

UC-NRLF

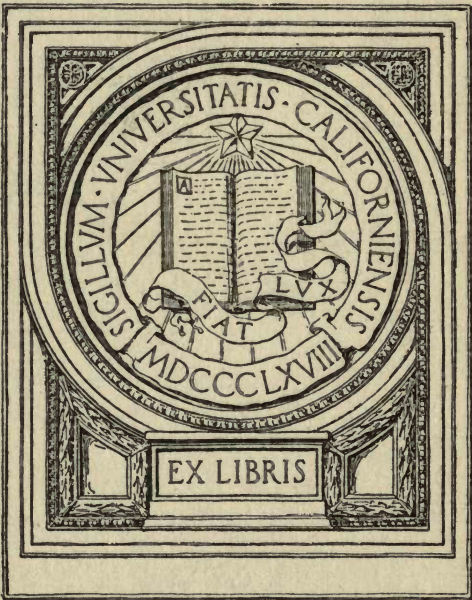


LB 278 631

THE
DECK AND BOAT BOOK
UNITED STATES NAVY
1914

GIFT OF
C. E. Tyrell

blanes



EX LIBRIS

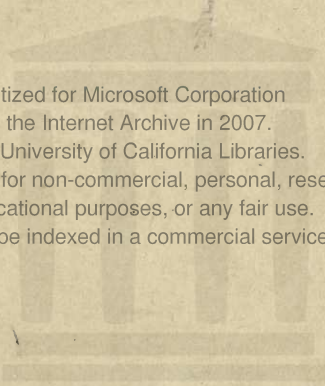
INTERNET ARCHIVE

Digitized for Microsoft Corporation
by the Internet Archive in 2007.

From University of California Libraries.

May be used for non-commercial, personal, research,
or educational purposes, or any fair use.

May not be indexed in a commercial service.



The Deck and Boat Book

of the
United States Navy

NAVY DEPARTMENT

1914

Reprinted July, 1916, with all changes incorporated
Reprinted April 1, 1917, with all changes to January 1, 1917

NAVAL INSTITUTE
ANNAPOLIS

1916

The Deck and Boat Book
of the United States Navy

V 113
A 5
1917

THE DECK AND BOAT BOOK,
Price 45 cents, postpaid.

U. S. NAVAL INSTITUTE,
Annapolis, Md.

Gift of O. E. Tyell
1914

Reprinted July 1917
Revised April 1917

The Lord Baltimore Press
BALTIMORE, MD., U. S. A.

V 113
A 55
1917
Main

NAVY DEPARTMENT,

Washington, D. C., January 20, 1914.

1. The Deck and Boat Book, United States Navy, 1914, is issued for the use of the Navy. The instructions contained herein supersede all others of a similar nature and shall be strictly observed. No changes shall be made without the approval of the Navy Department; but suggestions regarding changes or improvements shall be made, and any errors discovered shall be reported at once to the Navy Department.

2. Deck and Boat Books shall be issued for use on the ship's bridge. No boat expedition shall ever be without a Deck and Boat Book for each boat and the means of making signals. As far as practicable all boats away from their ships on any duty where signal communication may be desirable shall have a copy. Coxswains as well as signalmen shall be thoroughly instructed in its contents.

JOSEPHUS DANIELS,
Secretary of the Navy.

Corrected in accordance with changes in Conventional Signals, effective January 1, 1916.

V 113
A 22
1917
100

NAVY DEPARTMENT

Washington, D. C. January 1, 1917

The Deck and Boat Book, United States Navy, 1917 is issued for the use of the Navy. The material contained herein under the title of a similar nature and shall be strictly observed. No changes shall be made without the approval of the Navy Department; but suggestions regarding changes or improvements shall be made, and any errors discovered shall be reported at once to the Navy Department.

The Deck and Boat Books shall be issued for use on the ships and cruises. No boat expedition shall ever be without a Deck and Boat Book for each boat and the means of making signals. As far as practicable all boats away from their ships on any duty where signal communication may be desirable shall have a copy. Coxswains as well as signalmen shall be thoroughly instructed in its use.

JOSEPH DANIELS
Secretary of the Navy

Corrected in accordance with changes in Conventional Signals
effective January 1, 1917

GENERAL INDEX.

SUBJECT.	PAGE.
INTRODUCTION	7
I BOATS IN GENERAL.....	9
General description	9
Nomenclature	11
II. BOAT GEAR AND EQUIPMENT.....	15
Boat gear	15
Boat box	17
Cooking utensils	18
Provisions	19
Hospital boats	20
Artillery boats	20
Ammunition	21
Senior officer's boat.....	21
III LIFEBOATS	22
At sea and in port.....	22
Notes on lifeboats.....	23
Lowering a lifeboat at sea in bad weather, wind and sea forward of beam.....	24
Hoisting a lifeboat at sea in bad weather.....	26
Method of picking up a man overboard, wind and sea abaft beam	27
Life buoys	27
Signals for lifeboats.....	29
IV. DRILLS AND EXERCISES.....	30
Definitions and general instructions.....	30
Ordinary service under oars.....	34
Commands	34
Handling boats in surf.....	40
Running a line.....	44
Towing	44
Carrying stores	45
Boarding a wreck.....	46
Notes on handling boats under oars.....	46
Boats under sail.....	47
Sliding gunter rig.....	48
Standing lug rig.....	54
Notes on handling boats under sail.....	55
Power boats	60
Armed boat expeditions.....	63
Abandon ship	64

SUBJECT.	PAGE.
V. DETAIL NOTES ON BOAT DUTY.....	66
Duties of boat officer.....	66
Duties of coxswain.....	68
Care and cleaning of boats.....	70
Miscellaneous instructions.....	71
Boatkeepers.....	72
Management and handling of boats.....	73
Abbreviated rules for coxswains.....	74
"Always" to be done.....	74
"Never" to be done.....	75
VI. BOAT SALUTES AND BOAT ETIQUETTE.....	76
VII. RULES OF THE ROAD AND BUOYAGE SYSTEM.....	80
Rules of the road.....	80
Buoys.....	82
VIII. NAVY SIGNAL SYSTEM.....	85
Methods.....	85
Communication with United States Army.....	85
Calls.....	86
Flags and pennants of Navy flag code.....	92
Special flags and pennants.....	95
Man-of-war lights.....	99
Speed indicators.....	99
Signaling with flags.....	101
Signaling by other methods than flag signaling.....	105
The dot-and-dash code.....	105
The wigwag system.....	106
Flashing or occulting light system.....	109
Sound system.....	109
Signaling with steam whistle.....	110
The Ardois system.....	111
The two-arm semaphore system.....	115
The Very system.....	119
Towing signals.....	120
IX. MISCELLANEOUS.....	122
Storm signals.....	122
Life-Saving Service signals.....	123
International signals.....	123
International signals of distress.....	125
To dress ship.....	126
To pass in review.....	127
X. DECK SIGNALS.....	129
XI. BOAT SIGNALS.....	150
BOAT-DRILL SIGNALS.....	150
Formation and order.....	150
Primary movements.....	151
Compass signals.....	154
Evolutions.....	158
Speed.....	159
Distance and interval.....	160
Guide.....	160
Exercise under sