	846/27
Effects of civilian officials dying abroad—compensation for damage ... ..	1105/25
Egypt—Passports and visas ... ..	3215/29
Electric-al :—	
Apparatus—hastening delivery ... ..	1293/29
Cables. <i>See</i> Cables.	
Carbons—agreement with G.E.C. for supply... ..	3867/24
Circuits—alterations and additions ... ..	4651C/18
Circuits—insulation tests after large repairs ... ..	1550/25
Copper—conductivity ... ..	68/27
Course for engineer officers ... ..	751/24
Current for civil establishments ... ..	2887/29
Drawings ... ..	970/28, 2539/29, 2713/29
Energy—supply to ships from shore systems ... ..	2124/23, 777/28
Engineers Institute—Admission of Naval Officers to A.M.I.E.E.	
examinations ... ..	2002/29
Equipment—drawings ... ..	1992/28
Equipment—painting ... ..	1155/29
Equipment—replace parts ... ..	555/28
Equipment, surplus and spare gear—returns of reserve stocks... ..	273/24
Fires of “ Magicoal ” or imitation coal type ... ..	1397/29
Fittings or parts—losses from ships ... ..	728/25
Gear from ships for sale ... ..	992/20
Gear—repairs to spare parts during refits, etc. ... ..	1939/24
Generating stations ... ..	432/21
Generators, turbo, De Laval ... ..	1653/27, 2479/27
Installation in ships—responsibility of (T) and (E) officers ... ..	2060/29
Installations in H.M. ships—training of stoker ratings ... ..	2932/29
Looping-in bases, Pattern 3825 ... ..	194/27

Electric-al—*contd.*

Machinery :—	
Ball and roller bearings—lubrication ... ..	2461/27
Identification particulars ... ..	2511/23
Removed from H.M. ships—" as fitted " drawings ... ..	3104/22
Supply of spare parts ... ..	3402/23
Motor bearings—responsibility for design and construction ... ..	1371/24
Plant—name-plate for " modified " plant ... ..	2896/28
Radiators ... ..	232/21
Supply to H.M. ships—unauthorised interference ... ..	1338/27
Toasters ... ..	2416/29
Torches—R.F.A. oilers ... ..	1486/29
Varnishes and shellac ... ..	3232/26
Welding ... ..	1731/20
Emergency sets of books—establishment ... ..	1678/29
Employment :—	
After discharge. <i>See also Discharge.</i>	
" Guide to Civil Employment " ... ..	2373/28
National Association for Employment of Sailors, Soldiers and	
Airmen ... ..	1794/27
Workmen from depressed areas ... ..	3242/28
Empties—return to contractors ... ..	916/27
Enamel. <i>See Paint.</i>	
Engine-s. <i>See Machinery.</i>	
Engineer officers :—	
Civil—diving instructions ... ..	2154/27
Mate (E.). <i>See Mate (E).</i>	
Engineering :—	
Course, advanced—syllabus ... ..	567/28
Electrical course—Engineer officers ... ..	751/24
Mates (E) acting—course... ..	1427/23
Promotion zones—Engineer Captain, Engineer Commander, and	
Commander (E) ... ..	503/26
Selection for higher posts and position of officers specialising... ..	2157/20
Stores—establishment—revised edition ... ..	3065/27
Entertainment-s :—	
Compliments to officers by ratings at dinners ... ..	2697/22
Funds—report ... ..	2174/29
Entertainments Tax ... ..	2879/26
Entries :—	
Aircraft apprentices, R.A.F. ... ..	1043/29
Local, of writers at dockyards abroad ... ..	2290/24
Tuberculosis—examination ... ..	2012/29
Envelopes—standardisation ... ..	3236/27
Equipment allowances for officers ... ..	3195/28
Establishment of Stores. <i>See Stores.</i>	
Estimates—values in respect of contract issues, Vote 8/III ... ..	1684/27
Estonia—regulations regarding entry of foreign warships ... ..	12/29
Examination :—	
Clerical class and departmental clerical class. <i>See Civil Staff.</i>	
Command of destroyers ... ..	2187/25
Fees—locally entered writers ... ..	3488/25
Fees not payable to invigilators ... ..	474/28
Interpreters. <i>See Languages.</i>	
Languages, foreign. <i>See Languages.</i>	
Launches—stores, etc. ... ..	2270/24
Mate (E), acting—qualifying, afloat ... ..	815/26
Periodical, of fittings on which safety of life depends ... ..	1897/29
R.M. warrant officers. <i>See R.M.</i>	
Royal Marine officers. <i>See R.M.</i>	
Seamanship, for warrant officer ... ..	880/29
Steamers—stores and fittings ... ..	1684/23
Stoker ratings—notation on Service Certificate ... ..	499/25
Supply Branch. <i>See Supply Branch.</i>	
Writers. <i>See Writer.</i>	
Examiners of works, etc.—Arbitration award ... ..	2378/29
Excise. <i>See Customs.</i>	
Executive Branch, R.N., promotion. <i>See Promotion.</i>	
Executive officers, R.N. <i>See Officers.</i>	

Exercises, firing, etc.—Notification to local authorities... ..	41/29
Exercises—Fleet—area off Portland to be avoided ... ..	461/29
Exercises—fouling of fishermen's nets ... ..	107/29
Exhaust valves of submarines "L" class ... ..	2398/29
Expenditure by dockyards on torpedo tubes—classification ... ..	209/26
Expenses—travelling subsistence, etc. <i>See Travelling, Subsistence allowances, etc.</i>	
Explosion—naked lights in confined spaces ... ..	1012/28
Explosives:—	
Conveyance by rail... ..	1875/27
In coal—detection ... ..	515/15
Stores—annual exchange (R.F.A.s) ... ..	1412/26
Eyesight:—	
Eye injury—compensation for civil employees ... ..	521/27
Mechanicians, chief stokers and S.P.O.s—periodical test ... ..	2959/18
Officers'—examination ... ..	2947/18
Standards for R.N., R.M., R.F.R., and R.N.R.—supply of glasses ... ..	2334/28
Tests—gunnery and signal ratings, and certain officers ... ..	706C/19
Tests for R.N., R.M. and R.F.R. ... ..	1045/29

## F

Failures— <i>See Accidents.</i>	
Fairleads—minesweeping outfits ... ..	3285/29
Fans:—	
Electric table:—	
Unauthorised patterns—spare parts ... ..	3555/26
Motors—internal ventilation ... ..	135/29
Overhead—accounting ... ..	902/28
Table "Orbit"—lubricating wicks ... ..	1608/29
12½ in.—washers ... ..	2800/29
Feed discharge pipe—examination during refits ... ..	3008/29
Fees:—	
Examiners—locally entered writers ... ..	3488/25
Service expert witnesses ... ..	2758/24
Female staff. <i>See Civil staff—women.</i>	
Fenders:—	
Berthing, use in "Hermes" ... ..	144/24
Between bulged ships and auxiliary vessels ... ..	2358/27
Catamaran, of aircraft carriers ... ..	140/28
Ferrol—drinking water ... ..	204/27
Films. <i>See Cinema and Photography.</i>	
Filters, feed water—Terry towelling type ... ..	1660/26
Filters for drinking water ... ..	2124/28
Finding—theft by ... ..	2026/26
Fire-s:—	
Air trunks of steam boats—access doors ... ..	1473/29
Bars—wrought iron for cast iron ... ..	804/21
Control—tables and other instruments—small repairs ... ..	2599/23
Electric, of "Magicoal" or imitation coal type ... ..	1397/29
Extinguishers:—	
Foam type ... ..	2358/29
Patent—supply, storage, test, precautions and general instructions ... ..	1907/26
Proximity of welding and oil fuel plant ... ..	2359/29
Fuelling operations—prevention (motor boats) ... ..	201/29
Petrol filling operations in Fleet Air Arm ... ..	2064/27
Precautions:—	
Cable insulated with fire resisting material ... ..	1286/26
Cigarette lighters, etc. ... ..	1210/29
Fleet Air Arm transmitters, Type T.21A ... ..	1420/26
Main cables in Admiralty shore buildings ... ..	1186/28
Motor launches, motor boats, etc. ... ..	2702/25
Pump and alarm rattler switches... ..	2304/29
When burning or welding below decks ... ..	618/28
Firearms Act, 1920 ... ..	2315/24

Firehearths and cooking-apparatus—coal fired ... ..	1558/26
Fireworks—Fleet Air Arm ... ..	1197/27
Fishermen's nets—fouling ... ..	107/29
Fishery :—	
Acts and Conventions—enforcement ... ..	2297/27
Marking of potting gear ... ..	58/28
Officers—list of ... ..	41/29
Protection gunboats—minesweeping stores ... ..	979/23
Protection patrol and minesweeping flotillas—storing ... ..	966/27
Fishing gear—damage by submarines ... ..	2174/23
Fittings on which safety of life depends—examination ... ..	1897/29
Fixture lists. <i>See</i> Stores.	
Fixture lists and drawings—correction ... ..	3433/21
Fleet air arm. <i>See</i> Air.	
Fleet exercises. <i>See</i> Exercises.	
Floating docks. <i>See</i> Docks.	
Floats :—	
Life (Carley)—tests ... ..	4042/17
Flood valves—operation ... ..	1886/28
Floors of Magazine—Cruisers "D" class ... ..	2395/29
"Flower" class sloops—trials ... ..	1759/29
Flying. <i>See</i> Air Arm, Aircraft and R.A.F.	
Fog horns—new patterns ... ..	258/29
Forbes distance recorder ... ..	2193/24
Forbes log. <i>See</i> Log.	
Foreign :—	
Consular officers—enquiries by ... ..	57/28
Languages. <i>See</i> Languages.	
Men-of-war, etc., in British ports—pilotage dues... ..	1090/26
Officers—permission to inspect aircraft ... ..	2871/24
Officers—toasts at official dinners ... ..	202/27
Powers—overseers to report details of contracts for foreign Powers ... ..	469/22
Stations :—	
Allowances to ratings ashore for accommodation and victualling ... ..	938/27
Educational and medical facilities for families of civil staff ... ..	1778/27
Income tax allowance... ..	2782/29
Next-of-kin or legal representative of civilian personnel ... ..	1941/27
Foreign war vessels and Service aircraft :—	
Lent civilian social clubs—N.A.A.F.I., etc. ... ..	3120/29
Regulations for the use of W/T or telephony at British ports ... ..	3/29
Regulations for visiting British overseas ports ... ..	2/29
Visits to British Ports ... ..	1871/29
Foreigners—entry of into Soviet territory, Arctic territory ... ..	33/29
Foreigners—visits to dockyards, etc. ... ..	2062/27
Foreigners—visits to H.M. ships ... ..	1454/27
Foremen—eligible for Surveyor of Stores ... ..	2325/25
Formaldehyde gas far fumigating and disinfecting rooms ... ..	12/21
France :—	
And French dependencies :—Regulations for admission of foreign warships to ports ... ..	2925/29
Armistice Day Ceremonial ... ..	7/29
Fraud, theft, etc.—losses due to ... ..	2116/27
Freights. <i>See</i> Shipments.	
Frost—effects on steel wire ... ..	1016/29
Fuel Oil. <i>See</i> Oil fuel.	
Fuelling craft—estimates for repairs ... ..	2413/23
Fuelling, prevention of fires ... ..	201/29
Fumigating rooms with formaldehyde gas ... ..	12/21
Funds, mess, etc.—cash boxes... ..	773/26
Funerals. <i>See</i> Burials.	
Furniture :—	
"Ceymal" upholstery ... ..	1233/29

## G

(G). See Gunnery.	
Galleys—accidents ... ..	3109/29
Gallipoli day for R.A.N. ... ..	1517/29
Garage. See Motor car.	
Garage of cars, etc., in Naval Establishments—Insurance ... ..	2679/29
Gardening tools, etc., not to be purchased from upkeep allowances—report ... ..	3057/28
Gas. See also Anti-gas.	
Cylinders ... ..	3023/29
Cylinders—accounting ... ..	547/26
Cylinders, acetylene ... ..	626/26
Etc., for civil establishments ... ..	2887/29
Formaldehyde—disinfecting rooms and compartments ... ..	12/21
Monoxide, etc., in compartments—protecting apparatus ... ..	1977/17
Gauges—jigs, etc., arising at contractors' works—disposal ... ..	2455/25
Gear :—	
Landed on deposit and utilised as compensation for weight ... ..	1426/26
Langdon reverse for motor boats ... ..	1004/29
Reported for disposal—procedure ... ..	2792/28
Spare at dockyards—reports ... ..	1139/26
Generators—De Laval turbo ... ..	1653/27, 2479/27
Germany :—	
Fishery protection service ... ..	2926/29
Regulations regarding visits of foreign war vessels ... ..	14/29
Gibraltar :—	
Landing of dogs ... ..	3/28
Landing of infectious cases ... ..	205/27
Gifts of stores by H.M. ships ... ..	2703/26
Glass :—	
Triplex, scuttles in conning towers of submarines ... ..	84/28
Triplex—substitution by plate glass for vessels on hot stations ... ..	2559/25
Gloves—for pneumatic tools ... ..	1510/29
Goats' milk—warning against at Malta ... ..	1102/25
Goods—transport by rail ... ..	2812/29
Governors—Walker logs ... ..	1978/29
Grand Fleet fund. See Royal Naval Benevolent Trust.	
Gratuities :—	
Temporary clerks on discharge ... ..	163/29
War—ratings ... ..	1714/24, 1594/29
Graves. See Burials.	
Grazing rights and sale of grass cuttings ... ..	2014/29
Greece :—	
Regulations for visits of foreign aircraft ... ..	17/29
Regulations for W/T ... ..	2767/29
Visits of foreign war vessels and aircraft ... ..	16/29
“Greenwich”—drafting of ratings ... ..	2158/28
Grievances—lower deck—petitions ... ..	3657/20, 1307/21
Groceries—sale to officers and men for family use through N.A.A.F.I. ... ..	1070/26
Guard rails, portable—accident ... ..	3498/26
Gudgeon pins of Diesel engines—steel for ... ..	250/25
Gun tampions, ornamental—disposal ... ..	13/27
Gunmetal and copper articles—sale of arisings ... ..	3296/25
Gunnery :—	
Air. See Air Arm, Fleet.	
Advanced (G) course—syllabus ... ..	254/24
And signal ratings—eyesight tests ... ..	706C/19
Courses. See Courses.	
Damage to boats ... ..	1923/25
Gunners' list of fixtures D.6G ... ..	1798/28
Practice by H.M. ships in vicinity of aircraft routes—precautions ... ..	89/25
Practices—additional precautions and amendments to drill ... ..	444/24
Ratings, acting—training at sea ... ..	2214/28
Stores establishment ... ..	202/29
Gymnastic gear. See P. and R.T.	
Gyro compass. See Compass.	



## H

Habitability of ships in hot weather	...	...	...	1747/29
Harbour, port and dock dues	...	...	...	3536/25
Harwich—moorings	...	...	...	429/29
Hatches—escape manholes—size	...	...	...	2752/26
“Hawkins” class—transmitting stations—enlargement	...	...	...	249/28
Hawsers:—				
For weighing anchor by hand	...	...	...	518/28
Steel wire—commercial type	...	...	...	875/27
Hay, straw, etc., used for packing—disposal	...	...	...	2639/28
Health and Unemployment insurance. <i>See</i> Insurance.				
Health lectures	...	...	...	99C/19
Heating—electric radiators for shore establishments	...	...	...	232, 21
“Hermes”—berthing at low tide	...	...	...	1611/24
“Hermes”—berthing fenders	...	...	...	144/24
Hides and Leather—Government specification	...	...	...	2432/29
“Hindustan” R.I.M.S.	...	...	...	1636/29
“Hindustan” R.I.M.S.—storing	...	...	...	1809/29
Hire of teams, vehicles, etc.	...	...	...	1808/29
History sheets—recommendations for advancement	...	...	...	180/29
Hoists. <i>See</i> Lifting Gear.				
Holland. <i>See</i> Netherlands.				
Holland, brown, material for blinds, etc.	...	...	...	3158/29
Home Command limits...	...	...	...	914/25
Home Ports—administration of ships	...	...	...	2115/29
Hose-s:—				
Demands, treatment, testing, preservation, etc.	...	...	...	921/26
Oil fuel—repair	...	...	...	669/29
Hospital-s. <i>See also</i> Medical and Sick.				
Charges for treatment and maintenance	...	...	...	1622/26
Constructors, assistant	...	...	...	2520/29
Greenwich. <i>See</i> Greenwich.				
New Zealand Naval Forces—stoppages...	...	...	...	2394/28
Treatment under Workmen’s Compensation Acts	...	...	...	68/28
Hot stations. <i>See</i> Tropics.				
House— <i>See</i> Official Residence.				
Hurt pay. <i>See also</i> Injuries and Compensation:—				
And compensation claims	...	...	...	525/27
And compensation for eye injury, etc.—civil employees	...	...	...	521/27
Hydrographic:—				
Correction disc for conversion of true to mercatorial bearings	...	...	...	589/29
Fouling of telegraph cables	...	...	...	729/28
Surveying—co-operation of aircraft	...	...	...	250/27
Hydrophobia—rabies treatment	...	...	...	1531/25
Hydrophone diaphragms damage during scraping bottom in dock	...	...	...	598/28
Hydrophone equipments—contracts	...	...	...	954/29
Hygiene—chloride of lime—examinations	...	...	...	732/29
Hymnal, English—issued to the Fleet, etc., in lieu of Hymns, A. and M.	...	...	...	8018/28

## I

I.R. <i>See</i> India-rubber.				
“Immediate”—marking of papers, telegrams, etc.	...	...	...	3474/26
“Important”—marking of papers, telegrams, etc.	...	...	...	3474/26
Importation of dogs and cats—Order of 1928	...	...	...	38/29
Incinerators—retention on board	...	...	...	67/29
Inclinometers and range finders—optical parts of	...	...	...	2900/28
Income tax:—				
Colonial and Foreign dividends	...	...	...	2282/29
Concessions	...	...	...	2782/29
Officers and men loaned to R.A.N.	...	...	...	1142/29
Increments—mixed—application to departmental clerical class	...	...	...	2607/24
Indecency	...	...	...	1955/29
India-rubber:—				
Eyepieces for gun sighting telescopes	...	...	...	703/28
Switch parts	...	...	...	976/29

Indian Marine. <i>See</i> R.I.M.	
Indicators, defective open-faced—return for repair incomplete ...	112/25
Industrial disputes and strikes—assistance to civil authority ...	1417C/19
Infectious cases—landing at Gibraltar ... ..	205/27
Infectious disease—control ... ..	184/29
Injuries. <i>See also</i> Hurt Pay and Compensation.	
Civil staff attending trials of submarines—compensation ... ..	1913/28
Compensation—light duties, etc. ... ..	3103/27
Or sickness at home ports—R.F.A. personnel discharged for ...	3039/28
Sustained on duty, to be reported immediately ... ..	2876/27
Workmen—commutation of weekly payments of compensation ...	913/27
Ink ... ..	36/27
Inoculation—Civil personnel on transfer abroad ... ..	268/29
Insecticides for extermination of cockroaches ... ..	312/29
Inspection-s :—	
Contract work by dockyard officers—Vote 8 III F. ... ..	715/23
Experimental and compass departments—retired pay of Naval and Marine officers ... ..	2252/25
Machinery ordered under Vote 8/III/A, B and E ... ..	1881/24
Reports—anti-gas arrangements ... ..	3163/27
Institutes, canteens, sailors' rests, etc.—Naval jurisdiction ... ..	573/28
Institutes, Navy, Army and A.F. <i>See also</i> Canteens :—	
Groceries, sale for family use ... ..	1070/26
N.A.A.F.I., etc—furniture lent ... ..	3120/29
N.A.A.F.I. at naval shore establishments—canteens operated by	71/29
Royal Marine canteens—transfer to N.A.A.F.I. ... ..	519/29
Instruments—returned for repair to be complete ... ..	112/25
Insulating materials—list of those tested ... ..	2888/25
Insulating oil. <i>See</i> Oil.	
Insulating tests of electric circuits after large repairs ... ..	1550/25
Intelligence organisation—instruction of R.N.R. officers under training ... ..	1452/25
Internal combustion engines. <i>See</i> Machinery.	
Internal communications—term not to be used ... ..	3145/26
Interpreters. <i>See</i> Languages.	
Invaliding. <i>See</i> Discharge.	
Invalidated ratings re-entry for Reserve Fleet working parties ...	435/28
Inventions and novel apparatus—demonstrations and alleged use of inventors' ideas by witnesses ... ..	2583/26
Inventions—patents—taken out by Naval and civil officers ... ..	2023/28
Inventions unpatented—Patent and Designs Act ... ..	1295/24
Ireland :—	
Arms—carrying by ratings ... ..	3680/20
Deserters and absentees ... ..	449/23
Exemptions from customs dues of dutiable goods for H.M. ships in Irish Free State ... ..	1865/24
Gun mountings, ordnance and torpedo stores—despatch to ...	853C/20
Leave restrictions—Marines not to be in uniform ... ..	1406/27
R.I.C.—service for superannuation ... ..	2512/25
Stores—package for shipment ... ..	879/25
Iron—cast iron for wrought iron fire bars ... ..	804/21
Italy :—	
Officers and men travelling in ... ..	19/29
Visits of foreign war vessels ... ..	18/29

## J

Japan :—	
National fête day ... ..	102/29
Use of W/T by foreign warships ... ..	20/29
Jigs, gauges and parts of apparatus—ex-Admiralty property ... ..	2455/25
Job numbers—use instead of ships' names in war ... ..	319/28
Journals, junior officers—rebinding ... ..	510/27
Judge-Advocate of the Fleet, Deputy—duties ... ..	3032/26

## K

Keels, drop—(submarines) ... ..	2006 '24
Keep plates to the bolts securing rolled girders of submarines ...	1142/27
Keys:—	
Clocks, Patt. 307—loss ... ..	2452/25
Locked cupboards containing valuable stores ... ..	1563/25
Money chests, etc.—losses ... ..	2907/28
Kiel Canal—passage of H.M. ships ... ..	2337 '29
Kit. <i>See also</i> Clothing and Uniform:—	
Flying kit—retention during general service ... ..	514/29
Lockers—shore establishment ... ..	767/29
Kitchen rudders. <i>See</i> Rudders.	

## L

Labels—economy—use ... ..	421/28
Labourers. <i>See also</i> Civil Staff, Dockyards and Workmen:—	
Employed on writing duties ... ..	2041/25
Lamp-s:—	
Adaptor plates ... ..	2365/29
Bakelite insulators for lampholders ... ..	1476/29
H.C.D. searchlight—spare part boxes ... ..	3113/29
Incandescent—frosting ... ..	1379/27
Navigation, bow—coloured shades ... ..	705/28
Navigation, in H.M. ships—pilot lamp box for—reports ...	3217/28
Navigation lanterns, oil—adaptors ... ..	1662/29
Navigation lanterns—oil burning... ..	2413/29
Nickel iron type battery for "Oldham" Hewer type lanterns	1428/27
Pilot lamp boxes for navigation lights ... ..	1015/29
Portable magazine lanterns, Patt. 4690 ... ..	819/29
Shaydolite ... ..	47/26
Steaming light fittings of submarines ... ..	3222/27
Landing gear on deposit as compensation for weight ... ..	1426/26
Landing parties' stores—reserves ... ..	730/29
Landing parties—waterproof sheets ... ..	1854 '29
Langdon reverse gear—motor boats ... ..	1004 '29
Languages, foreign:—	
Examination—Interpreter—selection of officers to qualify, and	
for appointment as Naval Attaché ... ..	1806 '28
Interpreter service—recording in Seedie certificate books... ..	2376/24
Lantern-s. <i>See</i> Lamps.	
Latvia, visits of foreign warships ... ..	21 '29
Launches, motor. <i>See</i> Motor.	
Launches. <i>See</i> Boats.	
Laundry. <i>See</i> Washing.	
Lead:— <i>See also</i> Composition and Paint.	
Fumes produced by burning off paint, etc. ... ..	1884/28
Leaders and destroyers. <i>See</i> Destroyers.	
League of Nations—Aaland Islands—neutralisation ... ..	3/22
Leather—Government specification ... ..	2432/29
Leather, liquored ... ..	2754/28
Leave:—	
Absence without—by civil staff—superannuation certificates ...	2488/24
Attachment of Students of Staff Colleges of N.A. and A.F. ...	1308/29
Compassionate grounds—passage ... ..	369/29
Irish Free State—Marines not to be in uniform ... ..	1406/27
R.A.N. personnel in R.N. ... ..	2125/26
Ratings discharged to depôt from seagoing vessels in home waters	2253/26
Sick. <i>See</i> Sick Leave.	
Smallpox—restrictions. <i>See</i> Smallpox.	
Vessels returning from foreign stations for refit ... ..	2379 '27
Workpeople ... ..	2329 '29
Lectures:—	
Health ... ..	99C/19, 707/24
Lantern:—	
Slides—economy in production ... ..	2810/28
Young ratings—venereal disease ... ..	3037/28

Ledgers—ledger forms and ledger keeping	...	...	...	...	1650/29
Lenses, microscopic, etc.	...	...	...	...	100/27
Letters. <i>See</i> Correspondence.					
Library-ies. <i>See also</i> Books.					
Film, circulating	...	...	...	...	1853/27
School reference—book-case	...	...	...	...	2469/29
Lieutenants (E). <i>See</i> Engineer.					
Lieutenant—navigation and pilotage course	...	...	...	...	2276/29
Life belts—Pattern	...	...	...	...	2457/29
Life buoys. <i>See</i> Buoys.					
Life floats. <i>See</i> Floats.					
Lifting gear. <i>See also</i> Davits:—					
Davits and winches, torpedo—disposal	...	...	...	...	2158/29
Derricks for boat lifting	...	...	...	...	1575/28
Examination and tests	...	...	...	...	712/29
Hooks, keel plates, bolts, etc., of boats of mercantile type— survey	...	...	...	...	468/23
Paravane davit for T.S.D.S.	...	...	...	...	2795/29
Swivel hook blocks for hoisting ammunition	...	...	...	...	2230/28
Light, electric. <i>See</i> Electric.					
Lighting. <i>See also</i> Lamps.					
Electric. <i>See</i> Electric.					
Lights:—					
Aircraft anchored or moored on water	...	...	...	...	1951/27
Naked in confined spaces, compartments, etc.—danger	...	...	...	...	1012/28
Night life buoys, etc.	...	...	...	...	3387/18
Lime, chloride of—containers	...	...	...	...	2546/29
Lime—precautions	...	...	...	...	3187/29
Limits:—					
Home and Foreign stations	...	...	...	...	1950/27
Home Commands	...	...	...	...	914/25
Linen sheeting, ticken and mosquito netting	...	...	...	...	915/29
Linoleum—stationary ships and shore establishments	...	...	...	...	230/27
Liquored leather	...	...	...	...	2754/28
Lizard—use in lowering boats	...	...	...	...	2752/17
Load, safe working, for manila cordage	...	...	...	...	2073/24
Loan store tools at dockyards—descriptions to be kept	...	...	...	...	3345/25
Loan tools. <i>See</i> Tools.					
Loans from Ship's Fund	...	...	...	...	1354/27
Lobby to mess deck ladderway to prevent draughts	...	...	...	...	1970/29
Local purchases:—					
Admiralty approval	...	...	...	...	714/28
Abroad—dutiable articles	...	...	...	...	3265/27
Conditions of contract	...	...	...	...	264/28
Equipment for Fleet Air Arm	...	...	...	...	2208/29
Metallic packing	...	...	...	...	51/26
Rawhide, etc., pinions and gears	...	...	...	...	176/27
Replace springs for safety valves	...	...	...	...	2191/28
Locks:—					
Store rooms, workshops, etc.	...	...	...	...	1278/29
Lockers:—					
Kit <i>See</i> Kit.					
Ready-use, for armed merchant cruisers	...	...	...	...	3290/26
Lock-up cupboards for valuables—access	...	...	...	...	314/29
Lodging allowance:—					
And provision allowances—naval officers at R.A.F. stations	...	...	...	...	719/27
And victualling—allowance for accommodation, etc., for ratings serving on shore abroad	...	...	...	...	938/27
Log sawing machines	...	...	...	...	2105/25
Logs:—					
Bottom—trials	...	...	...	...	1451/29
Brewerton course recorders	...	...	...	...	3069/26
Chernikeef	...	...	...	...	2749/29
Forbes distance recorder	...	...	...	...	2193/24
Forbes—fitting	...	...	...	...	2958/28
Gear, Walker—governors, Patt. 317—reports	...	...	...	...	3188/28
Gyro compass—rendering	...	...	...	...	2642/27
Walker—governors	...	...	...	...	1164/29, 1978/29
Look-outs—Instruction and Training	...	...	...	...	2341/29
Looping-in bases, Pattern 3825	...	...	...	...	194/27

Lorries, A.E.C. *See* Motor transport.

Loss-es :—

Blankets ... ..	1069/26
Due to fraud, negligence, or gross carelessness ... ..	2116/27
Electric fittings from ships ... ..	728/25
Keys of clocks ... ..	2452/25
W/T gear ... ..	1422/24
Watches, telescopes, etc.—care and return ... ..	142/29
Webley pistols—precautions ... ..	2578/27
Lower deck benefit societies—grievances, etc. ... ..	3657/20
Lower deck grievances—petitions ... ..	1307/21
Lubricants for machinery ... ..	1751/29
Lubricating oil. <i>See</i> Oil.	
Lubrication—ball and roller bearings of electrical machines ... ..	2461/27
Luggage. <i>See</i> Baggage.	
Lymph, calf, for vaccination—receipts ... ..	646/27

## M

Machinery :—

And electrical spare gear—vessels sold or for sale ... ..	992/20
Engines :—	
Diesel :—	
Defect lists ... ..	1849/23
Mirrless type—replace parts ... ..	944/28
Steel for gudgeon pins—reserves ... ..	250/25
Motor bearings—responsibility for design and construction	1371/24
Ordered under Votes 8/III/A, B, and E—inspection, etc. ... ..	1881/24
Packing and slinging of gear wheels, etc. ... ..	3049/28
Replace parts chargeable to Vote 8/III ... ..	555/28
Trials. <i>See</i> Trials.	
Turbine reduction gearing defects ... ..	805/28
Yard—control of expenditure ... ..	1300/25
Machining—Firth's stainless steel ... ..	1288/26
Magazines :—	
Floors ... ..	2395/29
Regulations—alterations and additions to comply with ... ..	1701/22
Magnetos and spare parts ... ..	1833/28
Magnetos :—	
Purchases ... ..	1722/26
Spares—demands ... ..	1160/29
“Magnolia”—survey ... ..	2948/25
Mails. <i>See</i> Post Office.	
Maintenance and repair stores—adjustment of charge ... ..	382/26
Maintenance stores—returns of cost ... ..	429/26
Malta :—	
Goats' milk—warning against ... ..	1102/25
Private effects landed—customs ... ..	816/27
Manholes, escape, in hatches—size ... ..	2752/26
Maps and plans—care and custody ... ..	1441/27
Marines. <i>See</i> R.M.	
Marriage allowances :—	
Claims for work done for private individuals, other Governments, etc. ... ..	634/28
Warrant officers whose promotion entailed pecuniary loss ... ..	781/27
Marriage gratuities—women employees ... ..	1290/25
Masts :—	
And yards for flagstuffs—inspection ... ..	3008/28
Douglas fir and pitch pine mast pieces ... ..	1993/29
Signal—removal (submarines) ... ..	1663/29
W/T stations ... ..	1969/27
Mate, Senior and Second—permanent cruiser service ... ..	2118/26
Mates—permanent cruiser service—regulations ... ..	1555/22
Mates (E), acting :—	
Greenwich course syllabus ... ..	1427/23
Promotions ... ..	2776/29
Qualifying examination afloat—syllabus ... ..	815/26
Mattresses, protective—instructions for guidance in manufacture ... ..	111/28
Mechanical transport. <i>See</i> Motor transport.	

Mechanicians—stoker petty officers, etc.—eyesight tests ... ..	2959/18
Medal-s :—	
British War ... ..	3973/19
British War—clasps—Naval ... ..	2051/20
British War—post-armistice operations ... ..	933/21
O.B.E. and Meritorious Service—conditions of award ... ..	1804/28
“Victory” ... ..	3974/19
“Victory”—award for post-armistice operations ... ..	2769/20
Medical. <i>See also</i> Hospital and Sick :—	
Boards of Civil Staff—leave to attend ... ..	972/29
Diphtheria and tetanus anti-toxic sera... ..	84/27
Examination :—	
Inoculation and vaccination of civil personnel on transfer	
abroad ... ..	268/29
Of men on discharge from R.N. ... ..	1990/24
On discharge ... ..	3038/26
Facilities for families abroad ... ..	1778/27
Fumigating rooms with formaldehyde gas ... ..	12/21
Health lectures ... ..	99C/19, 707/24
Hospitals—charges for treatment and maintenance ... ..	1622/26
Infectious cases—landing at Gibraltar ... ..	205/27
Infectious diseases—control ... ..	184/29
Injuries on duty to be reported immediately ... ..	2876/27
Microscope lenses, etc. ... ..	100/27
Officers—private practice ... ..	273/29
Officers—short service ... ..	1996/28
Orders for attendance by surgeons and agents on men sick on	
shore ... ..	2979/27
Specialist officers ... ..	1000/27
Stores and first aid outfit ... ..	415/29
Surgeons and Physicians, Honorary, to the King—regulations	
governing appointment ... ..	3030/28
Treatment under Workmen’s Compensation Acts ... ..	68/28
Workmen’s Compensation Act—diseases ... ..	2557/29
Mediterranean :—	
Destroyers recommissioning and refitting at home ports—	
procedure ... ..	3237/26
Refits—extension of periods between ... ..	2321/26
Meetings—scientific and other associations, etc.—attendance of naval	
or civilian representatives ... ..	619/25
Mercantile Marine—commanders for R.N.R. and M.M. duties ... ..	1948/29
Merchant cruisers :—	
Armed :—	
Ready-use lockers ... ..	3290/26
Secondary cells for gun firing circuits—storing ... ..	154/27
Supply of O.U. books ... ..	662/28
Defensively equipped—supply of O.U. books ... ..	662/28
Merchant Service—preservation of good relations with R.N. ... ..	74/27
Merchant vessels :—	
Accidents to ships registered under merchant service ... ..	2459/29
Boarding at naval ports by officer of the guard ... ..	2910/27
Loan of daylight signalling projectors to ... ..	3090/28
Saluting men-of-war ... ..	172/29
Signalling with H.M. ships ... ..	108/29
Stiffening to allow armament ... ..	1699/21
Visits to Soviet ports—regulations ... ..	32/29
W/T control in war... ..	1355/29
Meritorious Service Medal—conditions of award ... ..	1804/28
Messages—cypher—degrading ... ..	2909/26
Messages, telephone and telegraph. <i>See</i> Telephone and Telegraph.	
Mess-es-ing :—	
Billiard tables ... ..	1337/29
Enclosed—bulkheading ... ..	2853/23
Funds—cash boxes for ... ..	773/26
Lobby to mess deck ladderway to prevent draughts ... ..	1970/29
Metal, scrap :—	
Navy votes ... ..	2923/26
Storage ... ..	1552/27

Meteorological :—	
Instruments :—	
Charts ... ..	3242/29
Charts for reading thermograph ... ..	308/29
Wind in the upper atmosphere for Home and Mediterranean waters—notes and data ... ..	2607/27
Mica and micanite ... ..	109/25
Mica strips—abolition ... ..	146/29
Micanite for insulating segments of large commutators ... ..	873/29
Microscope lenses, etc. ... ..	100/27
Midshipmen :—	
Pay on joining sea-going ships ... ..	3091/29
R.N.R.—training, reports, etc. ... ..	2385/27
Military. <i>See</i> Army.	
Milk—goats'—warning against at Malta ... ..	1102/25
Mincing machines :—	
Motor-driven—precautions ... ..	2772/28
Outfit and spare parts ... ..	1509/28, 2971/28
Mines—mined areas, ships in—closing of watertight doors ... ..	68C/14
Minesweepers :—	
R.F. tanks—coating ... ..	2968/24
Twin screw :—	
After peaks—cement washing ... ..	85/28
Outboard motors ... ..	1746/29
Minesweeping :—	
Destroyers in maintenance reserve fitted with high-speed mine sweeps ... ..	1067/29
Fishery protection and Patrol Flotillas—storing ... ..	966/27
Stores—fishery protection gunboats ... ..	979/23
Ministers of religion. <i>See</i> Officiating ministers.	
Misappropriation—clothing, etc. ... ..	927/28
Misconduct—half pay for warrant and supplementary officers ... ..	2335/27
Mitre wheels—demands ... ..	2730/25
Mobilisation—position of pensioners employed in peace ... ..	64/28
Money. <i>See</i> Cash.	
Money Chests. <i>See</i> Chests.	
Moorings. <i>See also</i> Buoys :—	
And berths, Admiralty—use of by private vessels ... ..	744/23
General instructions ... ..	1327/29
Harwich ... ..	429/29
Motor-s :—	
Ambulances—use ... ..	2426/28
Bearings—responsibility for design and construction ... ..	1371/24
Boats :—	
Bridles and slings ... ..	1641/22 530/23
Fire precautions ... ..	2702/25
Fuelling of aircraft—prevention of fires ... ..	201/29
Langdon reverse gear... ..	1004/29
Propellers—guard sleeves to prevent fouling ... ..	671/27
Car-s—private, and cycles :—	
Garage in Naval Establishments—insurance ... ..	2679/29
Shipments ... ..	1394/29
Use—civil personnel ... ..	2382/28
Use within naval establishments and liability for accident compensation ... ..	768/27
Launches—fire precautions ... ..	2702/25
“ M ” type—allowance of spares ... ..	3127/27
“ M ” type—disposal of air-tight tins ... ..	2561/29
Main—starting resistances, Whipp & Bourne's design ... ..	2411/28
Main (submarines) ... ..	2898/29
Mincing machines—precautions ... ..	2772/28
Sounding machines. <i>See</i> Sounding Machines.	
Transport :—	
A.E.C. lorries :—	
Cylinder blocks, accumulation of rust, etc.... ..	3504/26
Double steering levers ... ..	1229/29
Lubricating oil ... ..	2425/28
Refit ... ..	2460/29

Motor-s—*contd.*Transport—*contd.*

A.E.C. lorries— <i>contd.</i>	
Tylor engines—cylinder foot joints ... ..	548/26
Unladen weights ... ..	2096/29
Admiralty—employment for Service functions and recreation ... ..	405/28, 2908/28
Civilian personnel—conditions and grades of employment ...	1003/23
Petroleum spirit No. 3 for M.T. purposes ... ..	1828/27
R.N.M.T. Depôt, Albany Street—hours open ... ..	2970/28
Statistical Returns D.536 ... ..	3124/29
Vehicles :—	
Distance recorders ... ..	2958/29
General regulations ... ..	3158/26
Valves ... ..	3186/29
Movements of ratings (Form S.165) ... ..	1450/28
Movements—rendering of Form S.165 ... ..	1450/28
Music. <i>See</i> Bands.	
Musketry. <i>See</i> Rifle.	

## N

(N.) <i>See</i> Navigation.	
NH <sub>3</sub> and CO <sub>2</sub> plant—additional spare pinions ... ..	2638 25
Naming of new cruisers. <i>See</i> Ships, Building.	
National Association for Employment of Regular Sailors, Soldiers and Airmen. <i>See</i> Employment.	
National Health Insurance. <i>See</i> Insurance.	
National savings certificates. <i>See</i> Savings.	
Native ratings :—	
Pay, conditions of service, etc. ... ..	382/28
War gratuities ... ..	1714/24
Naval Discipline Act—jurisdiction on shore in sailors' homes, canteens, institutes, etc. ... ..	573/28
Naval Discipline Act, Section 90A—joint Naval and Air Force Orders	413/29
Naval Attaché—selection of officers for appointment as ... ..	1806/28
Naval officer in charge—title ... ..	498/23
Naval organisation :—	
Administration of ships at Home Ports ... ..	2115/29
Reserve Fleet—readiness for sea... ..	1997/29
Naval savings bank. <i>See</i> Savings.	
Navigable waters—oil pollution ... ..	718/23, 1173/27, 6/28
Navigation :—	
And pilotage course for rank of lieutenant ... ..	2276/29
Correction disc for conversion of true to magnetic bearings ...	589/29
Examination for command of destroyer ... ..	2187/25
Lanterns. <i>See</i> Lamps.	
Prism for observing abnormal refraction ... ..	2799/29
Navigational plotting, strategical and tactical ... ..	2989/23
Navy, Army and Air Force Institute. <i>See</i> Institute.	
Netherlands :—	
Admission of foreign warships ... ..	22/29
Aircraft—distinguishing marks ... ..	23/29
Netting, mosquito ... ..	915/29
Neutralisation—Aaland Islands ... ..	3/22
New Construction. <i>See</i> Ships Building.	
New Zealand. <i>See also</i> Dominion :—	
Demands for victualling and armament stores ... ..	3407/24
Naval Forces :—	
Hospital stoppages ... ..	2394/28
Government—vouchers for stores supplied ... ..	2964/27
Pay and allowances, etc. ... ..	2088/28
Personnel on loan, etc., pay arrangements ... ..	1045/28
Stores—direct purchase for ... ..	3362/26
Straw, hay and chaff not to be used for packing stores ... ..	1397/27
Next-of-kin—record to be kept of workmen, etc., sent abroad ...	1941/27
Nickel silver sheet ... ..	903/29



Norway—regulations for visits by foreign warships	...	...	...	24/29
Note books	...	...	...	2590/23
Nozzle plates for turbines—spares	...	...	...	1057/29
Nursing sisters—board and washing allowance	...	...	...	1047/29

## O

O.B.E. Medal—conditions of award...	...	...	...	1804/28
O.U. Books:—				
Accounting	...	...	...	319/29
Supply to armed merchant cruisers, D.E.M.S., etc.	...	...	...	662/28
O.U. 5225. <i>See</i> Dockyard Regulations, Home.				
O.U. 5390/27—Panama Canal—issue	...	...	...	611/28
Oars—trials	...	...	...	957/29
Observers, Naval. <i>See also</i> Air Arm, Fleet:—				
Allowances to officers lent for flying duties	...	...	...	362/29
Course, duties, etc.	...	...	...	405/29
Employed with Fleet Air Arm units—appointments and move- ments	...	...	...	8139/28
General progress book	...	...	...	2089/28
Ocular. <i>See</i> Eyesight.				
Officers:—				
Appointed abroad—passages	...	...	...	1175/24
Appointments—duration	...	...	...	556/26
Charities—Central clearing house	...	...	...	1728/29
Chests, etc.—conveyance at Torquay	...	...	...	2912/29
Cooks—advancement	...	...	...	1607/28
Cooks—drafting	...	...	...	414/27
Entertainment by Naval ratings	...	...	...	2697/22
Eyesight examination	...	...	...	2947/18
Mess traps. <i>See</i> Mess traps.				
Pay. <i>See</i> Pay.				
Promotion. <i>See</i> Promotion.				
Provision allowances during compass courses	...	...	...	2769/29
Serving at Admiralty—allowance	...	...	...	2963/28
Special reports on	...	...	...	985/29
Visits to Admiralty...	...	...	...	2024/16
Officiating minister—allowances	...	...	...	1640/24
Oil:—				
“ Adcol ” dust allaying floor oil—inflammability	...	...	...	1807/28
Cans—light shale, Patt. 29A	...	...	...	1254/26
Light shale—filling plant at Sheerness	...	...	...	915/27
Light shale—reserves	...	...	...	1574/29
Lubricating:—				
For generating stations	...	...	...	2865/26
For motor transport	...	...	...	2425/28
Mineral, special—accounting	...	...	...	3165/28
Mineral, special—test	...	...	...	1315/27
Mineral, for recuperators	...	...	...	2365/28
Mineral vapourising—stocks to be maintained	...	...	...	531/27
Petroleum from abroad—duty	...	...	...	2922/29
Petroleum oils—customs duty	...	...	...	784/29
Pollution of navigable waters	...	...	...	1173/27, 6/28
Pollution of Spanish territorial waters	...	...	...	85/29
Stoves for warming and cooking	...	...	...	810/27
Oil Fuel. <i>See also</i> Petrol and Fuelling:—				
Accidents to ships	...	...	...	2459/29
And coal—expenditure	...	...	...	2973/28
Bunkering at outlying installations abroad	...	...	...	2035/29
Fire extinguishers	...	...	...	2859/29
Glass jars and copper pots for measuring (submarines)	...	...	...	1898/28
Heating coils—ships fitted with	...	...	...	2123/28
Hoses—repair	...	...	...	669/29
Precautions against skin affection	...	...	...	1684/22
Pumping stations—precautions	...	...	...	2564/19
“ Removoil ”—use	...	...	...	2705/28
Sprayer caps—exit holes	...	...	...	2400/29
Sprayers—defects	...	...	...	1008/29

Oil Fuel— <i>contd.</i>	
Suctions ... ..	3219/28
Tank wagons—repairs and preservation ... ..	1845/20
Tanks and compartments—survey ... ..	2188/27
Tanks, main and auxiliary—survey ... ..	331/24
Oiler-s :—	
Admiralty—agency duties, etc. ... ..	668/29
Freighting, managed by Admiralty ... ..	438/29
R.F.A. :—	
Maintenance ... ..	1175/29
Oil fuel sprayer—defects ... ..	1008/29
Refits ... ..	3555/25
Torches—supply ... ..	1486/29
“ War ” class, condenser tubes ... ..	3119/29
Olympia—Royal Tournament. <i>See</i> Royal Tournament.	
Optical instruments—landing ... ..	956/29
“ Orbit ” table fans—lubricating wicks ... ..	1608/29
Ordnance Branch—artificers and W.O.O.s—courses ... ..	2168/27
Ornamental gun tampions—disposal ... ..	18/27
Orphan Fund, Trafalgar. <i>See</i> Trafalgar.	
Orphans' Pensions. <i>See</i> Pensions.	
Overalls. <i>See</i> Kit and Clothing.	
Overpayments of pay and allowances—procedure... ..	762/24
Overseas British ports—regulations for visits of foreign war vessels and service aircraft accompanying them ... ..	2/29
Overseas League Migration Bureau for retired officers ... ..	2171/29
Overseers :—	
Conditions of service, allowances, etc. ... ..	455/27
Contracts for Foreign Powers—reports ... ..	469/22
Visits of unauthorised persons to contractors' works ... ..	1559/27
Overtime :—	
Draughtsmen ... ..	457/27
Extra attendance—time in lieu ... ..	2445/26
Subordinate technical officers on repayment services at yards abroad ... ..	1245/29
Oxygen :—	
And E.A. plants—instructions ... ..	1064/29
Cylinders—accounting ... ..	547/26
Cylinders with commercial valves ... ..	1635/28
Feed water of boilers—estimating ... ..	1617/29
Flasks—history sheets ... ..	2495/24

## P

P. and P.C. boats—storing periods ... ..	2758/25
P. and R.T. :—	
Employment of Admiralty motor transport for Service functions ... ..	405/28, 2908/28
Gardening implements, sports pitch markers etc. ... ..	3057/28
Gymnastic apparatus—responsibility for safety ... ..	2845/24
Stores ... ..	144/29
W/T ratings—arrangements for exercise ... ..	2463/26
P. and O. steamers—passages ... ..	2775/29
“ P ” Class. <i>See</i> Civil Staffs.	
Packing :—	
And unpacking of stationery—care that items are not left in loose wrapping paper... ..	706/23
And slinging gear wheels, etc., of machinery ... ..	3049/28
And transport of large silica valves ... ..	2618/28
Canada—materials to be used ... ..	2041/29
Cases—condition on return ... ..	1676/29
Cases manufactured in dockyards—incidents of charge in the accounts ... ..	1948/27
For turbine glands—carbon—local purchases... ..	70/29
Hay, straw, etc.—disposal ... ..	2689/28
Material for stores shipped to Australia ... ..	2327/28:

Packing— <i>contd.</i>	
Metallic—local purchases ... ..	51/26
New Zealand—straw, hay and chaff not to be used... ..	1897/27
Of stores. <i>See</i> Stores.	
Steel sheets for shipment abroad... ..	2057/29
Stores for Canada and Ireland ... ..	879/25
Wrapping materials supplied by H.M.S.O. not to be used for packing clothes ... ..	452/27
Paid off ships for refits, stores and fixtures ... ..	605/26
Paint. <i>See also</i> Composition :—	
Aluminium for W/T masts ... ..	2193/29
Aluminium powder ... ..	2480/24
Electrical equipment—precautions when painting ... ..	1155/29
Enamel for battery tanks of S.Ms. ... ..	3248/29
Enamels for torpedo work—"Walgrif" and "Dockyard" ... ..	2899/28
Enamel white—tests ... ..	2807/29
Instructions for painting H.M. ships ... ..	1658/27
Lead fumes produced by burning off paint, etc. ... ..	1884/28
Mixing—turpentine spirit ... ..	2816/25
"Stag" brand weatherproof white paint ... ..	2369/28
Removers—precautions ... ..	1331/29
Shell rooms and magazines in destroyers ... ..	3012/29
Submarines ... ..	1548/29, 1740/29
Ungalvanised decks subjected to traffic ... ..	1020/24
Panama Canal—O.U. 5390/27—issue ... ..	611/28
Paper, brown, and twine for binding bundles ... ..	3253/29
Paper, waste ... ..	1083/28
Paper—wrapping materials not to be used for packing clothes ... ..	452/27
Parachutes—supply to Fleet Air Arm and instruction in use of ... ..	775/27
Paraffin and aviation spirit—stowage in bulk ... ..	2135/27
Paraffin and petrol—stowage in leaders and destroyers ... ..	2405/27
Parcels registered, for R.F.A.s—custody ... ..	1527/27
Parkes memorial prize ... ..	1637/29
Passages :—	
Grading of naval and civilian officers ... ..	2775/29
Indulgence—facilities ... ..	228/28
Leave or relief on compassionate grounds ... ..	369/29
Officers appointed abroad ... ..	1175/24
R.A.N.—wives and families of officers loaned to ... ..	1617/26
R.C.N. dependents ... ..	2193/25
R.C.N. officers and men returning to Canada ... ..	2066/26
Return tickets ... ..	1461/27
Tool chests and baggage of workmen ... ..	1561/27
Wives and families—deferment ... ..	745/29
Patents and Designs Act—unpatented inventions ... ..	1295/24
Patents by Naval and civil officers ... ..	2023/28
Patents—demonstrations of inventions and alleged use of inventors' ideas by witnesses ... ..	2583/26
Patterns. Technical Committee on General Stores and Textiles and Clothing ... ..	916/28
Pay. <i>See also</i> Salary.	
And allowances—overpayments ... ..	762/24
Civil staff. <i>See</i> Civil Staff.	
Emergency duty during strikes, etc. ... ..	1898/25
Half, for misconduct—warrant and supplementary officers ... ..	2335/27
New Zealand Naval Forces ... ..	2088/28
New Zealand Naval Forces—R.N. personnel on loan, etc. ... ..	1045/28
Officers—pre-October-1925, scales ... ..	1877/29
Ordnance artificers, etc., on breech mechanism courses ... ..	2168/27
R.A.N.—R.N. personnel on loan ... ..	3177/24
R.C.N. ... ..	2118/27
Retired—officers serving in inspection, experimental, and compass departments ... ..	2252/25
Sailmakers' mates ... ..	509/26
Warrant officers (married) whose promotion entailed pecuniary loss ... ..	781/27
Workmen employed at a distance ... ..	1103/25

Paymaster Branch:—	
Cadets—training on entry and syllabus of instruction ... ..	921/28
Captain—promotion zone ... ..	841/27
Secretaries' course—books ... ..	931/27
Pension-er-s:—	
Civil staff. <i>See also</i> Superannuation.	
Civilians, Naval establishments—hours of employment ... ..	1069/23
Disability—entries and re-entries ... ..	543/27
Disability—re-entry for Reserve Fleet working parties ... ..	435/28
Dockyard—signatures of pensioners ... ..	2101/27
Employed in peace—position on mobilisation ... ..	64/28
Inclusion of bonus. <i>See</i> Bonus, cost of living.	
Periscope-s:—	
Delivery from contractors ... ..	1496/28
Night, ex-submarines ... ..	1946/29
Rangefinder mountings ... ..	39/26
Submarine ... ..	2745/29
Submarine—instructions ... ..	1742/24
Trainers, for rangefinder mountings ... ..	2400/24
Permanent cruiser service—chief officer and mates regulations	1555/22
Permanent cruiser service—senior mate and second mate ... ..	2118/26
Personal effects—R.A.F. men dying while in R.N.—disposal ... ..	451/26
Personnel—reduction. <i>See</i> Discharge.	
Petitions—lower deck grievances ... ..	1307/21
Petrol. <i>See also</i> Oil Fuel.	
And benzol—storage in aircraft carriers ... ..	1746/24
And paraffin—stowage (leaders and destroyers) ... ..	2405/27
Lighters—prohibition ... ..	1210/29
Prevention of fires during filling operations in Fleet Air Arm ... ..	2064/27
Tins. <i>See</i> Tins.	
Petroleum oils—Customs duty ... ..	784/29
Petroleum—stocks to be maintained... ..	531/27
Petty officers—improvement in position and responsibilities ... ..	566C/20
Photograph-er-ic-y. <i>See also</i> Cinema.	
Cinema camera, high speed ... ..	965/27
Cinematograph films landed from H.M. ships—duty ... ..	3117/29
Facilities to public, etc. for photographing ships ... ..	1986/24
Film for wide angle cameras ... ..	2368/29
Film "Selo" of British manufacture—reports ... ..	1511/28
Materials for dockyard work—demands ... ..	1246/26
Spools for wide angle cameras ... ..	2404/29
Physical and recreational training. <i>See</i> P. and R.T.	
Physicians and Surgeons—Honorary to the King—appointment ... ..	3030/28
Pilotage:—	
Dartmouth Harbour ... ..	2911/27
Drifters attached to H.M. ships ... ..	2758/28
Dues—foreign ships of war, etc., in British ports ... ..	1090/26
Pilots, air arm. <i>See</i> Air Arm.	
Pinions, additional spare, for CO <sub>2</sub> and NH <sub>3</sub> plant ... ..	2638/25
Pinions and gears, rawhide—local purchases ... ..	176/27
Pinnaces. <i>See</i> Boats.	
Pipe-s-ing:—	
Circulating, water inlet of submarines ... ..	8519/25
Colour system ... ..	2494/25
Voice. <i>See</i> Voice.	
Pistols, Webley—loss ... ..	2578/27
Piston rings—local purchases ... ..	3275/29
Plans, maps, etc.—care and custody ... ..	1441/27
Plate glass windows in control positions ... ..	2559/25
Platinum—losses from electrical parts ... ..	728/25
Plotting boards for submarines ... ..	2957/28
Plotting, strategical and tactical—symbols ... ..	342/27
Pneumatic tools—gloves ... ..	1510/29
Poisonous atmosphere in compartments—apparatus for entering ... ..	1977/17
Police:—	
Ceylon Force ... ..	1334/28
Industrial disputes and strikes—Naval assistance to civil authority ... ..	1417C/19

Pollution of docks and waterways by escapes of oil fuel, oil ballast, water, etc. ... ..	718/23, 1173/27, 6/28
Port, dock and harbour dues ... ..	3536/25
Portland—fleet exercises not to be carried out near ... ..	461/29
Porton experimental station—visits ... ..	2880/27
Portuguese ports—use of W/T and ceremonial procedure ... ..	25/29
Post Office :—	
P.M.G.'s certificate for telegraphists ... ..	927/29
Postal orders for remittances ... ..	1867/29
Registered letters and parcels—R.F.A.s—custody ... ..	1527/27
Stores supplied by—claims ... ..	423/25
Telephones rented from G.P.O.—period of notice required on surrender ... ..	3200/28
Postagrams ... ..	159/29
Potatoes—stowage arrangements in H.M. ships ... ..	816/29
Potting gear of fishermen—marking of ... ..	58/28
Press. <i>See</i> Publication.	
Pressure hulls of Submarines ... ..	1609/29
Prices, clothing. <i>See</i> Clothing.	
“ Priority,” etc., telegrams—marking ... ..	3474/26
Prints. <i>See</i> Drawings.	
Prism—abnormal refraction observation ... ..	2799/29
Prison-made articles—conditions of supply of materials by R.N. ... ..	1246/25
Prisoners from Royal Military Prison, Aldershot returning to Service ... ..	493/28
Prisons, military—joint Admiralty and Army order <i>re</i> discipline ... ..	413/29
Private individuals loan of vessels and boats ... ..	698/13
Private effects—Customs declaration ... ..	495/28
Private effects landed at Malta—customs ... ..	846/27
Private individuals—repayment services ... ..	2032/28
Private owners—claims by or against for damage by collision, etc.—disclosure of information to owners ... ..	1273/26
Private residences—telephones ... ..	782/25, 939/27
Private telephone calls—payment ... ..	1133/24
Private vessels :—	
Repairs ... ..	3111/26
Using Admiralty moorings and berths ... ..	744/28
Prize—Parkes Memorial ... ..	1637/29
Probationary service of clerical staffs ... ..	2219/24
Programme—alterations in ships and equipment—economy ... ..	171/28
Promotion. <i>See also</i> Advancement.	
Civil staff. <i>See</i> Civil staff.	
Half-yearly recommendations on Form S.206... ..	1402/29
R.M. gunners—rank to die out ... ..	2250/26
R.M. Officers—brevet ... ..	998/27
R.M. Officers—qualifications ... ..	932/27
Zones :—	
Engineer Captain, Engineer Commander and Commander (E) ... ..	508/26
Paymaster Captain ... ..	841/27
Propeller-s :—	
Motor boats—guard sleeve to prevent fouling ... ..	671/27
Transfer to yards abroad ... ..	2601/26
Protective mattresses. <i>See</i> Mattresses.	
Provisions. <i>See</i> Victualling.	
Psychrometers, sling ... ..	1018/29
Publications. <i>See</i> Books.	
Pumps :—	
Oil fuel—precautions ... ..	2564/19
Submersible :—	
Salvage ... ..	2894/29
Starting ... ..	2372/25
Punishment :—	
Offences committed in detention ... ..	1203/28
Purchase—local. <i>See</i> Local.	
“ Pyrene ” fire extinguishers. <i>See</i> Fire.	

## Q

Q.A.R.N.N.S.—Board and washing allowance ... ..	1047/29
“ Qualified officer ” R.N.R.—status... ..	1463/28
Quarry House, St. Leonards-on-Sea—assistance to ratings on discharge ... ..	2387/27
Quarter Bills—amendments ... ..	1496/29

## R

R.A.F. <i>See also</i> Air Arm and Aircraft.	
Air co-operation in Naval exercises ... ..	1403/28
Aircraft apprentices—entry and Service nominations ... ..	1043/29
And Admiralty—joint orders under N.D.A. ... ..	413/29
Boats supplied to ... ..	3020/24
Catapult trials afloat—allocation of responsibilities ... ..	3028/28
Fleet Air Arm. <i>See</i> Air Arm.	
Flying demonstrations—undue strain on aircraft ... ..	2085/28
Medical records on admission to R.N. hospitals, etc. ... ..	1814/28
Naval officers at R.A.F. stations—lodging and provision allowances ... ..	719/27
Observers, Naval. <i>See</i> Observers.	
Officers, R.N. or R.M., attached to—applications for termination of attachment ... ..	2382/27
Personnel :—	
In H.M. ships and R.N. personnel at R.A.F. stations—victualling ... ..	2985/29
In R.N.—allowances ... ..	2528/25
In R.N.—disposal of personal effects on death ... ..	451/26
Staff colleges—attachment ... ..	1308/29
R.A.N. <i>See also</i> Dominion.	
Armistice and Gallipoli days ... ..	1517/29
Cash advances ... ..	1274/26
Composition, boot-topping and bottom, purchased for ... ..	2866/26
Income tax of officers and men loaned to ... ..	1142/29
Leave of personnel in R.N. ... ..	2125/26
Packing material for stores shipped to Australia ... ..	2327/28
Passages for wives and families of officers loaned to ... ..	1617/26
R.N. personnel lent—pay, etc., arrangements on commencing and finishing period of service with R.A.N. ... ..	3177/24
Remittances to persons in Australia ... ..	3315/25
Storing arrangements of R.A.N. ships attached to H.M. squadrons ... ..	3526/25
Storing yard and home port ... ..	656/28
Transfer and loan of personnel—distinction ... ..	925/28
Visits of R.A.N. representative to R.N. establishments ... ..	1311/25
R.C.N. <i>See also</i> Dominion.	
Destroyers building—storing ... ..	1632/29
New destroyers—Admiralty services in construction ... ..	680/29
Passages for dependents ... ..	2193/25
Pay and allowances ... ..	2118/27
Regulations as to officers and men serving in R.N. ... ..	1525/25
Stores supplied to—vouchers ... ..	916/29
Storing arrangements of R.C.N. ships attached to R.N. squadrons ... ..	917/26
Transportation of officers and men returning to Canada ... ..	2066/26
R.F. tanks—coating minesweepers ... ..	2968/24
R.F.A.-s :—	
Cash advances to Masters ... ..	2710/29
Compasses ... ..	1014/29
Dutiable stores other than tobacco and spirits ... ..	3162/26
Explosive stores—annual exchange ... ..	1412/26
Oilers. <i>See</i> Oilers.	
Personnel discharged for injuries or sickness at home ports ... ..	3039/28
Registered letters and parcels—custody ... ..	1527/27
Victualling stores—accounting ... ..	1304/23
R.F.R. <i>See also</i> Reservists.	
Eyesight standard ... ..	2334/28
Eyesight tests ... ..	1045/29
Group settlements in Western Australia ... ..	2565/27

R.I.C. *See* Ireland.

R.I.M. officers:—

Bombay Dockyard—stores—handling, etc. ... ..	3189/29
Cash charges against while under courses of instruction ...	229/25
“Hindustan”—construction services ... ..	1945/29
“Hindustan”—storing ... ..	1809/29

R.M.:—

Bands. <i>See</i> Bands.	
Brevet promotion ... ..	993/27
Canteens—transfer to N.A.A.F.I. ... ..	519/29
Clothing—accounting ... ..	2391/28
Discipline—lent R.A.F. while serving under Army Act ...	442/26
Eyesight standard ... ..	2334/28
Eyesight tests ... ..	1045/29
Gunners and officers promoted therefrom—rank to die out ...	2250/26
Leave restrictions to Irish Free State—uniform not to be worn...	1406/27
Lieutenant-Colonels—reduction in establishment and introduction of a supplementary half-pay list ... ..	994/27
Officers—examination for promotion ... ..	3035/28
Promotion—qualifications for officers ... ..	932/27
Retired officers—liability for service, etc. ... ..	371/28

R.N.R. *See also* Reservist.

Commanders for R.N.R. and M.M. duties ... ..	1948/29
Midshipmen, probationary—training, reports, etc. ... ..	2385/27
Officers—anti-gas training ... ..	2990/28
Officers training afloat—instruction in intelligence organisation...	1452/25
Officers—status of “Qualified Officer” ... ..	1463/28
Training afloat ... ..	2932/29

R.N. shore signal service. *See* Signal.

R.N.V.R. *See also* Reservist.

Civil staff joining ... ..	1465/26
Refits of boats ... ..	2113/28

Rabies. *See* Dogs.

Radiators, electric ... .. 232/21

Radio. *See* W/T.

Radium stores ... .. 1227/29

Railway. *See also* Travelling.

Carriage in connection with F.O.R. contracts ... ..	1173/28
Class accommodation for civil salaried officers ... ..	3227/25
Conveyance of explosives, etc. ... ..	1875/27
Indemnity and warrant for escorts travelling with non-dangerous goods ... ..	1876/27
Transport regulations ... ..	2812/29
Travelling concessions—officers and men, nurses, wives and families, etc.— <i>see</i> Travelling.	
Warrants—supply, custody etc. ... ..	3172/29

Rainwater catchments in boiler uptakes ... .. 2696/29

Ranges. *See* Rifle.

Rangefinders:—

And inclinometers—optical parts ... ..	2900/28
Delivery from contractors ... ..	1496/28
Mountings—periscopes ... ..	39/26

Ranges, Naval—use by army and R.A.F.... .. 2880/27

Ranges, rifle, military—use by R.N.... .. 288/26

Ratings—movements, transfer discharge, sickness, passage, etc.  
(Form S.165) ... .. 1450/28

Rawhide pinions and gears—local purchases ... .. 176/27

Re-advancement. *See* Advancement.

Rear-Admiral (S)—scope and nature of duties ... .. 3236/26

Recommendations for advancement ... .. 46/29

Recommissioning. *See* Commissioning.

Recorders, distance, for motor vehicles ... .. 2958/29

Recorders of weights—conditions of service ... .. 1461/26

Recreational training. *See* P. and R.T.

Recruiting—re-entries ... .. 2040/28

Reduction of personnel. *See* Discharge.

Re-engagement—medical and dental examination ... .. 3033/26

## Re-entries:—

Invalidated ratings for reserve fleet working parties ... ..	435/28
R.N. and R.M. ... ..	2040/28
Statement as to non-receipt of disability pension ... ..	543/27

Reference books. *See* Books.Refits. *See also* Dockyards.

Boiler repairs ... ..	1902/27
Feed discharge pipes ... ..	3008/29
Important items deferred by shortage of labour—instructions ... ..	691/24
Mediterranean destroyers at home ports—procedure ... ..	3237/26
Mediterranean station—extension of periods between ... ..	2821/26
Procedure as regards supplementary work ... ..	1967/29
R.F.A. oilers ... ..	3555/25
Stores and fixtures of ships paid off into dockyard control ... ..	605/26, 1225/26
Submarines ... ..	1491/28
Vessels home from foreign stations—leave of officers and men ... ..	2379/27
Work allocated to Naval ratings ... ..	222/27
Work by naval ratings ... ..	215/21

Refrigerating plant. *See* CO<sub>2</sub> and NH<sub>3</sub>.

Relations between R.N. and mercantile marine ... ..	74/27
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Religion—officiating ministers. *See* Officiating.

Relief—compassionate grounds—passage ... ..	369/29
---	--------

Remittances—modification to system ... ..	1367/29
---	---------

Remittances—payments to persons in Australia ... ..	3315/25
---	---------

“Removoil”—use ... ..	2705/28
-----------------------	---------

Repair ships—stores—adjustment of charge ... ..	382/26
---	--------

## Repairs:—

Condenser doors, etc.—scaling ... ..	952/29
Damage to colliers by H.M. ships ... ..	287/10
Estimates—fleet fuelling craft ... ..	2413/23
Insulation tests of electric circuits after large repairs ... ..	1550/25
Large, reconstruction or conversion—procedure ... ..	283/23
Private vessels ... ..	3111/26
Procedure as regards supplementary work ... ..	1967/29
Ships at dockyards abroad... ..	1161/29
Ships paid off for—complements... ..	3088/29
Small—fire control tables and other fire control instruments ... ..	2599/23
Spare parts of electrical gear ... ..	1939/24

## Repayment services:—

For other Government Departments, Governments, etc. ... ..	1769/29
Marriage allowance ... ..	634/28
Private individuals—deposits and advances ... ..	2032/28

## Reports:—

## General:—

Allowances for accommodation and victualling payable to ratings serving on shore abroad ... ..	938/27
Boats, sailing and pulling ... ..	717/29
Cape Guardafui W/T station—D.F. bearings ... ..	118/28
Condenser doors and oil cooler bodies—scaling ... ..	952/29
Cordage, Indian tarred—trials ... ..	150/28, 2146/29
Drifters—survey ... ..	3108/29
Entertainment funds ... ..	2174/29
Gardening tools, etc., not to be purchased from upkeep allowances ... ..	3057/28
Hawsers, steel wire, commercial type—trials ... ..	875/27
Lifting appliances—examination ... ..	712/29
Magnetos and spare parts ... ..	1833/28
Medical officer specialists ... ..	1000/27
Merchant ships—saluting men-of-war ... ..	172/29
Naval rifle ranges—use by army, R.A.F., etc. ... ..	2880/27
Oars, ash—trials ... ..	957/29
Office machinery—annual census ... ..	422/28
Officers—special reports on ... ..	935/29
Oil fuel bunkering abroad ... ..	2035/29
Pumps, submersible—salvage ... ..	2894/29
R.F.A.s—maintenance ... ..	1175/29
Target practice at H.M.S. “Centurion”—damage ... ..	1470/28
Trials of new material, etc.—method of rendering reports... ..	629/27
Turbine reduction gearing defects ... ..	805/28



Reports—*contd.*

Miscellaneous :—	
Air compressors (“Cumberland” and class) ... ..	950/29
Aluminium alloy fittings—corrosion (“Nelson,” “Kent,” “Berwick,” “Adventure,” “Ambuscade”) ... ..	481/29
Compass, magnetic—trials (“London,” “Devonshire” and “Sussex”) ... ..	542/29
Deck landing afloat (aircraft carriers) ... ..	241/29
Lobby to mess deck ladderway—(“Peterel,” “Gannet,” “Seamew,” “Tern”) ... ..	1970/29
Outboard equipment (minesweepers, twin screw) ... ..	1746/29
Pressure hulls (submarines) ... ..	1609/29
Pumps—50 tons bilge and 100 tons submersible (“Kent”) class cruisers)... ..	3092/28
Side screens—abolition (aircraft carriers) ... ..	195/28
Ships :—	
Acting Sub-Lieutenants for courses—addresses... ..	2279/29
Awnings ... ..	3006/29
Bakeries—heating ... ..	3181/29
Bolts and studs subjected to high temperature ... ..	1549/29
Fan motors—ventilation ... ..	135/29
Fendering between bulged ships and auxiliary vessels ... ..	2358/27
Hawsers, S.W., 6 by 24—construction ... ..	769/29
Navigation bow lanterns—coloured shades ... ..	705/28
Pilot lamp box for navigation lamps in H.M. ships ... ..	3217/28
Shade attachment for binoculars, Patt. 343—trial ... ..	3224/28
W/T masts—painting with aluminium ... ..	2193/29
Yards and Establishments :—	
A.E.C. lorries—unladen weights ... ..	2096/29
Boiler tubes—preservation ... ..	2973/29
Boiler tubes—sketch plates ... ..	2794/28
Bulges of ships ... ..	1968/29
Cable, chain—heat treatment ... ..	1654/28
Cells, primary and secondary—reserves... ..	664/29
Compositions, outer bottom ... ..	1846/29
Contractors, survey of stores from... ..	618/27
Drawings—electrical equipment ... ..	1992/28
Kit lockers for shore establishments ... ..	767/29
Petroleum spirit No. 3 for M.T. purposes ... ..	1828/27
Protective mattresses—instructions for manufacture ... ..	111/28
Repairs of ships at yards abroad ... ..	1161/29
Walker log gear—governors, Patt. 317 ... ..	3188/28
Waste paper—disposal ... ..	1083/28
Waterproof sheets for landing parties ... ..	1854/29
Yard craft employees—uniform ... ..	973/29
Reserve fleet working parties—re-entry of invalidated ratings ... ..	435/28
Reservist-s. <i>See also</i> R.F.R., R.N.R., R.N.V.R., etc. :—	
Civil staff joining Territorials, Auxiliary and Reserve Forces ... ..	1465/26
Working on group settlements in Western Australia—position ... ..	2565/27
Resident Naval officer—title ... ..	498/23
Retired pay. <i>See</i> Pay.	
Retirement :—	
Effect on warrant officers of reduction of age ... ..	540/27
Overseas League Migration Bureau ... ..	2171/29
Retired officers—Royal Marines—liability for service, etc. ... ..	371/28
Superannuation under Federated Universities Scheme for Civil Staff ... ..	1804/29
Returns—maintenance stores—cost ... ..	429/26
Revolvers and rifles—losses and thefts ... ..	2457/21
“Rhinos” material for upholstery ... ..	1233/29
Rifles :—	
Ranges, military—use by R.N. ... ..	288/26
Ranges, naval—use by army, R.A.F., etc. ... ..	2880/27
Ranges—Royal Marines afloat ... ..	625/28
Revolvers, etc.—Firearms Act, 1920 ... ..	2315/24
Revolvers, etc.—losses and thefts ... ..	2457/21
Riots—industrial disputes and strikes—assistance to Civil Authority 1417C/19	

Rope. *See also* Cordage:—

## Steel wire:—

Effects of severe frost ... ..	1016/29
For weighing anchor by hand ... ..	518/28
Splicing ... ..	1028/27
4-inch, picking up ... ..	2094/29
Rosters, advancement. <i>See</i> Advancement.	
Roumania—use of wireless by foreign war vessels ... ..	26/29
Royal Air Force. <i>See</i> R.A.F.	
Royal Australian Navy. <i>See</i> R.A.N.	
Royal Canadian Navy. <i>See</i> R.C.N.	
Royal Fleet Auxiliaries. <i>See</i> R.F.A.s.	
Royal Fleet Reserve. <i>See</i> R.F.R.	
Royal Indian Marine. <i>See</i> R.I.M.	
Royal Marine-s. <i>See</i> R.M.	
Royal Naval Benevolent Trust—lower deck benefit societies ... ..	3657/20
Royal Naval Benevolent Trust—contributions from canteen funds— procedure ... ..	579/27
Royal Naval Reserve. <i>See</i> R.N.R.	
Royal Naval Shore Signal Service. <i>See</i> Signal.	
Royal Naval Volunteer Reserve. <i>See</i> R.N.V.R.	
“Royal Sovereign” class—compensating weights ... ..	2436/28
Royal Tournament, Olympia—compensatory allowances ... ..	1181/25
Rubber. <i>See</i> India-rubber.	
Russia. <i>See</i> Soviet.	

## S

S.165—report of movements—revised procedure ... ..	1450/28
S.180—report of survey (submarines) ... ..	2715/26
S.194 ... ..	2704/29
S.206—half-yearly recommendations ... ..	1402/29
S.206—special reports on officers ... ..	985/29
S.340 and S.340b—use of typewriting paper for duplicates, etc. ... ..	385/27
S.346—rendering ... ..	2819/29
S.507—inaccuracies in rendering ... ..	1492/26
S.519—re-binding ... ..	510/27
S.536b—recommendation for advancement to A.B. ... ..	2559/27
S.1177—rendering ... ..	2642/27
S.1246c—officer's attendant history sheet ... ..	2841/28
S.1327—abolition ... ..	1465/27
(S). <i>See</i> Signals.	
Sacks, cement, empty—return... ..	24/27
Safe fittings in the ships—examination ... ..	1897/29
Safety valves of ships—examination ... ..	1490/28
Sailmakers' mates—payment of difference of pay... ..	509/26
Sailors' rests, homes, canteens, etc.—Naval jurisdiction ... ..	573/28
Salary. <i>See</i> Civil Staff and Pay.	
Sales:—	
Exclusion of Messrs. G. Turner & Sons, Plymouth ... ..	1617/27
Gunmetal and copper articles—sale of arisings ... ..	3296/25
Salutes:—	
Precedence—British consular officers ... ..	5/29
To men-of-war by merchant ships ... ..	172/29
Salvage—aircraft accidents ... ..	936/29
Salvage plant at dockyards ... ..	1995/24
Savings Bank, Naval—telegraphic withdrawals ... ..	1784/28
Savings Certificates, National:—	
Sale and repayment—revised arrangements ... ..	9/27
Supply and accounting ... ..	8/27
Sawing machines, log—capacities ... ..	2105/25
Scientific and other associations—Naval or civilian representatives attending meetings ... ..	619/25
Scrap metal—storage ... ..	1552/27
Scrap metal—transfer between Navy Votes... ..	2923/26
Screens, side—abolition in aircraft carriers ... ..	195/28
Scuttles, triplex glass in conning towers of submarine ... ..	84/28

Seaman class—transfer to stoker branch ... ..	2288/28
Seamanship examination for warrant officer ... ..	880/29
Seamanship Manual, Vol. I—amendment ... ..	808/28
Seaplanes. <i>See</i> Aircraft.	
Searchlights—use against aircraft at night ... ..	1277/27
Secretaries, course—books ... ..	931/27
Seedie certificate books—interpreter service ... ..	2376/24
Seedies—pay, service, etc. ... ..	382/28
Senior Naval officer—use of title ... ..	498/23
Senior Officers' courses. <i>See</i> Courses.	
Seniority—civil staffs. <i>See</i> Civil staffs.	
Serbs, Croats and Slovenes—W/T regulations ... ..	27/29
Service Certificates. <i>See</i> Certificates.	
Service with the Forces—superannuation ... ..	3363/24
Sewing machines, Singers ... ..	1677/29
Shackles. <i>See also</i> Anchor:—	
Swivel ring for boats' falls ... ..	2906/26
Shanghai—shipments to... ..	2402/29
Shaydolite—use for colouring lamps ... ..	47/26
Sheets, steel—packing ... ..	2057/29
Shellac varnish for coating corticene and cork carpet ... ..	1067/26
Shellac varnishes for electrical purposes ... ..	3232/26
Ship-s:—	
Administration at home ports ... ..	2115/29
Books—numbering of accounts ... ..	1144/29
Building:—	
Aluminium fittings ... ..	3453/26
Awnings—method of hauling out ... ..	104/27
Compasses—testing, etc. ... ..	1267/27
Confidential nature ... ..	1324/29
Contractor's works—stores ... ..	2160/28
Drawings ... ..	2900/29
Drawings, small scale ... ..	2347/27
Job numbers—use instead of ships' names in war ... ..	919/28
Store rooms—ventilation ... ..	3593/25
Storing yards ... ..	2270/29
Drawings. <i>See</i> Drawings.	
For disposal—destoring of trawlers and drifters ... ..	3214/25
For sale:—	
Badges and scrolls ... ..	2911/29
Destoring of trawlers and drifters ... ..	553/26
Stores, fixtures, etc. ... ..	605/26, 1225/26, 757/27
Machinery and electrical spare gear ... ..	992/20
Notification to B. of T. ... ..	2959/25
Steering wheels ... ..	1371/27
Submarines—stores to be included ... ..	1235/28
Fund—Loans from ... ..	1354/27
Ledgers. <i>See</i> Ledgers.	
Movements in peace time—reporting ... ..	2058/29
Store accounts—losses ... ..	1694/28
Visits of foreigners to H.M. ships ... ..	1454/27
Shipments:—	
Of stores by H.M. ships ... ..	597/26
Shanghai ... ..	2402/29
Stores from South Wales ... ..	587/29
Shooting, rifle practice. <i>See</i> Rifle.	
Shore establishments—proposals for alterations and additions ... ..	2194/24
Shorthand typists. <i>See also</i> Civil Staff:—	
Temporary—re-employment when discharged on redundancy ... ..	1267/28
Sick. <i>See also</i> Hospital and Medical:—	
Bay—ablation compartments to be near ... ..	1650/26
Leave—federated universities superannuation scheme ... ..	623/26
On shore—orders for attendance by surgeons and agents ... ..	2979/27
R.F.A. personnel discharged for sickness or injuries at home ports ... ..	3039/28
Visits by surgeons and agents ... ..	2523/29

- Signal. *See also* W/T:—  
 Advanced (S) course—syllabus ... .. 6/24  
 And gunnery ratings—eyesight tests ... .. 706C/19  
 Course for specialists ... .. 3243/26  
 Course, revisional—reduction in time ... .. 517/29  
 Look-outs—instruction and training ... .. 2341/29  
 Mast—removal (submarines) ... .. 1663/29  
 Projectors—loan to merchant ships ... .. 3090/28  
 Ratings—entry to coastguard ... .. 2981/29  
 Service, Royal Naval Shore—entries ... .. 3264/29  
 Yeoman, chief—advancement to, by captain ... .. 1333/26
- Signalling—between H.M. ships and merchant vessels ... .. 108/29
- Silhouettes of H.M. ships ... .. 1865/28
- Silver sheet, nickel ... .. 903/29
- Singer sewing machines ... .. 1677/29
- Sisters. *See* Q.A.R.N.N.S.
- Sketches. *See* Drawings.
- Skin affection from contact with oil fuel—precautions ... .. 1684/22
- Slings:—  
 Boats of mercantile type—survey ... .. 468/23  
 Motor boats ... .. 1641/22  
 Plates—motor boats—bridles ... .. 530/23  
 Psychrometer ... .. 1018/29
- Sloops:—  
 Boiler and engine room doors ... .. 136/29  
 Displacement—increase in weight—gear to be landed ... .. 1300/28  
 Docking precautions ... .. 110/25  
 "Flower" class—trials ... .. 1739/29
- Slovenes, Croats and Serbs—W/T regulations ... .. 27/29
- Smallpox—calf lymph—receipts ... .. 646/27
- Smoke—formation in relation to boiler efficiency ... .. 2080/26
- Smoke helmet, Patt. 200—discontinuance of use as shallow water diving dress ... .. 3162/28
- Smoke-reducing suggestions from bituminous coal ... .. 3043/18
- Soda water machines—protection ... .. 1002/21
- Sodomy ... .. 1955/29
- Sounding machines, motor—operating instructions and chemical tubes ... .. 608/28
- Soviet Russia:—  
 Government—official communications ... .. 28/29  
 Territory, Arctic Ocean—entry of foreigners ... .. 33/29  
 Union—rules concerning navigation in Soviet coastal waters ... .. 30/29  
 Union—visit of foreign naval and merchant vessels to ports ... .. 32/29  
 Waters—use of W/T ... .. 31/29
- Spain:—  
 Territorial waters—pollution by oil ... .. 35/29  
 Visits and use of W/T by foreign ships in Spanish ports ... .. 34/29
- Spare gear—reports—dockyards, etc.... .. 1189/26
- Specialist medical officers ... .. 1000/27
- Spirit, aviation—stowage in bulk ... .. 2135/27
- Spirit, aviation—supply in bulk ... .. 3014/25
- Spirit—petroleum and C.M.B.—stocks ... .. 531/27
- Splicing of steel wire rope ... .. 1023/27
- Sports:—  
 Admiralty motor transport, employment of ... .. 405/28  
 Merchant Service—invitations to compete with R.N. ... .. 74/27
- Springs, replace for Cockburn-MacNicol safety valves ... .. 2191/28
- Stability. *See* Weight.
- Staff, civil. *See* Civil staff.
- Staff course. *See* Course.
- "Stag" brand weatherproof white paint ... .. 2369/28
- Star, 1914-15. *See* Medals.
- Station limits—home and foreign stations ... .. 1950/27
- Stationery:—  
 Book wrappers—use ... .. 1561/23  
 Economy labels—use ... .. 421/28  
 Envelopes—standardisation ... .. 3236/27

Stationery—*contd.*

Tracing cloth—demands ... ..	3409/26
Typewriters—care and use of ... ..	694/27
Typewriters, duplicators, printing presses, etc.—accounting	1102/27, 422/28
Typewriters—establishment ... ..	589/27
Typewriters—inflammable nature of key-tops ... ..	1671/27
Typewriter—return to store ... ..	3067/28
Unpacking—care that items are not left in loose packing paper	706/23
Waste paper ... ..	1083/28
Wrapping materials not to be used for parcelling clothes ...	452/27
Writing inks ... ..	36/27

## Steam:—

Boats. *See* Boats.

Cooking apparatus—accidents ... ..	2015/25
Heaters for living spaces, ex-destroyers ... ..	1032/29
Steel for gudgeon pins of Diesel engines—reserve ... ..	250/25
Steel sections, rolled—payment for extras for web thicknesses ...	2105/27
Steering gear—steering wheels of ships on sale list ... ..	1371/27

## Stokers:—

Branch—transfers to ... ..	2288/28
P.O.s and leading stokers re-entering as stokers, 1st class advancement ... ..	372/24
P.O.s—eyesight tests ... ..	2959/18
Ratings—examination notation on Service Certificate ... ..	499/25
Ratings—training in electricity ... ..	2982/29

## Store-s:—

Accounting. *See* Accounting.

Armament—demands from New Zealand ... ..	3407/24
Army—supply to ... ..	1270/27
Boom defences—accounting ... ..	521/21
Canadian Government—vouchers ... ..	916/29
Consumable—supply of descriptions not allowed by establishment ...	319/25
Contractors'—survey ... ..	2883/29
"Daffodil" and "Delphinium" ... ..	3137/25

## Demands:—

Articles on loan ... ..	2053/25
For new articles ... ..	874/27
Mitre wheels ... ..	2730/25
Vouchers—H.M. ships—provision of "Advance note" ... ..	3177/28

Destoring—drafting of central storekeeping staff and instructions as regards stores ... ..	605/26, 1225/26
Destoring of certain trawlers and drifters placed on sale list ...	3214/25
Deterioration by damp or dust—protection ... ..	1171/28

Electrical. *See* Electrical.

## Establishment:—

Engineering—revised edition ... ..	3065/27
Gunnery purposes ... ..	202/29
New procedure—abolition of ship's warrant ... ..	1494/28
Sea store—central storekeeping—revision ... ..	2627/23

Examination lunches ... ..	2270/24
Examination steamers ... ..	1684/23
Explosives, etc.—conveyance by rail ... ..	1875/27
Fixture lists, items transferred to ... ..	120/27
Fixture lists of drifters ... ..	310/29
Fleet air arm ... ..	3245/29
Indemnity and warrant for escorts in charge of merchandise, etc. ...	1876/27
Keys of locked cupboards containing valuable stores ... ..	1563/25
Landing parties—reserves ... ..	730/29
Loan tool—procedure ... ..	1472/26

Local purchase. *See* Local purchase.

Maintenance—accounting ... ..	802/26
Maintenance and repair—charge ... ..	382/26
Maintenance—return of cost ... ..	429/26

Medical. *See* Medical.

New Zealand ... ..	3362/26
New Zealand government—vouchers ... ..	2964/27
P. and R.T. ... ..	144/29
Packing for shipment to Canada and Ireland ... ..	879/25

Store-s—*contd.*

Post Office, supplied by—claims ... ..	423/25
Presented as gifts ... ..	2703/26
Purchase—exclusion of Messrs. Turner & Sons of Plymouth from sales ... ..	1617/27
Refits—ships paid off into dockyard control ... ..	605/26
Reserves for leaders and destroyers ... ..	3010/29
Reserves in vessels in nominal care and maintenance ... ..	1718/29
Reserves, special under subhead E.2G... ..	2333/29
Rolled steel sections—payment of extras ... ..	2105/27
Rooms, ready-use ... ..	43/26
Rooms—ventilation (new construction) ... ..	3593/25
Rooms, workshops, etc.—locks for ... ..	1278/29
Sea (permanent)—replacement—procedure ... ..	1863/25
Shipments. <i>See</i> Shipments.	
Ships building at contractors' works ... ..	2160/28
Ship's warrant abolished ... ..	1494/28
"Special" or "cost price" ... ..	3025/29
Stocktaking ... ..	667/29
Subhead E.2G—special reserves ... ..	2333/29
Submarines disposed of by sale ... ..	1235/28
Submarines—supply notes ... ..	1674/29
Survey of stores from contractors ... ..	618/27
Tallies, valuation—affixing ... ..	556/28
Theft ... ..	3115/29
Transfer unauthorised—case of unlawful possession ... ..	2814/29
Victualling. <i>See</i> Victualling	
War Office stores supplied to Admiralty—accounting ... ..	2706/28
Storekeeping, Central :—	
Consumable stores non-allowable by establishment ... ..	319/25
Development—sea store establishments—revision ... ..	2627/23
Ready-use store rooms ... ..	43/26
Revised valuation allowances ... ..	212/29
"Special" or "cost price" stores ... ..	3025/29
Storing period for ships over 2,000 tons ... ..	2932/27
Storing :—	
Arrangements :—	
Destroyers building ... ..	1901/28
Patrol, minesweeping, and fishery protection flotillas ... ..	966/27
Period for ships over 2,000 tons fitted for central storekeeping ... ..	2932/27
R.A.N. ... ..	656/28
R.A.N. ships attached to H.M. squadrons ... ..	3526/25
R.C.N. ships with R.N. squadrons ... ..	917/26
Periods—P. and P.C. boats ... ..	2758/25
Ports (Atlantic Fleet and ships in reserve) ... ..	1421/24
Yards :—	
R.C.N. destroyers building ... ..	1632/29
R.I.M.S. "Hindustan" ... ..	1809/29
Surveying ships ... ..	3210/23
Stoves, warming and cooking ... ..	810/27
Strategical and tactical plotting—symbols ... ..	342/27
Strategical, tactical and navigational plotting ... ..	2989/28
Straw, hay and chaff—not for packing for New Zealand ... ..	1397/27
Straw, hay, chaff, etc., not to be used as packing material for stores shipped to Australia ... ..	2327/28
Straw, hay, etc., used for packing—disposal ... ..	2689/28
Streamline cages, destroyers fitted with—modification of docking plans and draft marks ... ..	867/25
Strikes :—	
Assistance to civil authority ... ..	1417C/19
Naval personnel employed on emergency duty—extra pay ... ..	1893/25
Structural materials—D. and D.R. in lieu of H.H.T. quality ... ..	622/29
Studs, bolts, etc., subjected to high temperature ... ..	1549/29
Subhead store items. <i>See</i> Stores, subhead.	
Sub-Lieutenants, Acting. <i>See</i> Acting Sub-Lieutenants.	

Submarine-s:—	
“ Apex ” blocks ... ..	459/24
Batteries:—	
Accumulators, air loaded ... ..	1046/25
Cell containers defective ... ..	1304/27
Distortion of terminal studs ... ..	197/28
Incidence of cost of repair ... ..	1558/25
Main—ventilation ... ..	2370/25
Reports of particulars ... ..	2272/23
Tanks—lining ... ..	1298/28
Worn components ... ..	1842/28
Boiler rooms—re-wiring ... ..	1772/25
Building—correspondence ... ..	1345/29
Confidential fittings... ..	2397/29
Confidential nature ... ..	249/27
Conning towers, triplex glass scuttles ... ..	84/28
Damage to fishing gear ... ..	2174/23
Dinghies, buoyancy tanks ... ..	433/27
Disposal by sale—stores ... ..	1235/28
Diving Exercises, etc. ... ..	627/27
Drop keels ... ..	2006/24
Exercises—procedure, signals and general instructions ... ..	1452/29
Fitted with steel L.P. blowing system—examination ... ..	2678/27
Keep plates to the bolts securing rolled girders ... ..	1142/27
“ L ” class—exhaust valves ... ..	2398/29
“ M.3 ”—tanks—test ... ..	1006/29
Motors, main ... ..	2898/29
Painting ... ..	1548/29, 1740/29
Periscopes. <i>See</i> Periscopes.	
Pipes, circulating water inlet—examination ... ..	3519/25
Plotting boards for ... ..	2957/28
Pressure hulls ... ..	1609/29
Rear-Admiral (S)—scope and nature of duties ... ..	3236/26
Refits ... ..	1491/28
Signal mast—removal ... ..	1663/29
Store supply notes ... ..	1574/29
Tanks—water or oil testing ... ..	320C/17
Tanks—working pressure tests ... ..	1042/25
Trials—civil staff injured while attending ... ..	1913/28
Submersible pumping plant. <i>See</i> Pumps.	
Subsistence allowance:—	
Civil staff at outports ... ..	1463/26
Civil staffs—regulations ... ..	2268/29
In lieu of Colonial allowance ... ..	322/29
Naval officers in receipt of civil rates of pay when accommodated in H.M. ships or establishments ... ..	627/25
Naval or civilian representatives attending meetings of scientific or other associations ... ..	619/25
Suez Canal—taxation of double bottoms ... ..	2655/28
Superannuation. <i>See</i> Civil staff.	
Supplementary officers—half pay for misconduct... ..	2335/27
Supplies. <i>See</i> Stores.	
Supply branch—Examinations, advancement, etc. ... ..	1696/27
Supply breakers, etc.—Messrs. Whipp & Bourne’s design ... ..	3160/28
Surgeons and Agents:—	
Orders for attendance on men sick on shore ... ..	2979/27
Visits to sick ... ..	2528/29
Surgeons, R.N. <i>See</i> Medical.	
Surplus:—	
Men—special scheme for discharge. <i>See</i> Discharge.	
Officers. <i>See</i> Retirement.	
Oil fuel tanks on docking ... ..	331/24
Stores. <i>See</i> Stores.	
Survey-s:—	
Hulls of destroyers ... ..	2726/28
Lifting hooks, keel plates, bolts, etc., of boats of mercantile type ... ..	468/23
“ Magnolia ” ... ..	2948/25
Stores from contractors ... ..	618/27
Wood drifters ... ..	838/26

Surveying Service :—	
Co-operation of aircraft ... ..	250/27
Echo sounding gear ... ..	311/26
Typewriters ... ..	3067/28
Surveying ships :—	
Storing yards ... ..	3210/23
Winter complement ... ..	2264/22
Surveyors of lands, assistant, serving abroad—pay ... ..	523/27
Surveyor of stores—foremen eligible ... ..	2325/25
Sweden—visits of foreign war vessels and aircraft ... ..	86/29
Swimming :—	
Proficiency ... ..	647/24
Refusal to learn ... ..	1037/22
Switchboard watchkeepers—tropical allowance ... ..	633/28
Switches :—	
Fire pump and alarm rattles ... ..	2304/29
India-rubber parts ... ..	976/29
Rotary of Pattern 7160 series ... ..	1559/29
Swivel blocks—lubrication ... ..	244/26
Syphilis. <i>See</i> Venereal Disease.	

## T

(T) <i>See</i> Torpedo.	
Tactical and strategical plotting symbols ... ..	342/27
Tactical games ... ..	3237/29
Tactical, strategical and navigational plotting ... ..	2989/28
Tank-s :—	
Oil fuel. <i>See</i> Oil fuel.	
R.F. of minesweepers—coating ... ..	2968/24
Submarine. <i>See</i> Submarine.	
Wagons—preservation ... ..	1845/20
Water or oil testing (submarines) ... ..	320C/17
Target-s :—	
Battle practices—shackles for towing ... ..	129/23
C.M.B.s used as—distinguishing letters ... ..	628/27
“Centurion”—fleet firings at—damage ... ..	1470/28
Towage—arrangements ... ..	567/27
Towage—C.M.B.s ... ..	1043/25
Towage, ocean—report of arrangements ... ..	1573/23
Towage of seven battle practice targets in Firth of Forth by H.M.S. “Tiger” ... ..	1091/26
Tax, income. <i>See</i> Income Tax.	
Entertainments ... ..	2879/26
Teak, mahogany, etc. ... ..	3185/29
“Teakoid” and similar composition deck coverings—precautions ... ..	2206/28
Teams, drivers, vehicles, etc.—hire of ... ..	1808/29
Technical courses, senior officers'. <i>See</i> Courses.	
Teeth. <i>See</i> Dental.	
Telegrams :—	
Air arm aircraft—use of cypher ... ..	1319/26
Inland—expenditure ... ..	1410/22
Telegraph cables—fouling by H.M. ships ... ..	729/28
Telegraphic and telephonic installations—approval ... ..	515/24
Telegraphic withdrawals from Naval savings banks ... ..	1784/28
Telegraphist Branch. <i>See also</i> W/T :—	
Advancement to Leading Telegraphist ... ..	2041/28
Course for P.M.G.'s certificate ... ..	927/29
Course, revisional—reduction in time ... ..	517/29
Telephone-s :—	
Admiralty long distance ... ..	158/29
And telegraphic installations—approval ... ..	515/24
Stores for field gun batteries ... ..	2629/26
Private calls—payment ... ..	1133/24
Private residences ... ..	782/25, 939/27
Rented from G.P.O.—period of notice required on surrender ... ..	3200/28
Systems at dockyards, etc. ... ..	103/28
Two-wire ... ..	2331/29
Use of contractors—rental ... ..	1651/29



Telescopes :—		
Gun sighting—india-rubber eyepieces	...	703/28
Landing	...	956/29
Light filters	...	257/29
Watches, etc.—care and return	...	142/29
Temperatures in cable passages—reduction of	...	66/29
Temporary clerks—notice of discharge	...	2176/22
Temporary staff. <i>See</i> Civil staff and Dockyard staff.		
Tenders for contracts. <i>See</i> Contracts.		
Territorial, etc., forces—civil servants joining	...	1465/26
Territorial waters—various visits of foreign war vessels.	<i>See</i> Visits.	
Terry towelling type of feed water filters	...	1660/26
Tests—enamel, white samples	...	2307/29
Tests—life floats	...	4042/17
Tetanus and Diphtheria, anti-toxic sera	...	84/27
Textiles—Inspection and test at dockyards	...	2111/29
Theft :—		
Fraud, etc.—losses due to	...	2116/27
Petty, by finding, borrowing and appropriation	...	2026/26
Rifles and revolvers	...	2457/21
Stores	...	3115/29
Unlawful possession—unauthorised transfer of stores	...	2314/29
Workmen's tools from boxes	...	2509/22
Thermographs—charts for reading	...	303/29
Tiles, white	...	2696/27
Timber sawing machines	...	2105/25
Tins, airtight, for motors—"M" type	...	2561/29
Titanium tetrachloride drums—marking	...	147/29
Toasts—official dinners—procedure when foreign officers present	...	202/27
Tool-s :—		
Artificer apprentices	...	2193/28
Chests and baggage of workmen on passage	...	1561/27
Loan—procedure	...	1472/26
Loan, store at dockyards—policy as to description to be kept	...	3345/25
Missing from workmen's tool boxes stowed in the yard	...	2509/22
Topweight. <i>See</i> Weight.		
Torches, electric, R.F.A. oilers	...	1486/29
Torpedo attack—ships liable to—closing of watertight doors	...	68C/14
Torpedo courses. <i>See</i> Courses.		
Tubes—classification of expenditure	...	209/26
Torquay—conveyance of chests, baggage, etc.	...	2912/29
Tournament, Royal. <i>See</i> Royal.		
Towage, target. <i>See</i> Target.		
Towing operations—precautions	...	952/22
Tracing cloth	...	3409/26
Trade Certificates. <i>See</i> Vocational Training.		
Traffic restrictions—fouling of fishermen's nets	...	107/29
Trainers periscopes for rangefinder mountings	...	2400/24
Training :—		
Midshipmen. <i>See</i> Midshipmen.		
Vocational in R.N. and R.M. <i>See</i> Vocational.		
Trains. <i>See</i> Travelling and Railway.		
Transmitter, Type T.21A, Fleet Air Arm—fire precautions	...	1420/26
Transmitting stations—enlargement ("Hawkins" class)	...	249/28
Transport :—		
Director of Sea—relations with Admiralty	...	214/25
Motor. <i>See</i> Motor.		
Regulations for conveyance of goods	...	2812/29
Travelling. <i>See also</i> Railway.		
Allowance—Naval or civilian representatives attending meetings of scientific and other associations	...	619/25
Concessions—officers and men, nurses, wives and families, baggage, motor cars, messing, etc.	...	522/29
Expenses :—		
Staff side members of Whitley Council	...	476/25
Workmen employed at a distance from normal place of employment	...	1103/25
Warrants. <i>See</i> Railway warrants.		

<b>Trawlers :—</b>	
And drifters—preparations for sale ... ..	553/26
For sale, etc.—destoring ... ..	3214/25
<b>Treasury Classes. See Civil staff.</b>	
<b>Treaty—Washington Naval ... ..</b>	<b>2544/23</b>
<b>Trials :—</b>	
New material and methods—method of rendering reports ...	629/27
Submarines—civil staff injured while attending ... ..	1913/28
Turning ... ..	388C/19
<b>Trophies, plate and relics—ornamental gun tampions—disposal ...</b>	<b>13/27</b>
<b>Tropical allowance—switchboard watchkeepers ... ..</b>	<b>633/28</b>
<b>Tropical weather—habitability of ships ... ..</b>	<b>1747/29</b>
<b>Tuberculosis—examination of entries ... ..</b>	<b>2012/29</b>
<b>Tube-s :—</b>	
Boiler. See Boiler tubes.	
Condenser. See Condenser.	
<b>Tugs, " Saint " class—buckling of frame ... ..</b>	<b>2331/24</b>
<b>Turbine-s :—</b>	
Brown-Curtis—spare or replace turbine nozzle castings ... ..	511/28
Nozzle plates—replacement ... ..	1550/29
Overspeed tests after re-blading ... ..	1574/28
Reduction gearing—defects ... ..	805/28
<b>Turbo-generator sets—over-speed device ... ..</b>	<b>1276/29</b>
<b>Turkey—visits of foreign warships, etc., to ports ... ..</b>	<b>37/29</b>
<b>Turner and Sons of Plymouth—exclusion from sales of stores ...</b>	<b>1617/27</b>
<b>Turning trials ... ..</b>	<b>388C/19</b>
<b>Turpentine spirit for paint mixing ... ..</b>	<b>2816/25</b>
<b>Typewriters :—</b>	
Duplicate and triplicate copies of Forms S.340 and S.340B ...	385/27
Duplicators, printing presses, etc.—accounting ... ..	1102/27, 422/28
Establishment ... ..	589/27
Key-tops—inflammable nature ... ..	1671/27
Repair, care and use ... ..	694/27
Surveying vessels ... ..	3067/28
<b>Typists, Civil staff. See Civil staff.</b>	
<b>Tyres, pneumatic of motor vehicles—inflation pressures ... ..</b>	<b>2946/27</b>

## U

<b>U.S.A. :—</b>	
Condenser tubes of American manufacture ... ..	757/27
Consular enquiries for information on certain Naval subjects ...	57/28
<b>Unemployment insurance. See Insurance.</b>	
<b>Unhealthy places under Superannuation Act ... ..</b>	<b>585/29</b>
<b>Uniform. See also Clothing and Kit.</b>	
Civil employees ... ..	545/26
Full dress ... ..	992/29
Yard craft employees ... ..	973/29
<b>Union Line passages ... ..</b>	<b>2775/29</b>
<b>United States of America. See U.S.A.</b>	
<b>Universities superannuation scheme—sick leave of civil staff ...</b>	<b>623/26</b>
<b>Unnatural offences ... ..</b>	<b>1955/29</b>
<b>Upholstery—" Ceymal " ... ..</b>	<b>1233/29</b>
<b>Urinals—ablution compartments ... ..</b>	<b>1650/26</b>

## V

<b>Vacation. See Leave.</b>	
<b>Vaccination :—</b>	
Calf lymph—receipts ... ..	646/27
Civil personnel on transfer abroad ... ..	268/29
<b>Valves :—</b>	
Cockburn-MacNicol—replace springs ... ..	2191/28
Dewrance & Co. ... ..	3250/29
Flooding compartment ... ..	1886/28
M.T. Engineers ... ..	3186/29
Safety, of ships—examination ... ..	1490/28

Varnish, shellac—for coating corticene and cork carpet... ..	1067/26
Varnishes for electrical purposes ... ..	3232/26
Venereal diseases:—	
Lecture to young ratings ... ..	3037/28
Medical Officers' lectures... ..	99C/19, 707/24
New Zealand ratings—hospital stoppages ... ..	2394/28
Warning—abolition of form S.1327 ... ..	1465/27
Ventilating fans. <i>See</i> Fans.	
Ventilation:—	
Anemometers or air meters ... ..	2107/26
Fan motors ... ..	185/29
Gratings—keeping clean ... ..	3386/25
Items for alterations and additions—sketch to be included ... ..	2890/25
Light excluding scuttle, for W/T office lobbies ... ..	1080/27
Ships in hot weather ... ..	1747/29
Store rooms of new construction ... ..	3593/25
Submarine main batteries ... ..	2370/25
System—care and maintenance ... ..	1724/23
Systems in H.M. ships—trial and organisation ... ..	950/25
Trunks—modified grating ... ..	1137/26
Vessels. <i>See</i> Ships.	
Victory medal. <i>See</i> Medal.	
Victualling:—	
Provisions:—	
Allowances, etc., of Naval officers at R.A.F. stations ... ..	719/27
Allowance to officers on compass courses ... ..	2769/29
Allowance to ratings ashore abroad ... ..	1143/29
And lodging—allowance for accommodation and victualling for ratings on shore abroad ... ..	938/27
Store accounts—clothing misappropriation ... ..	927/28
Stores—demands from New Zealand ... ..	3407/24
Stores—for R.F.A.s—accounting ... ..	1304/23
In small ship—responsibility ... ..	1527/29
Vision. <i>See</i> Eyesight.	
Visits:—	
Officers to the Admiralty ... ..	2024/16
Of foreign aircraft—Greece ... ..	17/29
Of foreign war vessels and service aircraft at British overseas ports—Regulations for ... ..	2/29
Of foreign war vessels and aircraft to British ports... ..	1871/29
Organised parties to Cenotaph—arrangements ... ..	1908/27
To H.M. dockyards, training and experimental establishments by foreigners ... ..	2062/27
To H.M. ships by foreigners ... ..	1454/27
To merchant vessels at naval ports by officers of the guard ... ..	2910/27
To Porton experimental station ... ..	2380/27
To R.N. establishments by R.A.N. representative ... ..	1311/25
Unauthorised persons visiting contractors' works ... ..	1559/27
Visits of foreign war vessels to and for use of W/T in:—	
Danzig ... ..	2867/29
Danish waters ... ..	10/29
Estonia ... ..	12/29
France and French dependencies ... ..	2925/29
Germany ... ..	14/29
Greece ... ..	16/29
Italian ports ... ..	18/29
Japan ... ..	20/29
Latvia ... ..	21/29
Netherlands ... ..	22/29
Norway ... ..	24/29
Portugal ... ..	25/29
Roumania ... ..	26/29
Russian Soviet waters... ..	31/29
Serbs, Croats and Slovenes ... ..	27/29
Soviet coastal waters—navigation ... ..	30/29
Soviet Union ... ..	32/29
Spanish waters ... ..	34/29
Swedish ports ... ..	36/29
Turkey ... ..	37/29

Visits of H.M. ships to colonial ports—notification to colonial governments ... ..	4/29
Vocational training:—	
“ A ” courses—revised list ... ..	2008/29
Trade and vocational training certificate ... ..	2007/29
Vote:—	
8 II/J—classification of charges... ..	1088/26
8/III/A, B and E—inspection of machinery ordered ... ..	1881/24
8/III/F—report ... ..	715/28
8/III/L—appropriations-in-aid ... ..	3270/25

## W

W/T. <i>See also Signals and Telegraphist Branch.</i>	
Aerials—damage to ... ..	1018/29
Aircraft—failure of instruments owing to damp ... ..	4/28
Aircraft—W/T equipment—precautions ... ..	2070/26
Branch—arrangements for exercise, health, etc. ... ..	2463/26
Cape Guardafui W/T station—D.F. bearings—reports ... ..	118/28
Communications, internal—term not to be used ... ..	3145/26
Losses of gear ... ..	1422/24
Masts at shore stations—survey ... ..	1969/27
Masts—painting with aluminium ... ..	2193/29
Merchant vessels—control in war ... ..	1355/29
Messages—Service charges ... ..	1188/29
Office lobbies—light excluding scuttle ventilators ... ..	1080/27
Private apparatus in admiralty buildings ... ..	137/29
Private wireless sets—irregular use of Admiralty stores ... ..	1225/28
Publication of technical information ... ..	98/29
Regulations for use of at British ports by foreign men-of-war and service aircraft ... ..	3/29
Russian Soviet waters ... ..	31/29
Stations—expenditure ... ..	2988/28
Territorial waters, use of:—	
Estonia ... ..	12/29
Greece ... ..	2767/29
Italy ... ..	18/29
Japan ... ..	20/29
Netherlands ... ..	22/29
Norway ... ..	24/29
Portuguese ports ... ..	25/29
Roumania ... ..	26/29
Serbs, Croats and Slovenes ... ..	27/29
Soviet Union ... ..	81/29
Sweden ... ..	36/29
W/T, R/T and A/S apparatus—safe custody ... ..	1225/26
Wages. <i>See Pay and Civil staff.</i>	
Wales—shipment of stores by collier... ..	587/29
Walker log gear—governors, Patt. 317—reports ... ..	3188/28
War:—	
Games ... ..	3237/29
Gratuities—ratings ... ..	1714/24, 1594/29
Job numbers—use instead of ships' names ... ..	919/28
Medals. <i>See Medals.</i>	
Office. <i>See Army.</i>	
Post Armistice operations—award of British War Medal ... ..	933/21
Post Armistice operations—award of Victory Medal ... ..	2769/20
Warrant:—	
Officer—seamanship examination for rank ... ..	880/29
Officers and above—effect of reduction of age for retirement ... ..	540/27
Officers, and officers promoted therefrom, and supplementary officers, R.N.—half pay for misconduct ... ..	2335/27
Officers (married) whose promotion entailed pecuniary loss ... ..	781/27
Ordnance Officer. <i>See Ordnance Branch.</i>	
Rank candidates—loan to Dominions ... ..	2596/28
Warship Production Superintendent, Liverpool ... ..	778/29

Washers—Fans, 12½ in. ... ..	2800/29
Washing—Home Commands—responsible laundry companies with Admiralty contracts ... ..	1352/26
Washing—Q.A.R.N.N.S. ... ..	1047/29
Washington Naval Treaty ... ..	2544/23
Washplace, ablution compartments—position in ships ... ..	1650/26
Waste, cotton—foreign injurious substances in ... ..	1153/26
Waste paper ... ..	1083/28
Watches, stop—ships not in full commission ... ..	48/26
Watches—Telescopes, etc.—care and return ... ..	142/29
Water :—	
Drinking—Ferrol ... ..	204/27
Drinking—filters ... ..	2124/26
Drinking for H.M. ships—precautions ... ..	1883/27
Inlet pipes of submarines—examination ... ..	3519/25
Tanks, fresh—removal from destroyers ... ..	1231/26
Tube boilers. <i>See</i> Boilers.	
Waterproof sheets for landing parties ... ..	1854/29
Watertight compartments in H.M. ships ... ..	2112/28
Watertight doors :—	
Closing of—ships in mined areas or liable to torpedo attack ... ..	68C/14
Weather—Tropical—habitability of ships ... ..	1747/29
Weather—wind in the upper atmosphere for Home and Mediterranean waters—notes and data ... ..	2607/27
Weight-s :—	
Compensating (destroyers) ... ..	1475/25
Compensating—“Royal Sovereign” class ... ..	2436/28
Compensation—landing of fighting efficiency items ... ..	2354/26
Cruisers ... ..	3004/29
Cruisers undocking ... ..	2737/29
Displacement of destroyers—Forms D.284 and D.211 ... ..	3483/25
Sloops—gear to be landed ... ..	1300/28
Welded cylinders for acetylene gas ... ..	2437/27
Welded steel chain (electrically) ... ..	388/29
Welding apparatus—supply ... ..	3272/29
Welding—Electric ... ..	1731/20
Welding, etc., below deck—fire precautions ... ..	618/28
Welfare Conference, 1928—decisions ... ..	2721/29
Wheels, mitre—demands ... ..	2730/25
Whipp & Bourne’s design—supply breakers, etc. ... ..	3160/28
Whipp & Bourne main motor starting resistances ... ..	2411/28
Whitley Council—travelling expenses of members of the staff side ... ..	476/25
Winds. <i>See</i> Weather.	
Windows, glass, for control positions—substitution of plate for triplex in hot climates ... ..	2559/25
Wireless telegraphy. <i>See</i> W/T.	
Witnesses, expert—naval or civil Admiralty officers ... ..	2758/24
Wives and families. Free or assisted passages. <i>See</i> Passages.	
Women clerks. <i>See</i> Civil staff—women.	
Wood—teak, mahogany, etc. ... ..	3185/29
Work—done by Naval ratings during refits of H.M. ships ... ..	215/21
Work—repayment services. <i>See</i> Repayment Services.	
Workmen’s Compensation Act—diseases ... ..	2557/29
Workpeople. <i>See also</i> Dockyard workmen and Labourers.	
Compensation. <i>See</i> Compensation.	
Dying abroad—funeral arrangements ... ..	418/25
Employed at a distance from normal place of employment—travelling expenses and pay ... ..	1103/25
From depressed areas—employment ... ..	3242/28
Important items of refits deferred by shortage of workmen—procedure ... ..	691/24
Leave with pay ... ..	2329/29
Serving abroad—record of Legal representatives or next-of-kin ... ..	1941/27
Tool chests and baggage on passage ... ..	1561/27
Tools missing from tool boxes stowed in the yard ... ..	2509/22
Wrapping materials supplied by H.M.S.O. not to be used for packing clothes ... ..	452/27
Wreaths—presentation—sanction of Admiralty ... ..	3240/26

Wrecks—accidents to ships registered under Merchant Shipping Acts	2459/29
Writers :—	
Dockyards abroad, locally entered ... ..	2290/24
Locally entered—examiner's fees ... ..	3488/25
Writing assistant. <i>See</i> Civil staff.	
Writing duties—labourers employed on ... ..	2041/25

## Y

Yard. *See* Dockyard.

Yard-s :—	
Abroad—overtime of technical officers ... ..	1245/29
Repair of ships ... ..	1161/29
Yard craft—employees—uniform—report ... ..	973/29
Yard machinery—control of expenditure ... ..	1300/25
Yarrow boilers—shape of fire row tubes ... ..	1372/25

## Z

Zones of promotion. *See* Promotion.

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## GUNNERY INDEX.

### Accidents :—

Pistol ammunition—precautions to be observed ... ..	3775C/18
With 6 pdr. sub-calibre ammunition—precautions ... ..	1144/25

### Aiming Rifles :—

1 in. and '303 in.—Revised allowances ... ..	2730/29
1 in.—damage to due to puff shots or split cases ... ..	2947/26

### Air Blast :—

For ventilation—care and maintenance ... ..	1724/23
---	---------

### Alterations and Additions :—

Alterations in ships and equipment—procedure for dealing with proposals ... ..	171/28
Ships taken in hand at Dockyards for large repairs, re-construction or conversion—procedure ... ..	283/23
To comply with N.M.E.R. in vessels with no ammunition on board ... ..	1701/22
Unnumbered items and Dockyard estimates of cost ... ..	870/25
Use of job numbers instead of ships' names in war ... ..	919/28

### Ammunition. *See also Bombs, Cartridges, Projectiles, Fireworks, Fuzes, Tubes, Primers* :—

Amounts to be carried in peace time ... ..	2232/28
Boxes, cartridge, ammunition, Q.F.—precautions as to slinging and stowing ... ..	1153/29
Custody, maintenance and preparation of explosive stores embarked in aircraft carriers, or other H.M. ships for use of aircraft—procedure and responsibility ... ..	1505/24
Embarking and disembarking—instructions for ... ..	1482/28
Labels, various, for ammunition—introduction ... ..	423/29
Landing of defective explosives, Q.F. cartridge cases, etc. ... ..	1743/29
Mildew in packages—reports ... ..	2107/28
Ready-use lockers for armed merchant cruisers—reserve of ... ..	3290/26
Ready-use supply for H.A. guns ... ..	289/29
S.A.—issue for non-classification firings, etc. ... ..	2889/26
Steel ready-use boxes—reports and instructions ... ..	1484/28
Target smoke shell in R.U. lockers—sentence ... ..	252/29
6 pdr. sub-calibre—accident with—precautions ... ..	1144/25
4 in. and 3 in. H.A. guns—use under precautions ... ..	173/26
4 in. tracer fitted in submarines—supply ... ..	2027/29

### Anti-aircraft. Fire Control :—

Evershed system for standard temp. H.A. control—reports ... ..	1421/28, 2767/28 <sup>R</sup>
H.A.C.S.I. fitting ... ..	2668/28
H.A. control system for primary armament—policy regarding the equipment of the Fleet ... ..	8163/27
Modifications to standard temporary system ... ..	1192/27, 2882/27, 443/28

### Armaments :—

Lewis guns—increase to aircraft carriers ... ..	2108/28
Machine gun to river gunboats—alterations ... ..	2562/26
Sloops, trawlers and patrol boats, attached to patrol, mine-sweeping and fishery protection flotilla ... ..	1819/28
6 in. guns—removal from "Concord" ... ..	3046/28

### Ballistics :—

Range Tables :—	
Fuze scales and trajectory—revised procedure for issue, etc. ... ..	2991/27
4 in. Q.F. Mark V guns—relative ranging and drift constant ... ..	1738/29

**Bombs :—**

Aircraft—painting and marking ... ..	1291/28
Aircraft—H.E., 520 lb. blank I—modification ... ..	2771/28
And fireworks—stowage ... ..	1660/29
Filled amatol—precaution in handling, stowage and landing ... ..	566/27
Practice, 8½ lb.—filling ... ..	2686/29
Practice, 8½ lb., Mark I—issue to aircraft carriers ... ..	158/27
Procedure for demanding for aircraft ... ..	159/27
Revised outfits of existing types—statement ... ..	1840/25, 3574/25
Smoke, navigation, Mark I—outfit ... ..	3178/29
Stick—life of gun when using ... ..	4368C/18
Tactics of bombing aircraft when attacking ships ... ..	256/27

**Books—New Handbooks and Amendments :—**

O.U. books—supply of drill and gun mounting handbooks to D.E.M.S. ... ..	662/28
O.U. 5265A, B and C—Priced vocabulary of Naval Armament Stores—issue ... ..	2888/26

**Breech Mechanisms. See also Locks and Obturators :—**

Automatic extractors to Q.F. 2 pdr. sub-calibre guns, Q.F. 4 in. V and V*, and Q.F. 4·7 in. VIII—fitting ... ..	1708/27, 2178/27
Bolts, actuating breech mechanism, Q.F., 4 in. Mark IV—V*—repair ... ..	2821/26
Box, slide “K”—modification—report ... ..	103/26, 1164/29
Box, slide “K”—liability to damage ... ..	2170/28
Breech safety change-over contacts—modification ... ..	2132/29
Breech safety change-over contacts—cleaning and lubrication ... ..	1143/28, 2132/29
Breech safety change-over contacts—fitting—Gunnery Schools and R.M. batteries ... ..	90/27
Cables for breech screw contacts ... ..	1471/27
Electro mechanical firing gear—Q.F. 2 pdr. sub-calibre B.L., 4 in. and 4·7 in.—modification ... ..	2167/28
Examination at Naval Armament Depôts ... ..	720/25
Excessive wear in hand worked guns—prevention ... ..	793/27
Guards, change-over contact, fitting ... ..	2725/28
Issue of repaired part unproved ... ..	1210/26
Modifications ... ..	707/29
Modified, boxes, slide K—gauges testing overlap of tube retainer no longer required ... ..	2620/27
Percussion firing gear—B.L. 6 in. Marks XII and XIIA—fitting of improved form ... ..	1134/27
Percussion firing gear—Q.F. 12 pdr. 12 cwt. guns—modification ... ..	2948/26
Sub-calibre guns, Q.F. 6 pdr.—E.M.F. gear—modification ... ..	1642/27
Wrenches, No. 47—modification ... ..	249/29
2 pdr. sub-calibre, B.L. 4 in. Mark IX—IX***, and 4·7 in. Mark I—I* guns, L.A. Mark I—fitting E.M. firing gear ... ..	2397/27
4 in. Mark V and V* strengthened design of bolt actuating ... ..	1881/26
4·7 in. B.L. I and I* and 4 in. VII, VIII, IX, IX*** and XI carriers fitting locking plate ... ..	792/27
4·7 in. Q.F. V* and 12 pdr.—modification to percussion strikers ... ..	2685/26, 1641/27
5·5 in., block guide lock and lock, electric—modification to ... ..	1424/28
5·5 in. C.P. II—interceptors and breech safety contacts—replacement of single by double ... ..	1562/28
6 in. B.L. Mark VII, carriers, screws, breech and vents axial—modifications ... ..	387/28
6 in., B.L., VII—modification to carriers, screws, breech and vents, axial, to prevent excessive wear on pintle ... ..	826/26
6 in., B.L., VII—modification to link ... ..	364/26
6 in., B.L., VII—spare for drill purposes ... ..	2561/26
6 in., Mark XII—XIIA guns—Fitting of percussion firing gear, Mark III—report ... ..	2532/29
6 in. C.P. XIV—interceptors and breech safety contacts—replacement of single by double ... ..	1562/28
6 in., O.B.L., Marks XII, XIIA, XII B, XXII and XXII*—modification to carriers ... ..	3100/29



**Breech Mechanisms—contd.**

7.5 in., B.L., Mark VI—modification ... ..	2289/29
8 in. B.L. Marks VIII-VIII*—locks, electric, E.H.—modifications ... ..	2227/28
15 in. Mark I—lever, hand operating gear adjustment ... ..	582/28

**Cartridges :—**

Cases, magazine, C.E., for 16 in.—instructions ... ..	1481/28
Cases, 4 in.—withdrawal ... ..	193/29
Failure to ignite B.L. charges ... ..	3260/28
Filled S.C. cordite—distribution ... ..	2722/28
Igniter covers—present position and future policy ... ..	1480/28
Q.F.—introduction of new design of clips—reports ... ..	215/27
Q.F., 2 pdr., practice and practice sub-calibre—special examination—reports ... ..	58/29
Q.F. 3 pdr., practice, sub-calibre, made up from size 5 cordite—future supply arrangements ... ..	710/29
Q.F. 4 in., Marks V and V*, H.A. guns—for practice firings ... ..	3005/28
S.A. aiming rifle, signal—revised nomenclature and marking ... ..	423/29
S.A., ball, .303 in., Mark VII, Kynoch, of post-war make up to 8.4.1926—early expenditure ... ..	948/27
.303 in.—defective due to oil penetrating the cap—instructions ... ..	1999/22

**Circuits :—**

Gun circuit fittings—abolition of “C” connections ... ..	2989/27
Gun—new types of breech safety change-over contacts and interceptors—supply of sockets for cable connections ... ..	277/27
Insulation tests of circuits of vessels after completion or large repairs ... ..	1550/25
Turret gun firing circuits—method of connecting ... ..	500/28

**Confidential Books. See Books.****Cordite :—**

Destruction of M.D. cordite on reaching 10 years of age ... ..	1152/29
Magazine logs of ships—inaccuracies, omissions, etc., in rendering ... ..	815/27
Method of recording lots on board and their expenditure—Gunnery School firing ships ... ..	2345/27
S.C. introduction in Naval Service ... ..	2722/28
Target smoke shell ammunition in R.U. lockers—sentence ... ..	252/29

**Courses of Instruction :—**

(G) advanced at Greenwich—syllabus ... ..	251/24
Gunnery course for the rank of lieutenant—Syllabus ... ..	2277/29

**Director Installation :—**

“Adventure” type elevation receivers—defects ... ..	2403/28
Collimator—use of with gyro firing gear and super-elevation ... ..	803/29
Control towers—water excluding from sighting ports—arrangements ... ..	2714/28, 939/29
Control towers, 16 in. and 6 in.—spare gear—instructions for use ... ..	2987/29
Director change-over pistols—delay in breaking contact ... ..	2169/28
Director firing circuits—replacement of firing arc switch ... ..	2715/28
Director firing gear :—	
Erection or fitting by contractors ... ..	2944/28
Drainage of H.A.C.S. director support ... ..	1148/29
In store—report ... ..	1631/29
Modification without Admiralty approval—report ... ..	2180/29
8 in. elevation receiver ... ..	1780/29
16 in., 8 in., and 6 in. elevation and training receivers—modified pointers—report ... ..	3099/29
Director tower—examination, cleaning and renewal of oil in tanks ... ..	1539/29
Elevation receivers, P. XIII type—defects ... ..	3209/28
Elevation and training receivers, 16 in., 6 in., 8 in., and 4.7 in.—new type ... ..	1419/28
Failure of director receiver during full calibre firing—precautions ... ..	213/27
For secondary armament in various ships—supply of spares ... ..	1832/22
G.D.T. communications in “Danae,” “Dauntless” and “Dragon” ... ..	2718/27

**Director Installation—contd.**

Gyro firing gear—adjustment ... ..	1600/29
H.A.C.S.—calculating tables supplied in sections—return of strengthening pieces to Messrs. Vickers-Armstrong ... ..	3058/29
H.A.C.S.I.—fitting ... ..	2668/28
H.A.C.S., Mark I—arrangements for supply of power for operating the system ... ..	1149/29
Henderson firing gear:—	
Erection and repair ... ..	1732/26
Failures to fire due to bad electrical contact between switch plate and contact roller ... ..	3215/27
Replacement of Mark I sets by Mark IV ... ..	2818/28
Receivers—lining up clutch—modification ... ..	645/28
Rigols round sighting parts of director towers ... ..	3259/28
Sights:—	
“Adventure” type—allowance of drift ... ..	2022/29
Aldis telescopes—fitting—reports ... ..	2023/29
Gyro firing gear spares—supply ... ..	578/28
Repeat “W” type—defects ... ..	531/29
Sight setting drill ... ..	1302/29
Spare parts—supply to sloops ... ..	2796/25
Spares and replace parts ... ..	748/29
Synchronous transmission gear—instructions for fitting and adjusting ... ..	441/28
Synchronous transmission gear—removal of mechanical stops ... ..	1049/29
Transmitters, “M” type, Mark II and H. and L.A. directors—brush pressures—testing ... ..	2106/28
Window glasses for diffused light system—supply ... ..	190/29
4 in. H.A. III and IV, mountings—supply and fitting of director operating gear and director receiver in ships to be fitted with H.A.C.S. I—reports ... ..	2531/29
6 in., PXIII type elevation receivers ... ..	3098/29

**Diving:—**

Divers—Instruction in the fitting of submarines ... ..	2676/29
Shallow water apparatus—use of for entering compartments filled with a poisonous atmosphere ... ..	1977/17

**Drill:—**

Safeguarding the opening of the breech at all natures of guns except 16 in. ... ..	3224/29
--	---------

**Ejectors:—**

Projectile—restrictions ... ..	1213/28
--------------------------------	---------

**Explosives:—**

Annual exchange in Fleet Auxiliaries, Yard Craft, etc. ... ..	1412/26
Conveyance by rail—special warrant ... ..	1875/27
Custody, maintenance and preparation of explosive stores embarked in aircraft carriers, or other H.M. ships for use of aircraft—procedure and responsibility ... ..	1505/24
Stores at R.N. wireless and signal stations, etc.—biennial exchange ... ..	2345/26

**Field Guns:—**

And howitzers—allocation ... ..	1318/29
Batteries—telephone stores for use with ... ..	593/26, 2629/26

**Fire Control. See also Anti-aircraft Fire Control:—**

Fire control gear—erection or fitting by contractors ... ..	2944/28
Method of accounting for equipment and spares ... ..	1372/27

**Fire Control Communications:—**

Inclination and mean rangefinder, range communications—fitting in certain ships ... ..	2718/27
S.F.7 inclinometers—reports ... ..	806/29
V.P. communications in 6 in. gun batteries—reports ... ..	2883/28, 1219/29

**Fire Control Instruments.** *See also Binoculars, Inclinerometers, Range-finders, Telescopes, and Periscopes.*

Admiralty fire control tables—re-setting of range cut-outs ...	2726/29
Aid to plot gear for use with Hill fuze predictor when plotting ranges ...	2395/27
Artillery directors for bombardment training purposes—supply...	2356/26
Bombardment spotting boxes—supply ...	1009/29
Deflection calculators A.A.—assembling and checking ...	1376/29
Deflection spotting dials in range and deflection transmitters—fitting ...	2672/28
Deflection calculators—star shell ...	1265/29
Dreyer's tables:—	
Repair ...	413/23
Dumaresqs, H.A.—automatic training... ..	1345/28
Evershed control system for standard temp. H.A. control—reports ...	1421/28, 2767/28
Evershed system for control of 3 in. and 4 in. H.A. guns—errors introduced in the control when H.A. guns are trained through blank arcs shown on diagrams ...	1638/27
Fire control tables, Marks I, II and III, units E. and F.—necessity for careful drill ...	3208/28
Gongs and buzzers for 16 in., 6 in. and 8 in. ...	2606/28
Gun fire control instruments—return of particulars ...	1133/27, 2076/27
Gyro bearing indicators—modification of—report ...	998/29
Gyro compasses:—	
Commutator type transmitters—supply and fitting ...	1577/28
Pattern 1504 transmitters—supply and fitting ...	2020/28
Repeaters:—	
Repeater cards—trial of mica—reports ...	2190/28
Responsibility for testing ...	2402/27
Rotor bearings ...	2032/29
H.A. control systems—nomenclature ...	742/28
Inclinometers, types S.F.7 and S.F.8—modification to graduations of range scales, etc. ...	2942/29
Inspection, testing and acceptance—procedure for ...	5881C/17
P.I.L. equipment and communications—fitting ...	1829/29
Periscope and Aldis lamp—removal—"R.S." and "Q.E." classes ...	2142/29
Quarters firing ...	1218/29
Range receivers—fitting in 6 in. control towers—"Q.E." and "R.S." classes ...	1749/28
Slide rule for use with Hill fuze predictor ...	529/29
Stripping and checking after assembly ...	1375/29
Supply of stores for Vickers' .303 in. guns for use with Royal Marines ...	118/26
Table and other instruments—repairs carried out by private firms—inspection ...	2599/23
Tables—packing for transport ...	976/26
Tables—repairs to ...	891/28
Window glasses for diffused light system—supply ...	190/29
<b>Fireworks:—</b>	
Annual exchange, in Fleet Auxiliaries, Yard Craft, etc. ...	1412/26
Bomb flare, 8 in. Mark I.—Description, instructions for use, and precautions ...	2187/29
Bombs, pyrotechnics, etc.—stowage, other than in aircraft carriers ...	476/29, 943/29
Cartridges, signal, 1 in.—firing precautions ...	1483/28
For aircraft—procedure for demanding ...	159/27
Rockets:—	
Sound, $\frac{1}{2}$ lb., Mark IV—withdrawal—report ...	3061/29
Supply to R.F.A. vessels and yard craft ...	2995/29
Schermerly line-throwing rocket apparatus—issue and instruction ...	3180/29
<b>Forms:—</b>	
D.66—gunners list of fixtures—distribution ...	1798/28
O.96—Revision ...	2114/29
S.225—Gunners and Torpedo Quarter Bill—revised procedure for issue ...	1237/29

**Forms—contd.**

S.1148G—ships' narrative, Section XIII—ballistic information— amendment ... ..	670/28
S.1404—inspection of guns—accuracy in rendering ... ..	1287/29
Showing particulars of gun fire control instruments fitted in H.M. ships ... ..	1133/27

**Fuzes :—**

Safety, No. 9, Mark III—introduction and defects ...	949/27, 1718/27
T. and T. and P.—rubber covers, No. 3, Mark I—supply ...	28/26
T. and T. and P.—safety setting indicators—markings ...	2828/28

**Fuze Setters :—**

For fuzes Nos. 121 and 124 used in 2 pdr. pom-pom guns ...	844/24
--	--------

**Grenades :—**

Rifle, daylight signal—instructions for use ... ..	4128C/17
Rifle, night signals—instructions for use ... ..	1409C/18

**Guns. See also Field Guns, Machine Guns, Sub-calibre Guns, Breech Mechanisms, Obturators.**

B.L., ignition of charge due to heat of gun after rapid firing ...	2407/26
Depth charge throwers—annual examination ... ..	97/27
Examination at Naval Armament Depôts ... ..	720/25
Gauge, vent tube chamber, large—replacement of tops by Mark III and IV patterns ... ..	945/29
Life of, when using stick bombs ... ..	4368C/18
Mounting in correct position in turrets ... ..	2607/28
Number of rounds to be fired between examinations ... ..	1354/26
Ornamental gun tampions from ships paid off for disposal ...	13/27
Over ramming—effect on regularity ... ..	165/25
Register numbers—re-stamping when breech safety C.O. contacts are fitted ... ..	2474/26
Restriction to maximum angle of elevation—"London" class and "Norfolk" ... ..	705/29

**Guns, 2-pdr. :—**

Depression control gear—fitting firing trials after repairs ...	2204/22
Fuze setter to be disconnected before firing practice ammunition made up with C.N.F. shell ... ..	2823/24
Marks I and II—filling of water jacket ... ..	2946/29
With Marks II* and III feed blocks, correct functioning—reports	844/24

**Guns, 3 pdr. :—**

Hotchkiss—care and preservation ... ..	706/29
--	--------

**Guns, 12 pdr. 8 cwt. :—**

Allowance for training establishments and supply of spare wheels	1221/29, 1538/29
--	---------------------

**Guns, 3 in. H.A. :—**

Turrets—training arcs of "B" "Q" and "X" turrets when H.A. guns' crews are "closed up" ... ..	2290/29
--	---------

**Guns, 4 in. :—**

Mark V and V*—memo. of inspection—equivalent full charges	1939/28
---	---------

**Guns, 4.7 in. :—**

B.L. Mark I-I*—breech safety change-over contacts—fitting ...	2458/27
Breech safety change-over contacts—bridging—reports ... ..	941/29
Q.F. VIII—precautions when using drill cartridges ... ..	420/29

**Guns, 6 in. :—**

Ejector, for use where muzzles are not readily accessible ...	173/26
---	--------

**Guns, 7.5 in. :—**

B.L., Mark VI—modifications to give additional clearances ...	2945/29
---	---------

(C18807) U U 3

<b>Guns, 8 in. :—</b>	
Form of tube chamber—report ... ..	14/28
Gun drill precautions ... ..	2130/29
Marks VIII and VIII*—failure of spring operating No. 14 interlock ... ..	2181/29
<b>Guns, 13.5 in. :—</b>	
Breech safety change-over contacts—fitting and allowance of spare ... ..	1280/26
<b>Guns, 15 in. :—</b>	
Breech safety change-over contacts—fitting and allowance of spare ... ..	1280/26
<b>Guns, 16 in. :—</b>	
Plan ramming ... ..	641/28
<b>Gun Mountings, General. See also Air Blast, Sights.</b>	
Despatch of to Ireland—instructions ... ..	853C/20
Examination, cleaning and renewal of oil in tanks ... ..	1539/29
For A.M.Cs., D.E.M.S., etc.—stowage of electrical circuits 807/29, 1961/29	
For A.M.Cs., fast liners, and D.E.M.S.—training index racers and pointers—report ... ..	2948/29
Machining of seatings ... ..	471/29
Pedestals and pivots—renovation of, to eliminate backlash ...	1325C/19
Transferable :—	
Electric circuits, etc.—care in leading over sharp corners ...	105/28
Illuminating circuits—removal of batteries and C.O. switches	853/27
Pressure gauges for recuperators—supply of ... ..	599/29
Spare parts, etc.—entry on accounts of receipt ... ..	682/29
Turret danger signal gear—head of charge ... ..	1865/29
<b>Gun Mountings, 2-pdr. :—</b>	
Periodical examination of base, etc. ... ..	520/26
<b>Gun Mountings, 3 in. :—</b>	
H.A. II, IIA and III—single gun units and A.A. deflection calculators, Pattern 9768 ... ..	1266/29, 2129/29
H.A. Marks II, IIA, III, IV and IVA—firing and night sight circuits ... ..	2120/23
Illuminated open sights—demands for fittings ... ..	2408/28
<b>Gun Mountings, 3.7 in. Howitzer Equipments :—</b>	
Drag ropes, modification ... ..	747/28
<b>Gun Mountings, 4 in. :—</b>	
C.P. II—star shell gun—spirit levels—report ... ..	1470/29
C.P. II—star shell firing ... ..	2345/28
H.A. III :—	
Director gear for—fitting in certain ships ... ..	1580/27
Star shell firing ... ..	2345/28
H.A. III and IV—modifications to depression safety firing gear	1267/29, 1378/29
H.A. III and IV—new fuze curve dials for No. 198 fuze—reports	751/29
H.A. III and IV—strengthened design of lever for firing gear ...	2398/27
H.A. III and S. I—recuperator cylinders—charging—use of P. 924 oil ... ..	421/29
H.A. III and S. I—recuperators, stripping ... ..	696/28
Illuminated open sights—demands for fittings ... ..	2408/28
<b>Gun Mountings, 4.7 in. :—</b>	
C.P. VI*—run-out control gear ... ..	251/29
C.P. VI*—star shell gun—spirit levels—report ... ..	1470/29
C.P. VI**—modification to shields ... ..	3268/29
H.A. Mark XII :—	
Canvas covers ... ..	1988/28
Replace parts for V.S.6. motors ... ..	2134/29
Illuminated open sights—demands for fittings ... ..	2408/28
P.V and P.X—spare sights, spare parts and tools—reports ...	3291/26

**Gun Mountings, 6 in. :—**

C.P. XIV—modification to loading tray ... ..	2291/29
P.III, P.III S, P.IV, P.V* for A.M.C., D.E.M.S., etc.—reports	1672/28
P.III, P.IV, P.V, P.V*, P.VII and P.VII*—reconditioning and conversion—reports ... ..	1601/29
Particulars of range dial graduations on reconditioning and conversion ... ..	1864/29

**Gun Mountings, 7.5 in. :—**

## C.P. V :—

Assistant layer's handwheel—stop to be fitted to prevent running down ... ..	3226/29
Recoil piston rings—reports ... ..	2996/26
Tray safety gear—approval to fit ... ..	2888/28

**Gun Mountings, 8 in. :—**

Mark I—white metal jointing rings ... ..	1001/29
Mark I, "Kent" class—reports and modifications ... ..	2183/29
Mark I—strengthened design of pusher hoist pawls ... ..	3269/29
Twin, Mark I, fall of shot contact box ... ..	1000/29
Twin turrets—marks of mountings ... ..	1833/29

**Gun Mountings, 13.5 in. :—**

Hydraulic exhaust tanks in turrets—report ... ..	3059/29
Recording pressure gauges ... ..	1268/29

**Gun Mountings, 15 in. :—**

Central ammunition hoist—interlocking and telegraph gear examination ... ..	378/29
Footholds in gun houses, working chambers and shell rooms—fitting ... ..	296/26
Hydraulic exhaust tanks in turrets—report ... ..	3059/29
Mark I—gun loading cage cut-off and compensating gear—examination and adjustment ... ..	2614/26
Mark I and I*—Drencher gear for G.L. cages ... ..	2684/29
Mark I and I*—flashlight arrangements in working chambers ...	12/27
Recording pressure gauges ... ..	1268/29

**Gun Mountings, 16-in. :—**

Recording pressure gauges ... ..	1268/29
----------------------------------	---------

**Gunnery Practices :—**

A.A. 2 pdr. sub-calibre, with time fuzed shell—precautions during practices ... ..	3140/26
Additional precautions and amendments ... ..	444/24
By H.M. ships in vicinity of commercial aircraft routes—precautions ... ..	89/25

**Howitzers, 3.7-in. :—**

Aiming posts for ... ..	1318/29
-------------------------	---------

**Instructional Gear :—**

B.L. loading teachers—improvements ... ..	749/29
Loading teachers, light type for 4.7 in. C.P. VI, VI* and VI**—issue ... ..	2102/28
Shooting appliances—re-allocation ... ..	1541/29

**Locks :—**

"P," "B" and "Y" of 6 in., 4.7 in. and 4 in. guns—trigger sear to be free ... ..	188/28
--	--------

**Lubrication :—**

Dirty lubricating oil—purification and re-issue ... ..	1557/26
--	---------

**Machine Guns, Equipment and Training :—**

Handcarts for Vickers machine guns for Royal Marines report Lewis :—	2144/29
And Lewis-Savage 303—instructions to improve functioning	2409/28
Mountings in boats ... ..	2990/29
Mountings for submarines—report ... ..	2890/29
Tripod A.A. mountings—issue to R.M. ... ..	2292/29
303 in.—deflectors, cartridge, case—modification ... ..	1791/24

**Machine Guns, Equipment and Training—contd.**

Mountings, Lewis, double—positions in new construction ...	358/27
O.Q.F., 2-pdr. Marks I and II—standardised patterns for chain	3222/29
Telephone stores for control of guns ... ..	594/26
Telephone stores for use with .303 in. guns for Royal Marines ...	595/26
Vickers .303 in.—adjustment and modification ... ..	287/29
Vickers, .303 in.—supply to ships for use of Royal Marines ...	118/26

**Magazines and Shell Rooms :—**

Additional inspection after any drill, work, etc. ... ..	2997/29
Cooling machinery—"Q.E." and "R.S." classes ... ..	63/29, 809/29
Spraying pipes over cases in magazine ... ..	1582/27
Stowage for drill shell, cartridges, etc. ... ..	1062/28

**Obturator :—**

B.L. 5.5 in.—introduction of new type ... ..	2297/28, 1787/29
B.L. 8 in., Mark II—allowance of tommies ... ..	752/29, 2082/29
Press, obturator, steep coned, B.L. 6 in.—modification ... ..	654/26

**Ordnance Branch :—**

Courses of instruction for W.O.Os and O.As ... ..	2168/27
W.O.Os and O.As undergoing instruction in breech mechanisms —pay arrangements ... ..	2168/27

**Periscopes. See Telescopes.****Personnel and Training. See General Index.****Photography :—**

Cinematograph films re-landed from ships ... ..	3120/23
High speed cinema camera added to photographic school ...	965/27
Regulations for members of public to photograph H.M. ships, etc.	1986/24

**Pistols, Equipment and Training :—**

Losses—to be reported to civil police ... ..	2457/21
Pistols, Webley—loss of—spare spaces in cupboards to be filled in	2578/27

**Projectiles. See also Shell, Smoke Shell, Star Shell.**

B.L. 4.7 in. of new type—issue ... ..	1675/28
New type with reduced clearances and gauges—supply ... ..	3087/28
Practice, fitted for internal night tracers—adjustment of stocks	2131/27
Practice, 4 in., heavy—grouping and supply ... ..	698/28
Practice, 4 in., heavy—withdrawal of solid shot, Marks I and II, N.T. ... ..	281/27
Practice, 8 in., Mark I*B—modification to ... ..	474/29
Practice, 15 in. and 13.5 in.—types for concentration and other firings ... ..	2135/29
Tracers for practice, 7.5 in. and below—distribution ... ..	2347/28
8 in., Target ship practice ... ..	2533/29

**Rangefinders :—**

Adjustment for coincidence ... ..	2185/29
And mountings—delivery from contractor's works ... ..	1496/28
And mountings—Procedure for inspection, testing and acceptance	5881C/17
And rangefinder mountings—reports ... ..	2993/29
Barr & Stroud—list of spare parts and accessories ... ..	1196/27
Desiccator—motor driven—reports ... ..	380/29
Director—vibration—reports ... ..	704/29
For Vickers machine gun equipments ... ..	2153/26
H.A. and mountings—not to be issued separately ... ..	2332/24
U.B. 3 and U.B. 4, and electric heightfinders mounted in H.A.C.S., Mark I and Mark Ic director towers—temperature covers ... ..	2534/29
U.B. 3 and U.B. 4—blackening of roll inertia drums ... ..	2789/29
Use of L.A. on H.A. targets ... ..	1603/29

**Rangefinders—contd.****Mountings :—**

C.E.11, periscopes for—reports	...	...	...	...	39/26
Trainers' periscopes for	...	...	...	...	2400/24
U.B.3 and 4—angle of sight or range dials—illumination	...	...	...	...	3148/28
Windscreens—modification	...	...	...	...	1558/29
12 ft. M.Q.1 in lieu of 15 ft.—fitting "Ceres" class	...	...	...	...	1211/28

**Rifles, Equipment and Training :—**

Leather scabbard, bayonet, Mark II, No. 1—repairing lock end	...	...	...	...	129/28
Losses of—to be reported to civil police	...	...	...	...	2457/21
Marking of rifles on board ships	...	...	...	...	1341/24

**Royal Marines :—**

Annual range courses afloat—revised courses	...	...	...	...	625/28
Annual range courses—303 ammunition allowance	...	...	...	...	3135/28

**Shell. See also Projectiles.**

Innocuous—supply and allowances	...	...	...	...	1657/29
Innocuous at sleeve targets—safety precautions	...	...	...	...	3134/28
Re-fuzing base-fuzed shell—general instructions	...	...	...	...	2950/28
Tracers for H.E., 7.5 in. and below—distribution	...	...	...	...	2347/28
8 in. and below, with base adapter—watertightness	...	...	...	...	3167/27

**Sights :—**

Gun, illuminated—supply and renewal of lubricant	...	...	...	...	1927/27
No. 7 Mark II* dial sights and brackets—allocation—reports	...	...	...	...	120/29
Testing gear—authorised allowance	...	...	...	...	1822/28

**Smoke Candles :—**

Submarine—examination for shearing plugs and safety pins	...	...	...	...	509/28
Submarine—nomenclature, instructions and allowances	...	477/29,	2294/29	...	
Yellow—unreliability	...	...	...	...	601/29

**Star Shell :—**

Firing from semi-automatic guns and mountings—4 in. C.P.II and H.A. III	...	...	...	...	2345/28
Minimum heights to be set to burst	...	...	...	...	1479/28
"Triad," "Petersfield," and sloops—practice allowance	...	...	...	...	646/29

**Stores :—**

Ball and roller bearings, steel balls—procedure for demanding	...	...	...	...	2089/27
Coloured cotton waste—presence of foreign matter	...	...	...	...	1153/26
Hoses—demands for and treatment, etc.	...	...	...	...	921/26
Musical instruments—supply in excess of establishment	...	...	...	...	815/29
Naval and Naval armament for ships building at contractors—procedure	...	...	...	...	2160/28
Naval armament—demands for fitting purposes	...	...	...	...	828/26
Stop watches—revised allowances	...	...	...	...	48/26

**Sub-calibre Guns :—**

2 pdr., B.L. 4 in. IX and IX*** and 4.7 in. I and I*, low angle—breech block—hardening	...	...	...	...	1540/27
2 pdr. for 3 in. 20 cwt. guns in "C" class cruisers	...	...	...	...	322/28
2 pdr. Q.F.—springs cartridge retaining catch—replacement	...	...	...	...	2619/27

**Targets :—**

B.P.—modification to towing arrangements	...	...	...	...	567/27
B.P. targets—towage of 7 in. Firth of Forth by "Tiger"—methods employed	...	...	...	...	1091/26
Battle practice—shackles	...	...	...	...	129/23
C.M.B.—towage	...	...	...	...	1043/25
145 ft.—towage from Portland to Gibraltar—report by "Repulse"	...	...	...	...	1573/23:



**Telescopes and Periscopes :—**

Delivery from contractor's works	...	...	...	...	...	1496/28
Gun sighting :—						
And drill telescopes—Issue of component and spare instruments—Stocks to be maintained at dockyards abroad and at Sydney for Imperial Services	...	...	...	...	...	2296/29
India-rubber eyepieces—deterioration	...	...	...	...	...	703/28
Lamp fitting for illumination	...	...	...	...	...	2718/28

**Trials :—**

Of new material and methods—rendering of reports	...	...	...	...	...	629/27
--	-----	-----	-----	-----	-----	--------

**Tubes :—**

V.S. electric :—						
Boxes not to be opened unnecessarily	...	...	...	...	...	361/27
Testing device for—design	...	...	...	...	...	799/27

**Voicepipes :—**

Alterations—report	...	...	...	...	...	1545/29
Communications to 6 in. guns	...	...	...	...	...	2280/27
Mouthpieces for use with gas masks—modification to	...	1321/29,	1472/29			
Obsolete—no longer required in ships—removal and reports	...					446/25
Voicepipes, telephones, etc., in 8 in. gun cruisers—modification to nomenclature	...	...	...	...	...	8047/28

# TORPEDO INDEX.

## WHITEHEAD SECTION.

### Air Service :—

E.A. gauges—special type to be used ... ..	2993/29
H.P. air bottles—history sheets for ... ..	2515/24
H.P. reservoirs and torpedo air vessels—drainage to prevent corrosion ... ..	1467/29

### Alterations and Additions :—

#### General.

“ As fitted ” drawings—correction ... ..	3433/21
Ships taken in hand at dockyards for large repairs ... ..	283/23

### Anti-gas Equipment and Training :—

Apparatus—anti-gas—ratings returning to depôts ... ..	1894/29
Apparatus, anti-gas—supply to submarines ... ..	2036/29
Apparatus, anti-gas—supply ... ..	2235/28
Capsules, lachrymatory, Mark II—supply and instructions for use ... ..	902/26
Containers—respirators, anti-gas—nomenclature ... ..	128/29
Face-pieces and containers—separate accounting ... ..	3449/26
Face-pieces—stocks of special sizes ... ..	2666/27
Inspection Reports—arrangements for anti-gas defence ... ..	2168/27
Instruction of commissioned and warrant officers in anti-gas schools ... ..	1894/25
Instructors—courses for ... ..	1899/25
Precautions against entry of poisonous gases to sealed compartments through air service ... ..	1637/28
Purifier cartridges—trials ... ..	436/27
Respirators—danger when wearing in Neil Robertson stretcher ... ..	3120/27
Respirators—examination ... ..	940/28
Respirators—fitting containers ... ..	2733/29
Respirators, Mark II—wearing of headphones ... ..	1365/27
Respirators—marking ... ..	2613/28
Respirators—precautions in vicinity of magnetic compass ... ..	2895/26
Respirators—training and components—discontinuance of issue of spares to ships in home waters ... ..	2341/28
Training and components—discontinuance of issue of spares to ships in Home Waters ... ..	1868/27

### Appropriation Torpedo :—

“ Emerald ” and “ Enterprise ” ... ..	187/29
S.F.P. torpedoes—allowances ... ..	2006/28

### Blowing Heads :—

#### Care and Maintenance.

Defective cocking levers ... ..	2340/28
---------------------------------	---------

#### Modifications.

Extractor holes in valve seats ... ..	377/29
---------------------------------------	--------

### Books :—

Annual Report of Torpedo School, 1928—issue ... ..	3196/29
Armament stores, new edition of priced vocabulary and general instructions—issue ... ..	2888/26
Chemical warfare—medical organisation ... ..	1202/29
Form S.255, Gunnery and Torpedo Quarter Bill—revised procedure for issue ... ..	1237/29
Periodical Torpedo Publications—withdrawal ... ..	1772/28

### Cartridges, Impulse, Torpedo :—

Cordite—defective fire tubes—precautions ... ..	1742/29
Cordite filled—testing, withdrawal, etc. ... ..	2499/27

**Chemical Warfare :—**

C.S.A. apparatus—responsibility	...	...	...	...	2954/29
C.S.A. apparatus	...	...	...	...	3022/29
Organisation	...	...	...	...	2666/26
Porton Experimental Station—visits	...	...	...	...	2380/27

**Collision Heads :—**

Allowance of spares	...	...	...	...	3095/29
---------------------	-----	-----	-----	-----	---------

**Depots :—**

Chain purchases for hoisting torpedoes—test loads	...	...	...	...	1399/25
Torpedoes, classification and treatment	...	...	...	...	1337/28

**Discharges :—***Above Water.*

Access doors for ignition delay, Q.R. I and II, T.R. II and D.R. V tubes—fitting	...	...	...	...	1418/28
Access fittings—modification of interrupted thread type—report	...	...	...	...	698/29
Access fittings—modified hinge bracket—T.R. II and Q.R. II tubes	...	...	...	...	2942/28
Cordite impulse gear	...	...	...	...	1472/28
Corrosion of revolving structure in region of steam heating coils—report	...	...	...	...	2671/27
Gauges for testing firing gear	...	...	...	...	997/28
Limit stops to firing gear—Q.R. I and II tubes—fitting	...	...	...	...	1417/28
Q.R. II tubes—modification to gyro angling gear bracket—report	...	...	...	...	699/29
T.R. I and D.R. IV with powder impulse—renewal of access doors and fittings	...	...	...	...	1070/27
T.R. I tubes—strengthening of centre pivot	...	...	...	...	2529/29
T.R. II and later tubes—tripper springs	...	...	...	...	694/28
Training gear—modification—Q.R. II tubes	...	...	...	...	3205/28

*General.*

Tubes and torpedoes—“ Top stop ” and “ top lug ”—nomenclature	...	...	...	...	2020/29
---	-----	-----	-----	-----	---------

*Submarines.*

A.I.V. gear—description and care and maintenance	...	...	...	...	1233/28
A.I.V. gear—fitting to “ L.21-27, 52-54, 56, 69, 71, X.1 and K.26 ”	...	...	...	...	577/28, 2033/29
A.I.V. gear, “ L ” and “ L.50 ” classes and “ K.26 ”—modification when fitting	...	...	...	...	1147/29
Tubes—gauging and clearances of bow caps, bow shutters and stem caps	...	...	...	...	2680/29
Tubes—holes in horizontal dividing plates	...	...	...	...	118/29

*Submerged.*

Firing gear, obstructions in—care after refitting	...	...	...	...	2916/26
Limit for speed for firing torpedoes, steaming with bars out and working of bars	...	...	...	...	1652/29
Portable plates in torpedo tubes in bulged ships	...	...	...	...	701/29

**Docking and Refits. See also Alterations and Additions.**

A.W. tubes—corrosion of revolving structure in region of steam heating coils—report	...	...	...	...	2671/27
Alterations and additions to H.M. ships	...	...	...	...	3046/29
Torpedo sights—check alignment	...	...	...	...	2400/28
T.R. I and D.R. IV tubes with powder impulse—renewal of access doors and fittings	...	...	...	...	1070/27

**Explosives :—**

Aircraft torpedoes—warheads, etc., for—responsibility in, H.M. ships	...	...	...	...	1305/24
--	-----	-----	-----	-----	---------

**Forms :—**

History sheets for H.P. air bottles—D.216—institution	...	...	...	...	2515/24
---	-----	-----	-----	-----	---------

**Gyroscopes :—***General.*

Apparent errors in angles set ... ..	1816/28
“ W ” gyroscopes, R.N.T.F. design—description and instructions ... ..	317/28

**History Sheets :—**

Nomenclature of routines—E.A.T. not to be entered by ships ...	3057/29
--	---------

**Igniters :—***General.*

Firing in a vice ... ..	3047/28
-------------------------	---------

**Instructional Appliances :—**

Drawings for instructional purposes ... ..	2501/27
Small torpedo attack tables and models—supply ... ..	301/29

**Nets :—**

Boom defences—clerical procedure ... ..	1128/21
---	---------

**Personnel and Training :—***General.*

Aircraft torpedoes—maintenance in H.M. ships ... ..	1505/24
---	---------

**Recorders :—**

Marks II and III—notice to depôts of requirements ... ..	1724/24
Nose lines for recovery of torpedoes ... ..	3267/29

**Recovery Fittings :—**

“ Nautilus ” indicating device for 21 in. Mark II-IV* torpedoes	1208/28
---	---------

**Reports :—***Cruisers.*

Access doors for ignition delay, Q.R. I and II, T.R. II and D.R. V tubes—fitting ... ..	1418/28
Q.R. II tubes—modification to gyro angling gear bracket ...	699/29

*Destroyers.*

Access doors for ignition delay, Q.R. I and II, T.R. II and D.R. V tubes—fitting ... ..	1418/28
Care and maintenance routines—reports ... ..	2939/29

*Ships—General.*

Access fittings of interrupted thread type—modification ...	698/29
Lifting appliances—periodical examination and test ... ..	712/29
Travel of smoke clouds over the sea ... ..	2108/28
Variable oil nozzle—setting at low speed—report ... ..	2442/29

**Running :—**

Behaviour in a swell or seaway ... ..	1659/23
Losses during practice running ... ..	1932/28

**Smoke Floats :—**

And igniters—survey ... ..	546/26
Painting—only to be carried out at Dockyards ... ..	2754/26

*Type F.*

Description and instructions for use ... ..	1908/26
Periodical reconditioning and examination ... ..	1450/27

**Smoke Screens :—**

Chlorosulphonic acid—properties and precautions ... ..	1154/26
Practice smoke apparatus, Type F.7—periodical examination and reconditioning—report ... ..	2627/27
Smoke curtains laid from aircraft—danger from falling liquid ...	3034/27
Travel of smoke clouds over the sea ... ..	744/28
Travel of smoke clouds over the sea—reports ... ..	2108/28

**Stores and Tools :—***General.*

Enamels for torpedo purposes ... ..	2899/28
Ireland—method of despatch of stores to ... ..	853C/20
Launching in bars—21 in., Mark V, A.T., and 21 in., Mark VII, torpedoes ... ..	2940/29
Stores—containing radium compound—conservation ... ..	1227/29
Storing ports—Atlantic fleet and reserve ships ... ..	1421/24

*Torpedo Control.*

Discs, T.C.—allocation and additional supply ... ..	1357/27
Gyroscope adjusting tables—modification ... ..	2302/28
Method of accounting ... ..	1372/27

*Torpedoes.*

Discs I.R. for hydrostatic valves—reintroduction of St. Nos. 989 and 1266 ... ..	3093/29
Light shale oil—cleanliness ... ..	203/29
Springs, elastic rod G.D.G. ... ..	3094/29
Strainers, air and fuel ... ..	597/29
Torpyol—issue ... ..	2303/24

**Torpedo Control :—***Battleships and Battle cruisers.*

Clear range indicators, Marks V, VI, VII and VII*— modification ... ..	2305/27
Clear range indicators, torpedo sights and gyro angle receivers—lining up ... ..	2567/27
W/T—internal communication ... ..	2213/25

*Cruisers.*

Clear range indicators, Marks V, VI, VII and VII*— modification ... ..	2305/27
Clear range indicators, torpedo sights and gyro angle receivers—lining up ... ..	2567/27
Clocks for plotting office—"Kent" and "London" classes	2462/27
Firing arrangements—"H" type pistols—modification ...	2939/28
Gyro compass repeaters—retention in "D" and "C" class cruisers for T.C. purposes ... ..	2953/29
Torpedo control and deflection discs, Mark IV—supply ...	1371/29
Torpedo control and deflection discs, Mark IV—description	1370/29
Torpedo firing pistol, type M—modification ... ..	2179/29
Tube shelters, care in fitting extraneous articles, new con- struction ... ..	650/27
Voice-pipes, telephones and electro megaphones—tallies— "Kent" class ... ..	3047/27
W/T—internal communication ... ..	2213/25

*Destroyers.*

Chadburns mechanical order instruments, opalescent glass dials—method of fitting ... ..	555/27
Firing arrangements—"H" type pistols—modification ...	2939/28
Torpedo control and deflection discs, Mark IV—supply ...	1371/29
Torpedo control and deflection discs, Mark IV—description	1370/29
Tube-ready lamps—alternative method of fitting automatic switch ... ..	741/28

*Ships—General.*

Battenburg course indicator—use for T.C. ... ..	278/25
Communications—nomenclature ... ..	3145/26
Discs, allocation and supply ... ..	1357/27
Sextant rangefinders and inclinometers—discontinuance of supply ... ..	3011/29
Strategical, tactical and navigational plotting ... ..	2989/28
Tactical plotting—standardised system of symbols ... ..	342/27
Torpedo sights—check alignment ... ..	2400/28

*Submarines.*

Plotting board, Mark I—supply ... ..	2957/28
Torpedo order lamp boxes—modification ... ..	1000/28

<b>Torpedoes, 18-inch, Mark VII :—</b>	
<i>Care and Maintenance.</i>	
Air vessels—drainage to prevent corrosion ... ..	1467/29
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1337/28
Repairs and alterations ... ..	891/26
<i>Depth Mechanism and Adjustment.</i>	
Adjustment in a swell or seaway ... ..	1659/23
<b>Torpedoes, 18-inch, Mark VIII :—</b>	
<i>Care and Maintenance.</i>	
Air vessels—drainage to prevent corrosion ... ..	1467/29
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1337/28
Repairs and alterations ... ..	891/26
<i>Depth Mechanism and Adjustment.</i>	
Adjustment in a swell or seaway ... ..	1659/23
<b>Torpedoes, 18-inch, Mark IX :—</b>	
<i>Care and Maintenance.</i>	
Air vessels—drainage to prevent corrosion ... ..	1467/29
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1337/28
<i>Depth Mechanism and Adjustment.</i>	
Adjustment in a swell or seaway ... ..	1659/23
<b>Torpedoes, 21-inch, Mark II :—</b>	
<i>Care and Maintenance.</i>	
Air vessels—drainage to prevent corrosion ... ..	1467/29
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1337/28
Discs, I.R., for hydrostatic valves—precautions ... ..	2880/28
Repairs and alterations ... ..	891/26
<i>General.</i>	
Revision of nomenclature "Marks" ... ..	695/29
<i>Depth Mechanism and Adjustment.</i>	
Adjustment in a swell or seaway ... ..	1659/23
<i>Modifications.</i>	
Body screws ... ..	1705/27
<i>Speeds and Ranges.</i>	
Revised speeds and ranges ... ..	2006/28
<b>Torpedoes, 21-inch, Mark IV :—</b>	
<i>Care and Maintenance.</i>	
Mark IV* S. and IV* S.O.—regraduation of depth indices	596/29
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1337/28
Discs, I.R., for hydrostatic valves—precautions ... ..	2880/28
Repairs and alterations ... ..	891/26
<i>Depth Mechanism and Adjustment.</i>	
Adjustment in a swell or seaway ... ..	1659/23
<i>General.</i>	
Revision of nomenclature "Marks" ... ..	695/29
Mark IV S.O. and Mark IV S.X. ... ..	2440/29
Mark IV* S. and IV* S.O.—regraduation of depth indices	596/29
Variable oil nozzle, setting at low speed—report ... ..	2442/29
<i>Modifications.</i>	
Body screws ... ..	1705/27
Breech blocks—fitting to 21 in., Mark IV S., (S.O.) and (S.X.) torpedoes ... ..	883/29
<b>Torpedoes, 21-inch, Mark V :—</b>	
<i>Care and Maintenance.</i>	
Air vessels—drainage to prevent corrosion ... ..	1467/29
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1337/28
Repairs and alterations ... ..	891/26

**Torpedoes, 21-inch, Mark V—contd.**

<i>Depth Mechanism and Adjustment.</i>	
Adjustment in a swell or seaway ... ..	1659/23
<i>General.</i>	
Revision of nomenclature " Marks " ... ..	695/29
<i>Modifications.</i>	
Body screws ... ..	1705/27

**Torpedoes, 21 in., Mark VII :—**

<i>Care and Maintenance.</i>	
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1837/28
<i>General.</i>	
Revision of nomenclature " Marks " ... ..	695/29

**Torpedoes, 24½ in., Mark I :—**

<i>Care and Maintenance.</i>	
Classification and treatment in depôts and renewal of I.R. gear in ships ... ..	1837/28

**Transporting, Loading and Stowage Gear :—**

<i>Battleships and Battle Cruisers.</i>	
Purchases in warhead magazines ... ..	1285/28
<i>Ships—General.</i>	
Lifting appliances—periodical examination and test—report	712/29
Loading torpedoes on T/B aircraft ... ..	2724/29
Torpedoes—damage on loading—precautions ... ..	1884/29
Torpedo davits and hand winches—disposal ... ..	2129/29
Torpedo striking down davits ... ..	697/29
Torpedo transporting and loading rails—new construction ...	3219/29
Wharftons torpedo purchases—Ramshorn hooks ... ..	2766/28
<i>Shore Establishments.</i>	
Chain purchases for hoisting torpedoes—test loads ... ..	1399/25
<i>Trials.</i>	
Collective protection—purifier cartridges ... ..	436/27

**Warheads :—**

<i>Care and Maintenance.</i>	
Base rings and protecting covers, 21 in., Marks IV—IV* and V—supply ... ..	2098/28
Dents in heads—serviceability ... ..	2165/28
<i>General.</i>	
Warheads for reload torpedoes—" Kent " and later cruisers	1461/29
Warheads primed and fitted—description ... ..	1836/29

**ELECTRICAL SECTION.****Alterations and Additions :—**

<i>A. &amp; A. involving modifications to electric circuits—diagrams required ... ..</i>	
Alterations on ships taken in hand at dockyards for large repairs	4651C/18
Electric circuits re-grouping ... ..	283/23
Electric circuits re-grouping ... ..	746/27
Obsolete circuits, fittings and voice pipes no longer required in	
H.M. ships—removal—reports ... ..	446/25
Ventilation items—procedure ... ..	2890/25

**Batteries and Cells :—**

<i>Charging Arrangements.</i>	
Aircraft accumulators—charging in H.M. ships ... ..	373/26
Batteries of H.M. submarines. Facilities for charging when lying alongside H.M. dockyards ... ..	1217/26

**Batteries and Cells—contd.***General.*

Batteries for range finders, Patts. 3441, 4053, 3442 and 5846	3070/29
Batteries—nickel iron type for Oldham's lanterns ... ..	1428/27
Electrolyte for nickel iron type batteries Patt. 8117 ... ..	2060/28
Main batteries ... ..	2452/29
Primary and secondary cells—reserves—reports ... ..	664/29
Secondary batteries connected to L.P. switchboards— reports, etc. ... ..	1546/29
Ventilation of batteries—report ... ..	1962/29

*Submarine.*

Annual Reports ... ..	2272/23
Batteries, main—sealing materials ... ..	171/27
Batteries—submarine ... ..	3546/26
Batteries—submarines—reports ... ..	3548/26
Batteries—submarine—omission of float indicator and vent inlet fittings ... ..	2348/27
Cell containers ... ..	1304/27
Charging facilities when alongside dockyards ... ..	1217/26
Distortion of terminal studs ... ..	197/28
Enamel for battery tanks ... ..	3248/29
Incidence of cost of repair ... ..	1558/25
Lifting arrangements ... ..	1515/24
Method of securing vertical wooden battens on side of battery tanks ... ..	4568C/18
New main batteries—reports ... ..	3546/26
Precaution to be observed when connecting up cells ... ..	893/29
Refits of s/m batteries—report ... ..	3548/26
Submarine batteries—report ... ..	682/24
Tanks—lining—reports ... ..	1298/28
Ventilation of main batteries ... ..	2370/25

**Bells and Buzzers. See Communications.****Books, Confidential, O.U., etc. :—**

Certain periodical torpedo publications—withdrawal ... ..	1772/28
Emergency sets of books—establishment battleship sets ... ..	1678/29
O.U. 6137—Electrical equipment in H.M. ships—corrections— reports ... ..	1328/27
Statements of Electrical Instruments—forms not now required	1475/29

**Boxes—Junction, Section, etc. :—**

L.P. circuits, junction boxes, etc., fitted with channel type terminals for V.R. cables ... ..	1156/29
Looping-in boxes, Patt. 3825, utilisation in lieu of Patt. 3824 ...	194/27

**Breakers and Contactors :—**

Branch breakers, oil type, 50/250 amp. ... ..	1223/29
Branch breakers for action services ... ..	3216/28
Breakers and contactors—spare operating coils ... ..	1652/27
Operating coils—reports ... ..	2356/29
Overheating of brush contacts—breakers—battleships, etc.— reports ... ..	2178/28
Supply breakers, branch breakers and contactors of Messrs. Whipp & Bourne's design ... ..	3160/28, 1842/29

**Cables :—**

Accidental drilling of electric cables ... ..	1218/26
Boiler rooms—re-wiring ... ..	1772/25
Cable insulated with fire resisting material ... ..	1286/26

*Electric :—*

And fittings—method of securing in turrets and on bulk- heads in wake of gun blast ... ..	8105/29
Electrical flexible conductors—eyelet terminal ends ... ..	2357/29
Electric, and wires—protection against damage ... ..	3260/27
Electric cable—instruction as regards to issue ... ..	214/29
Description on demands ... ..	1526/27
Removal of ventilation trunk by burning—damage to ... ..	192/28
Revision of standard specification for rubber insulated cables—report ... ..	8265/28
Running and fixing ... ..	2895/28



**Cables—contd.**

Forbes log cables ... ..	752/28
Gun mountings—electric circuits ... ..	105/28
Lead of cables in turrets ... ..	2196/29
Main electric cables of H.M. ships—reports ... ..	1680/27
Main flexible cables—lead into turrets ... ..	653/29
Multicore flexible cables, director tower—slack and twist, etc.	2735/29
Multicore for low power circuits ... ..	1889/26
Paper insulated multicore cables—procedure when fitting to sealing ends ... ..	1444/29
Portable—electric hand lamps and apparatus with flexible cables—precautions ... ..	953/27
Removal of electrical apparatus from ships in Reserve—preservation of cables (dockyard) ... ..	2327/27
Tinsel-corded flexible cable for telephones Mark IV, IV* and IV** trial—report ... ..	3183/29
Wandering leads—issue of improved types of cable for trial—report ... ..	2450/29

**Cells. See Batteries.****Compasses. See Gyro.****Communications, Internal (except Telephones) :—**

H.A.C.S.I. for 4 in. armament—fitting a buzzer, Patt. 4819, etc.	2682/29
Wire gongs, N.7 and control lamp boxes for H.A.C.S.I. ... ..	2739/29

**Defects :—**

Electric gear—repairs to spare parts ... ..	1939/24
---	---------

**Director System. (Not Firing Circuits.)**

Director elevation receivers, P.XIII type—defects ... ..	3209/28
Director firing gear in store—reports—dockyards ... ..	1631/29
Director firing gear—Modification without Admiralty approval ... ..	2180/29
Director firing gear, spares and replace parts—demands ... ..	1558/28
Director firing gear, 4 in. H.A. III and IV mountings, supply and fitting director operating gear and director receivers in ships to be fitted with H.A.C.S.I.—reports ... ..	2531/29
Director firing gear—8 in. elevating receivers ... ..	1780/29
Director firing installation—spare parts ... ..	2796/25
Drainage of H.A.C.S. director support ... ..	1148/29
Elevation and training receivers, 16 in.—6 in. (new type), 8 in. and 4.7 in. (new type)—power operated relay gear ... ..	1419/28
Failure of receivers ... ..	213/27
Installation—“Adventure” type—director elevation receivers—defects ... ..	2403/28
Installation—control towers—arrangement for excluding water—“Kent” class—reports ... ..	939/29
Motor director receiver—lining up clutch—modifications ... ..	645/28
“M” type transmitters, Mark II, high and low angle directors—“Nelson,” etc. ... ..	2106/28
Secondary armament director installation—spares allowance ... ..	1882/22
6 in. gun control towers—fitting of range receivers ... ..	1749/28

**Drawings :—**

As fitted drawings—supply to ships after reconstruction or large repair ... ..	2539/29
D.E.E. and D.T.M. drawings—distribution by dockyards ... ..	2305/24
Dimensions of schedule drawings of electrical apparatus—procedure ... ..	2713/29
Electrical drawings—revision and new construction ... ..	970/28
Electrical machinery, etc., removed from H.M. Ships—“as fitted” drawings ... ..	3104/22
Drawings for ships building and circulation ... ..	2900/29
Issue of drawings prepared by D.E.E. Dept. ... ..	611/26

**Drawings—contd.**

Procedure with main and sub-contractors—provision of drawings—report ... ..	1992/28
Torpedo, mining and electrical drawings for instructional purposes—reorganisation (books) ... ..	2501/27
36 in. and 18 in. searchlight—wiring diagram ... ..	2690/29

**Dynamos :—***General.*

British Westinghouse turbo-dynamos—undercutting of commutators and steel shrunk rings... ..	2353/26
De Laval turbo electric generators—instructions for care and maintenance ... ..	1653/27
Main dynamos—additional safety device ... ..	1432/28
Overspeed device for turbo-generator sets ... ..	1276/29
Supply breakers for steam and Diesel-driven dynamos—overload and time lag settings ... ..	701/28
Temperature detectors for dynamos and large motors ... ..	2111/28

**Electrical Subjects—General :—**

Accessibility and preservation of makers' nameplates ... ..	2133/27
Action look-outs—instruction and training, H.A.C.S.I. ... ..	2341/29
Action organisation—stationing of ship's company—peace and war complements ... ..	110/29
Ball and roller bearings in electrical machines—lubrication ... ..	2461/27
Electrical apparatus for ships—hastening Admiralty delivery ... ..	1293/29
Electrical defects in H.M. ships—reports ... ..	1745/29
Electrical equipment in ships—care to be taken when painting ... ..	1155/29
Electrical fittings—protection from salt water ... ..	131/29
Electrical installation in ships—responsibility of torpedo and engineer officer ... ..	2060/29
Electrical installation in ships—training of stoker ratings at sea ... ..	2982/29
Electric generating stations—production and supply of electric energy—reports ... ..	432/21
Electric welding ... ..	1731/20
Electrical energy—supply from shore systems—economy ... ..	2124/23
Electrical equipment—requests for spare gear ... ..	1009/28
Electrical fittings for use in exposed positions on H.M. ships ... ..	1573/28
Electrical fittings or parts—losses ... ..	723/25
Electrical gear—repairs to spare parts ... ..	1939/24
Electrical machinery—supply of spare parts ... ..	3402/23
Electrical supply to H.M. ships—unauthorised interference ... ..	1338/27
Gun mountings—electric circuits ... ..	105/28
Identification of electrical machinery ... ..	2511/23
Improvements in habitability in hot weather—H.M. ships ... ..	1747/29
Inspection of selected electrical apparatus of H.M. ships... ..	1744/29
Insulating materials ... ..	2888/25
Insulation tests on electrical circuits and fittings of vessels after completion or large repairs ... ..	1550/25
Jigs and gauges and part of apparatus (ex Admiralty property) arising at contractors' works—disposal ... ..	2455/25
Lubricants of electrical machinery ... ..	1751/29
Machinery and electrical spare gear and machinery parts on deposit for vessels sold or to be sold ... ..	992/20
Motor or generator shafts—removal of ball or roller bearings ... ..	334/28
New construction—confidential nature ... ..	1324/29
Patents—record of ... ..	1295/24
Proving cupboards in bakeries—heating arrangements—report ... ..	3181/29
Reduction of temperature in cable passages ... ..	66/29, 2897/29
Removal of electrical apparatus from ships in Reserve—preservation of cables. (Dockyard) ... ..	2327/27
Repairs, alterations, and additions to H.M. ships—restriction of ... ..	3046/29

**Emergency Fittings and Gear :—**

Emergency electrical supply arrangements ... ..	2809/25, 1010/28
Secondary lighting and emergency lighting—definition of terms ... ..	83/28

**Evershed :—***Installation.*

Alteration in cruisers—control for standard temporary high angle for star shell gun control—reports ... ..	1421/28
Control for standard temporary H.A. control system, etc. ...	2767/28
Eversheds system in ships ... ..	1837/28
Gun control, also telephone and buzzer communication for star shell gun control—modifications ... ..	3221/29
Needham shakers in Evershed gun and S/L control systems—work of fitting to be deferred for certain systems—reports ... ..	765/26
Rangefinder transmission—reports—“ London,” etc. ... ..	1048/29
Revised standardisation — battleships and battle cruisers ... ..	2713/27, 1617/28
S/L control abolition of transmission from gun to Evershed S/L transmitter ... ..	2302/29
Star shell deflection gear box, etc.—alteration to Evershed transmitter connections when box is fitted ... ..	2454/29
Training through blank arcs—3 in. and 4 in. H.A. guns ...	1638/27

*Instruments.*

Provision of repeat O.F.Is. from the director and control positions at the captain's transmitters—report ... ..	1537/29
---	---------

**Exchanges. See Telephones.****Fans :—**

Electric table fans—general instructions in regard to issue ...	1282/29
Motors—internal ventilation—report ... ..	135/29
Orbit table fans, “ Veritys ”—hardening of lubricating wicks ...	1608/29
Table fans of unauthorised patterns—supply of spare parts ...	3555/26
Ventilating fans—fitting ... ..	1417/24
Ventilating systems in H.M. ships—trials ... ..	950/25
Ventilation fans—marking—report ... ..	2266/24
Ventilation system—care and maintenance ... ..	1724/23
12½ in.—fitting anti-vibration washers, etc. ... ..	2800/29

**Fire Control. (Except “ Director,” “ Evershed ” and “ Henderson.”)***Communication (not telephone).*

Battleships—report ... ..	806/29
Fire control—range and G.D.T.—“ Hawkins,” “ D,” “ E,” and “ C ” class cruisers ... ..	2718/27
Gongs and buzzers for 16 in., 6 in. and 8 in. fire control systems, “ Nelson,” etc. ... ..	2606/28
Standardisation of transmitting stations ... ..	419/29

*Concentration.*

P.I.L. equipment and communications ... ..	22/26
--	-------

*General.*

Fire control instruments—inspection for acceptance ...	5881C/17
--	----------

*High Angle.*

Anti-aircraft fire control—H.A.C.S. systems ... ..	2699/29
Control system, Mark I—arrangement for supply of power for operating the system ... ..	1149/29
Star shell deflection gear box and gyro compass control—method of fitting to Eversheds transmitter, etc. ... ..	3093/28

*Instruments (various).*

Angle of sight or range dials, R.F.—illumination ... ..	3148/28
Carbon brushes and transmitter drums in deflection calculator (Elliott's), Patts. 9206-9215, replacement—report ...	2403/29
Counter drum instruments of Messrs. Barr & Stroud manufacture—action when internal mechanism is defective ...	2768/28
Director control towers, 16 in. and 6 in.—range elevation and deflection units—spare gear—instruments for use ... ..	2987/29
Director, 6 in., P.XIII type elevation receivers ... ..	3098/29
Dreyer fire control tables—spare transmitter drums ... ..	2453/29
Fire control tables—repairs—spares ... ..	891/28
Fire control tables, Mark I, II, III, units E. and F.—necessity for careful drill ... ..	3208/28

**Fire Control—contd.***Instruments (various)—contd.*

Fire control tables—resetting of range cut-outs ... ..	2726/29
Fire control tables—spare gear lamps, etc. ... ..	658/29
Fuze setting receivers, Patts. 9802, 9803, 9804—tests, H.A.C.S.I. ... ..	2728, 29
Gyro firing gear—examination and adjustment of Hender-son's relay ... ..	2446/29
H.A.C.S., Mark I, control table—lamp for grid illumination	1328/29
Inclinometer communications between spotting top and 13.5 in. transmitting station ... ..	2943/29
Instruments—inspection—reports ... ..	1575/28
Instruments—return of particulars ... ..	2076 27
Modification to gyro bearing indicator—battleships, etc.—report ... ..	998, 29
“M” Type Fire Control Transmitters—spring balance for testing brush pressure ... ..	2287/29
Periscope and Aldis lamp—removal ... ..	2142/29, 2311/29
P.I.L. equipment and communications ... ..	1829/29
Power operated turret danger signal, enemy bearing indi-cator control instruments—care and maintenance—report	2141/29
Rangefinders and optical instruments—dessicators—motor driven—reports ... ..	380/29
Slide rule for use with Hill fuze predictor ... ..	529/29
Small torpedo attack table and model of British and foreign war vessels—supply—London ... ..	301, 29
Stripping and checking after assembly—instruments ... ..	1375/29

*Synchronous Gear.*

Instructions for fitting, adjusting and lining up ... ..	441/28
“M” type motors—lining up ... ..	2567/27
Motor director receiver—lining up clutch—modifications ... ..	645/28
Lag of training transmission in alteration of course—report	3178/29
Synchronous transmission gear ... ..	1049/29
Synchronous transmission units—defective “M” type motor brakes ... ..	1536/29

*Table.*

Fire control tables—packing for transport ... ..	976, 26
--	---------

**Firing Circuits :—***Breach Safety “Change-over Contacts.”*

Bridging—destroyers—reports ... ..	941/29
C.O. contacts—modification ... ..	2132/29
Care and maintenance of contacts ... ..	1143/28
Replacements of single by double contact interceptors on 5.5 in. and 6 in. C.P. XIV mountings ... ..	1562/28

*Director.*

Change-over pistols—“Nelson,” “Kent” and later classes	2169/28
Destroyers and flotilla leaders—importance of maintaining in good condition ... ..	3052/23
Firing gear spares and replace parts ... ..	748/29
Firing gear, 16 in., 8 in. and 6 in., elevation and training receivers—modified pointers—report ... ..	3099/29
Installation—adjustment of gyro firing gear ... ..	1600/29
Replacement of firing arc switch by junction box and single core cable—destroyers and flotilla leaders ... ..	2715/28

*Guns.*

Abolition of “C” connections ... ..	2989/27
Breach contacts ... ..	90/27
Breach safety contacts—allowance of spares ... ..	1280/26
Cable connections ... ..	277/27
Change-over contacts—4.7 in. guns ... ..	2458/27
Gun mountings—4 in., H.A. III, IV—Modification to depression safety firing gear ... ..	1267/29, 1378/29
Paxolin insulators for locks, interceptors, etc.—care and maintenance ... ..	3123/24
Tube testing device ... ..	799/27
Wiring connections from pistols in officers' cabinet, etc. ... ..	500/28
15 in. and 13.5 in. guns—interceptors ... ..	2537/25

**Forms, Electrical :—**

S.316—reporting difficulty in obtaining stores ... .. 774/22

**Generators :—***Miscellaneous.*

Motor or generator shafts—removal of ball or roller bearings. 334/28

**Gyro Compass :—**

Commutator type transmitter for gyro compasses—report ... 2038/29  
 Equipments—"Birmingham" and "Lowestoft" ... .. 1224/29  
 Gyro compass azimuth repeaters ... .. 2953/29  
 Gyro compass equipment—components required during overhaul  
 at dockyard and Slough—accounting procedure ... .. 2541/29  
 Gyro compass—rotor bearings ... .. 2032/29  
 New commutator 10-minute transmitter ... .. 2354/27  
 Patt. 1504 commutator type transmitter for gyro compass—  
 supply and method of fitting ... .. 1577/28  
 Repeater cards—trial of mica cards ... .. 2190/28  
 Repeaters—responsibility for testing ... .. 2402/27  
 Scraping and polishing of binnacles ... .. 1895/29  
 Transmitter, Pattern 1504—supply to vessels with sets, Type 113  
 and 116 ... .. 2020/28

**Henderson :—***General.*

Henderson firing gear—replacement of Mark I sets by  
 Mark IV—allocation of modified sets ... .. 2818/28  
 Weekes type special fuzes for Henderson alternating panels 600/28  
 Wiring—completion in destroyers in reserve ... .. 3390/23

**Instruments :—***Measuring.*

Moving coil, ammeters and shunts—adjustments ... .. 1220/28

*Miscellaneous.*

Contact tester—trials—report ... .. 2907/29  
 Electrical fittings or parts—losses ... .. 728/25  
 Optical instruments—landing ... .. 956/29  
 Threaded parts of aluminium alloy fittings—protection from  
 corrosion—reports ... .. 481/29  
 Torpedo order lamp boxes ... .. 1000/28

*Navigation.*

Bottom logs ... .. 1451/29  
 Chernikeef logs—pamphlets to H.M. ships ... .. 2831/28  
 Chernikeef logs—spring contact for impeller ... .. 2749/29  
 Echo sounding gear—selection of position ... .. 2084/29  
 Forbes log ... .. 2193/24  
 Forbes log cables ... .. 752/28  
 Forbes log—fitting—submarines ... .. 2958/28

**Lamps and Lamp Fittings :—***General.*

Defective incandescent lamps in H.M. ships—samples to be  
 returned—report ... .. 2731/28  
 Incandescent lamps—frosting ... .. 1379/27  
 Lamp fitting for illuminating of gun sighting telescopes,  
 including Aldis, telescopes, Pattern G.344 ... .. 2718/28  
 Lamp holders and tops of E.L. fittings—Bakelite insulators 1476/29  
 Lamps, 15 volts, for illumination instruments—new Patt.  
 No. 9890 ... .. 1165/29  
 Lamps, type A\*\*, electric, dan buoy—report ... .. 3019/29  
 Micanite bases in lighting fittings ... .. 200/29  
 Portable electric hand lamps and apparatus with flexible  
 cables—precautions ... .. 953/27

**Lamps and Lamp Fittings—contd.***General—contd.*

Portable magazine lanterns, Patt. 4690 ... ..	819/29
S/L indicating lamps ... ..	1607/29
Shaydolite ... ..	47/26
Submarines—steaming light fittings ... ..	3222/27

*Metal Filament.*

Patt. Nos. 6621, 6622 and 7911 to be mounted vertically ...	668/26
---	--------

**Lighting (Internal). (Except Lamps.)**

Looping-in-bases for electric light fittings—method of wiring ...	2624/27
Secondary lighting and emergency lighting, definition ...	83/28

**Motors :—***General.*

Electric motors—temperature—report ... ..	591/28
Electrical equipment in ships. Provision of name plate to suit electrical plant... ..	2896/28
Indicating instruments for motors—ammeters ... ..	2241/28
Magazine and shell room—cooling machinery—reports ...	809/29
Main motor field coils—“H” class submarines ... ..	1219/28
Main motor starting resistance of Messrs. Whipp & Bourne design—repairs—“H” class ... ..	2411/28
Main motors ... ..	2898/29
Micanite for insulating segments for large commutators—dockyard ... ..	873/29
Mincing machines—first outfit of spare parts ... ..	1509/28, 2971/28
Motor bearings—responsibility for design and construction... ..	1371/24
Motor driven mincing machines—care in handling ... ..	2772/28
Motor or generator shafts—removal of ball or roller bearings ... ..	334/28
Temperature detectors and large motors... ..	2111/28

**Navigation Lights :—**

Navigation bow lanterns—replacement of coloured shades—report ... ..	705/28
Oil navigation lanterns fitted with electric interiors—provision of adaptors—report—Use of Reflectors ... ..	1662/29
Pilot lamp box for navigation lamps—reports ... ..	3217/28
Submarines—steaming light fittings ... ..	3222/27

**Personnel and Training :—***Ratings.*

Work by Naval ratings during refits ... ..	215/21
--	--------

**Pumps, Submersible :—**

Portable A.C. submersible pumps—starting ... ..	2872/25
Submersible salvage pumps—reports ... ..	2894/29

**Radiators and Heating Units :—**

Electric radiators in shore establishments ... ..	232/21
---	--------

**Resistances :—**

Flat ribbon resistances—method of mounting ... ..	2895/29
---	---------

**Ring Main :—**

D.P. ring main switches—improved spring contacts ... ..	304/25
Ring main switch boxes—packing used when secured to compartment with oil fuel stowage ... ..	253/29

**Searchlights :—***Barrels.*

New type of focusopes, Mark III—trials—report—instructions ... ..	589/29
Searchlight—diverged beams—reports ... ..	2734/29
Searchlight iris shutter motors—defects—lubrication ... ..	2830/28
Searchlight Mark II—mirror frames ... ..	2109/29

**Searchlights—contd.***Carbons.*

Agreement with General Electric Co. for supply ... ..	3367/24
Carbons for S/L Projectors in contract built ships ... ..	1226/29
Method of assigning Pattern Nos. to new carbons ... ..	810/28
36 in. S/L carbons—stowage ... ..	1841/29

*Control.*

Approved type of Chadburns gear boxes, etc., to be used ...	1171/26
Binoculars—S/L control—allowances ... ..	3055/28, 3013/29
Evershed searchlight control positions—revised standardisation (“Iron Duke” class) ... ..	2888/27
Evershed searchlight control positions—revised standardisation (“R.S.”, “Q.E.”, “I.D.” and “Repulse” classes, “Hood,” “Tiger” and Dockyards) ... ..	2713/27
Lamp, gong and indicating light circuits, approved arrangements ... ..	3259/26

*General.*

Searchlights—Use against aircraft at night ... ..	1277/27
24 in. rod controlled S/L fitted with remote control of iris shutter ... ..	483/29

*Lamps.*

Automatic S/L lamps—burning and adjusting ... ..	1965/29
H.C.D., Marks III, IV and V, burnt off 220 volts, modified motor circuit ... ..	1755/28
H.C.D., Mark IV and V, S/L lamps—re-allocation ... ..	198/29
H.C.D., Mark IV S/L lamps—special spanner for screws fitted ... ..	3271/29
H.C.D. S/L lamps, Mark V and VI, time gauge ... ..	1788/29
H.C.D. S/L lamps—spare part boxes ... ..	3113/29
Mark IIIB searchlight lamp—report ... ..	2896/29
S/L lamps, Mark III, H.C.D. ... ..	2952/29
S/L lamps, Mark VI H.C.D. recarboning levers ... ..	1158/29
36 in. S/L projectors, Mark III ... ..	1547/29

**Signalling :—**

Fog horns—introduction of new pattern ... ..	258/29
Masthead and yard-arm flashing lanterns—arcing at the keys ...	132/29
V S masthead and Y.A. lanterns—modification to wiring—introduction of emergency all-round circuit ... ..	1296/28
V S daylight signalling projector—loan to merchant ships ...	3090/28
V S recognition lamps—position ... ..	1383/29
V S 10 in. signalling projectors ... ..	1132/26
Yard-arm flashing, etc., lanterns—introduction of new design—report ... ..	1299/26

**Stores, Electrical :—**

Admiralty grade—empire tubing ... ..	1834/28
Aldis lanterns, Patts. 5110, 5110A and 7006—issue ... ..	2732/28
Aluminium silicon alloys, etc.—specification of impurities ...	148/28
Ball and roller bearings and steel balls—fresh standing contract	2755/29
Ball and roller bearings, steel balls, procedure for demanding, etc. ... ..	2089/27
Breakers and contactors—spare operating coils ... ..	1652/27
Carbon brushes, Patt. 8983—introduction ... ..	2316/29
Central storekeeping—revised and additional valuation allowances	212/29
Clips for electric cables—abolition of steel ... ..	1670/29
Consumable stores—cost price—ships operating central store system ... ..	3025/29
Copper for electrical purposes, specification ... ..	68/27
Course recorders—Brewerton type ... ..	3069/26
Defective electric lighting fittings of Patt. 3800 series—procedure for replacement ... ..	900/29
Director firing gear spares and replace parts—demands ... ..	1558/28
Electric cable—description on demands ... ..	1526/27
Electrical fittings for use in exposed positions on H.M. ships ...	1573/28
Electrical equipment—requests for spare gear ... ..	1009/28
Fire, torpedo and searchlight control—method of accounting ...	1372/27

**Stores, Electrical—contd.**

Fire control instruments—returns of particulars ... ..	1133/27
Gear reported for disposal ... ..	2792/28
Insulating oil, Patt. 109—purposes for which suitable, etc. ...	1772/25
Junction boxes for L.P. services—clamping strips for channel terminal blocks ... ..	2351/28
“Magicoal” fires—replacement of damaged spinners and burnt out heating elements ... ..	1397/29
Magnetos—spare parts—reports ... ..	1833/28, 1160/29
“M” type motors—allowance of spares ... ..	3127/27
Mica and micanite ... ..	109/25
Mincing machines—first outfit of spare parts ... ..	1509/28, 2971/28
Motor sounding machine—disposal of silencing arrangements ...	1673/29
Motors “M” type—disposal of airtight tins ... ..	2561/29
Naval stores containing radium compound ... ..	1227/29
N.S. director firing and fire control gear—erection or fitting on board by contractor ... ..	2944/28
Nickel silver sheet—percentage of nickel ... ..	903/29
Peculiarly liable to deterioration from damp or dust—protection	1171/28
Ready-use storerooms in centrally stored ships ... ..	43/26
Resistance wires for elements of electric soldering bits—particulars ... ..	1017/29
Ships paid off into dockyard control for large refit, Naval stores and fixtures ... ..	605/26
Sockets and plugs, Patt. 8138-9—modification of design ... ..	3233/29
Sockets, switch sockets and plugs of obsolescent type—replacement ... ..	2089/29
Stores—reporting difficulty in obtaining on Form S.316 ... ..	774/22
Surplus electrical equipment and spare gear ... ..	273/24
Torches—supply ... ..	1486/29
Turret danger signal gear—head of charge ... ..	1865/29
Varnish for insulation—trial by dockyards ... ..	3232/26
Weekes type special fuzes for Henderson alternating panels ...	600/25
Window glasses for diffused system of illumination—quality and supply—fire control and director instruments lighting ... ..	190/29

**Switchboards :—**

Branch breaker switchboard control units—fuzing of indicating lamps ... ..	2753/25
--	---------

**Switches :—**

Automatic multiple control “off” switches for use with hangar fire pump motors ... ..	2694/29
Call-up arrangements—Electro-megaphone communication E. room and B. room, etc. ... ..	2736/29
Change-over switches for L.P. circuits—reports ... ..	1274/29
Combined twin ring main and dynamo fuze release switch ...	2451/29
Don switches—replacement of Patt. 4422 ... ..	3232/29
Fire pump and alarm rattler control switches ... ..	2304/29
Flood switch, “Emerald” type ... ..	2680/28
Rotary switches—component parts for repair of insulating bases	1559/29
Rubber part of switches and other small fittings—preservation	976/29
Tube ready lamp circuits—fitting of automatic switch ... ..	741/28
Twin D.P. ring main and dynamo fuze release switches—modification—examination ... ..	231/29, 2451/29

**Telephones, Navyphones and Exchanges :—***Electro-Megaphones.*

Electro-megaphones—adjustments ... ..	467/26
Electro-megaphones—voicepipe attachment ... ..	861/27
Telephones and electro-megaphones—tallies in control positions ... ..	3047/27

*Field.*

Telephone stores for use with field gun batteries ... ..	593/26
Telephone stores for control of machine guns ... ..	594/26
Telephone stores for use with .303 guns for R.M. ... ..	595/26
Telephone stores for field gun batteries... ..	2629/26



**Telephones, Navyphones and Exchanges—contd.***General.*

Call-up arrangements, electro-megaphone communications—	
E. Room and B. Room, etc. ... ..	2736/29
Telephone systems at dockyards and establishments ... ..	103/28
Two-wire telephone exchanges ... ..	3106/29
Two-wire telephones in H.M. ships—revision of wiring diagrams ... ..	2331/29

*Telephones.*

Relays for electro-megaphone circuit—"Kent" class—supply arrangements ... ..	2906/29
Repeating coils for coupling ships' two-wire telephone exchange systems to shore systems ... ..	2677/28
Telephone transmitters, Patt. 9260—measures for carbon brushes, Patt. 9259 ... ..	1275/29
Two-wire telephone system—incorrect wiring of line relay boxes ... ..	1157/29

**Torpedo :—**

"H" type firing pistol—modification to prevent earths occurring	2939/28
Torpedo firing pistol, type "M"—modification ... ..	2179/29

**Torpedo Control. (Except Evershed's) :—***Instruments, Range.*

Gyro bearing indicators—surrender—reports ... ..	1972/29
Modification to gyro bearing indicators—battleships, etc.—report	998/29

**Torches. See Lamps—Hand Lamps.****Trials :—**

Contact tester—trials—report ... ..	2907/29
Trials of new material—method of rendering reports ... ..	629/27
Wandering leads—issue of improved type of cable for trial—reports ... ..	2450/29

**Ventilation. See Fans.****Wiring :—**

Boiler rooms—re-wiring ... ..	1772/25
-------------------------------	---------

**MINING SECTION.****Depth Charges :—***Books.*

O.U. 5365, Priced Vocabulary of Armament Stores—instructions ... ..	2888/26
---	---------

*Charge cases.*

Split flanges—fire first ... ..	369/25
---------------------------------	--------

*Equipment.*

And communications—all classes ... ..	2675/27
Communications—fitting ... ..	2796/29
Fitting ... ..	1836/29
Hydraulic release gear—emergency couplings and springs ...	294/29
Hydraulic tubing ... ..	2010/28
Preparation of equipment drawings ... ..	3175/26
Throwers—annual examination ... ..	97/27
Throwers—re-assembly of safety gear ... ..	711/29
Throwers, returns of—examination ... ..	720/25
Trials. See Trials.	

*Exercises.*

Procedure for notification of obstructions or restrictions of traffic ... ..	107/29
Restrictions on dropping ... ..	2976/29



## W/T AND V/S INDEXES.

### W/T, etc.

#### Anti-Submarine :—

A, S Oscillators—issue and return for repair	663/29
Apparatus—safe custody of	1225/26
Asdics, 4,000 volt generators—biennial test	3017/29
Domes of destroyers—treatment	3231/29
Exercises—amplification of report	2671/28
General instructions for exercises with S/Ms.	1452/29
Hydrophone installations—models U.C. and U.D., trials, etc., during refit—reports	135/28
Hydrophone installations—unauthorised alterations	20/28
Signal injectors for A/S installation	2903/28
Types 112—117—use of D.E. valves with amplifiers M.7 and M.20	3111/29
Types 114, 115 and 116—salinity testing apparatus	941/28

#### Direction Finding :—

Cape Guardafui wireless station—D/F bearings—reports	118/28
Correction disc for conversion of true to mercatorial bearings	589/29
Direction finding sets in new construction—initial calibration	665/27
Pattern 8404, tuner A.41 for D/F model outfit S.D.—introduction and allocation	1354/28

#### Equipment of Ships :—

Aldis lanterns, Patts. 5110, 5110A and 7006—issue	2732/28
Anti-gas equipment, Mark II respirator—wearing of headphones	1365/27
Battery cupboards in W/T offices—cooling	2694/26
Battery outfits	2956/29
D/C target ship—modifications	2798/29
Damage to main aerials	1013/29
Daylight signalling projectors—loan to merchant ships	3090/28
Deck insulators, groups AB to AE—fitting in existing ships	1555/29
Drawings for ships building—circulation	2900/29
Earthing fittings on masts and yards	1284/26
Echo sounding gear—selection of position	2084/29
Electric cables—running and fixing	2895/28
Electrical equipment in H.M. ships—care to be taken when painting	1155/29
Electrical equipment in H.M. ships—provision of nameplates for electrical plant adapted to suit service other than for which originally supplied	2896/28
Electric motors—temperatures—reports	591/28
Fire control communications—standardisation of transmitting stations	419/29
Flat roof aerial	3000/29
Freighting oilers managed by the Admiralty—maintenance	438/29
H.M. Submarines—confidential fittings	2397/29
Indicating instruments for motors	2241/28
Mast-head and yard-arm flashing lanterns—arcing at the keys	132/29
Model UC and UD—responsibility for upkeep and accounting for stores	749/28
Repairs, alterations and additions to H.M. ships—restriction of	3046/29
Secondary lighting and emergency lighting—definition of terms	83/28
Short wave sets—fitting policy	132/28
Signal mast—removal	1663/29
Swivel chair for W/T cabinet—introduction	1752/29
Type 45/2—suspension of purchase and fitting	507/28
Type 71—fitting of warning notice	3382/26
Type 83—electric shock—report	2725/27

**Equipment of ships—contd.**

Valves, glass, transmitting, in S/W—precautions to be taken ...	2938/27
Ventilation of W/T offices, central receiving rooms, silent compartments and cabinets in H.M. ships ... ..	2694/26
V/S—modification to wiring of masthead and yard arm signalling lanterns—introduction of emergency all-round signalling circuit ... ..	1296/28
V/S—recognition lamps—positions ... ..	1383/29
W/T and V/S signalling apparatus—fitting in H.M. ships in home dockyards—responsibility for inspection ... ..	803/28
W/T apparatus—safe custody of ... ..	1225/26
W/T office lobbies—light excluding scuttle ventilators—report ...	1080/27

**Fleet Air Arm :—**

Aircraft accumulators—charging in H.M. ships ... ..	373/26
Equipment—precautions ... ..	2070/26
Fire on aircraft—precautions ... ..	1421/26
Transmitters—Type 21A ... ..	1420/26
W/T instruments in aircraft—failure owing to damp ... ..	4/28

**Internal Communications :—**

Internal communications ... ..	2213/25
Remote control attachment—fitting of to new patt. morse key ...	2084/27
W/T, etc.—internal communications—categories ... ..	3145/26

**Messages :—**

Fleet exercises, firing, etc.—notification to local authorities ...	41/29
Merchant vessels—control of W/T in time of war ... ..	1355/29
Messages relating to Fleet Air Arm aircraft—use of cypher ...	1319/26
Messages transmitted by service W/T routes—waiving of charges in respect ... ..	1188/29
Signalling between H.M. ships and merchant vessels ... ..	108/29

**Personnel :—**

Acting sub-lieutenants—courses ... ..	1644/29
Administration of ships at home ports ... ..	2115/29
Advanced (S) course—syllabus ... ..	6/24
Advancement—recommendations on history sheets ... ..	180/29
Advancement to leading telegraphist—educational qualifications	2041/28
Anti-submarine specialists' course—revised syllabus ... ..	1257/29
Ceremonial for the observance of Armistice Day ... ..	6/29
Eyesight standards for R.N., R.M. and R.F.R.—supply of glasses to certain ratings ... ..	2334/28
Naval history—annual examination ... ..	361/29
Naval observers—duties, syllabus, course, etc. ... ..	405/29
Paymaster Cadets—training on entry and syllabus of instruction	921/28
Royal Naval Shore Signal Service—conditions of entry and rate of pay, future entries ... ..	3264/29
Royal Navy and Royal Marines—re-entries ... ..	2040/28
Seamen and signal ratings—entry in H.M. coastguard ... ..	2931/29
Signalmen and telegraphists—shortening of revisional courses ...	517/29
Signal Specialist course—syllabus ... ..	3243/26
Telegraphist ratings—course and examination for Postmaster-General's certificate ... ..	927/29
Torpedo specialist course—revised syllabus ... ..	1255/29
W/T ratings—arrangements for exercise, etc. ... ..	2463/26

**Publications :—**

Emergency sets of books—establishment ... ..	1673/29
O.U. publications and books of reference supplied for distribution—accounting ... ..	319/29
O.U. 5327 (2)—W/T Receiving Handbook—amendments ... ..	2492/29
Publication of technical information ... ..	98/29
Rail transport regulations ... ..	2812/29
School reference libraries ... ..	2469/29
W/T waves—designation—kilocycles ... ..	129/29

**Receiving Apparatus :—**

Heterodyne units, K.5, Patt. 6373—Introduction and Patt. 6373B—modification	866/27
Heterodyne units K5, Patterns 6373A and 6373C—allocation—report	1667/29
Heterodyne units, K.5—Patt. No. 6373C—calibration	1832/28
Patt. 6207B Amplifier M3B—supply	1792/29
Patt. 6373C heterodyne unit K.5—modification when fitted with dull emitter valves	306/29
Patt. 7302 coil, coupling, for Patt. 6373C heterodyne unit K.5—modification	3009/28
Patt. 7460 amplifier M.5, Patt. 7461 tuner A.5, Patt. 7483 tuner A.11 and Patt. 7484 amplifier M.11—allocation	1579/28
Patt. 8403 tuner amplifier B.8, slow motion condenser dials—adjustment	3094/28
Private wireless apparatus—installation in Admiralty buildings	137/29
Receiving models—re-tests of stocks at Yards—reports	1600/26
Supply of model outfit Q.L. to certain sloops, river gun boats, etc.	1976/29
W/T instruments—design and marking—use of the term “Kilocycles/second”	2083/29
W/T receiving and transmitting valves—seals not to be broken till valves are required for use	761/29

**Reports :—**

Acting Sub-Lieutenants' courses—report	2279/29
Auxiliary vessels	302/26
Cape Guardafui wireless station—D/F bearings—reports	118/28
Electric motors—temperature—reports	591/28
Heterodyne units K5, Patts. 6373A and 6373C—allocation—report	1667/29
Hydrophones and other S/T receiving equipment (including echo sounding gear) in H.M. ships—periodical reports	1754/28
Model outfit S.A. and hydrophones—interference—reports	3155/28
Office lobbies—light excluding scuttle ventilators—report	1080/27
Masts and yards—Painting with aluminium paint to prevent burning—report	2193/29
Receiving models—re-tests of stocks at Yards—reports	1600/26
Type 30A portable W/T sets—allocation of 1928 purchase—report	206/29
Types 35, 35S, 36 and 36S—modification to signalling circuits—reports	2999/29
Types 37, 38, 44 and 88—supply of Patt. 7324 key, magnetic—report	1280/29
Warning telephone outfits—report	208/29

**Shore Stations :—**

Buildings—interference or obstruction of defences	1870/29
Cape Guardafui wireless station—D/F bearings—reports	118/28
Foreign Consular Officers—enquiries by	57/28
Masts and yards for flagstuffs—inspection	3008/28
Masts at W/T stations—surveys	1969/27
Wireless telegraph stations—expenditure	2988/28

**Short Wave :—**

Fitting of short wave receiving apparatus—policy	947/29
Glass transmitting valves—precautions to be taken	2938/27
Short wave sets—fitting policy	132/28
Type 36A—conversion from Type 36 by ships' staffs	1571/28
Type 36S—conversion	1272/29
Type 36S, Patt. 6807A, board 2G controlling—revised diagram plate	895/29

**Signal and Remote Control Communications :—**

Buzzer and remote control lines in destroyers fitted or to be fitted with Type 37	339/28
Fire control office—extension of main buzzer line	1323/29
Signalling requirements—introduction and allocation of Patt. 3 message carrier	139/29
Warning telephone outfits—report	208/29

**Sound Telegraphy :—**

Echo sounding gear—responsibility for fitting and maintenance	1625/28
Fessenden oscillators	456/28
Hervey-Gardner signalling apparatus (Model UC)—removal	2359/28
Hydrophone cables, bungs, packing glands	597/28
Hydrophone diaphragms	593/28
Hydrophone equipments—revised procedure for contract purchase and cancellation of schedule drawings	954/29
Hydrophone installations—nomenclature	2239/28
Hydrophone installations, Types 703, 704 and 505—supply of dessicators, Patt. 9947	2410/29
Hydrophone plate receiver, Mark IV	1500/28
Hydrophones and other S/T receiving equipment (including echo sounding gear) in H.M. ships—periodical reports	1754/28
Model outfit S.A. and hydrophones—interference—reports	8155/28

**Stores :—**

Amplifier M.5, Patt. 7460, tuner A.5, Patt. 7461, tuner A.11, Patt. 7483 and amplifier M.11, Patt. 7484—introduction and allocation	1579/28
Gear losses	1422/24
Hektograph lists of Naval stores for W/T installations, etc.—supply	2070/28
Insulator, deck group N—introduction	3523/25
Model UC and UD—responsibility for upkeep and accounting for stores	749/28
New procedure in regard to main sea store establishments and lists of particulars—abolition of ship's warrant	1494/28
Patent and Design Act, 1919, Section 8—record of unpatented inventions	1295/24
Pattern 1307 aerial wire—supply in lieu of Pattern 519	541/29
Patt. 7642 switches, charge—discharge, 15 amps.—increase of allowance as flotilla spares	3015/29
Pattern 8383 condenser and Pattern 8568 handle—method of taking on charge	1480/29
Port war signal stations—reserves of Naval stores required to equip on mobilisation	2417/28
Private wireless receiving sets—irregular use of Admiralty stores	1225/28
Re-issue of partly worn W/T valves	225/27
Ships paid off into dockyard control for large refit—Naval stores and fixtures	605/26
Signalling keys, Patts. 1642 and 6585, and covers, Patt. 607—issue	2685/28
Standardisation of transmitting rooms—allowance of additional W/T stores	428/29
Storing arrangements	3066/29
Types 35 and 36—motor alternators	3332/25
Type 37—modification to wiring of filament battery charging circuits	1973/27
Type 40X, allowance of stores	314/25
W/T and A/S stores lent by Signal School, Portsmouth, or H.M.S. "Osprey" to H.M. ships, etc., for experimental purposes—accounting	2744/29
W/T power boards and charging boards—introduction of new pattern ammeters and voltmeters for replacement purposes	758/28

**Transmitting Apparatus :—**

Large Silica valves—packing and transport	2618/28
Marconi $\frac{1}{2}$ -kw. sets—modification	2963/28
Motor generators and armatures, Patterns 7265A, etc.—drying out, etc.	1848/29
Pattern 7468 wavemeter G12—supply	1554/29
Private wireless apparatus—installation in Admiralty buildings	137/29
Re-issue of partly worn W/T valves	225/27
Type 30A, portable W/T sets—allocation of 1928 purchase—report	206/29, 716/29
Types 35, 35S, 36 and 36S—modification to signalling circuits—reports	2999/29
Type 36S—conversion	1272/29

**Transmitting Apparatus—contd.**

Type 37—modification	1322/29
Types 37, 38, 44 and 83—supply of Patt. 7324 key, magnetic—report	1280/29
Type 43—modifications to wiring of power supply	1382/29
Type 45—Patts. 7683, transmitter 4K—modifications to quick wave-changing device—introduction and supply	3063/29
Type 45/2—suspension of purchase and fitting	507/28
Type 47—modification	2950/29
Valve panels, aerial coils, drying out after storage, etc.	1644/26
Valves—glass, transmitting, in S/W—precautions to be taken	2938/27
W/T instruments—design and marking—use of the term Kilocycles/second	2083/29
W/T receiving and transmitting valves—seals not to be broken till valves are required for use	761/29
W/T silica valves, Patt. 6237B, Valve NT23B and Patt. 7201c, valve NU22c—packing	897/29

**W/T in Territorial Waters :—**

British ports—regulations for the use of W/T or telephony by foreign men-of-war and service aircraft	3/29
Esthonia—regulations regarding entry of foreign warships	12/29
Great Britain and Northern Ireland—regulations for visits of foreign war vessels and service aircraft accompanying them	1871/29
Greece—regulations for use of W/T	2767/29
Greece—regulations for visits of foreign aircraft	17/29
Greece—visits of foreign war vessels and aircraft	16/29
Italian ports—visits of foreign war vessels	18/29
Japan—use of W/T by foreign warships	20/29
Kingdom of Serbs, Croats and Slovenes—W/T regulations	27/29
Netherlands—regulations for admission of foreign warships	22/29
Norway—regulations for visits by foreign warships	24/29
Portuguese ports—use of W/T and ceremonial procedure	25/29
Roumania—use of wireless by foreign war vessels	26/29
Soviet Union—use of W/T by foreign vessels	31/29
Spain—regulations for visits of foreign war vessels	34/29
Swedish ports—visits of foreign war vessels and aircraft	36/29
Turkey—visits of foreign warships, etc., to ports	37/29

**V/S****Personnel :—**

Eyesight tests of gunnery and signal ratings, etc.	706C/19
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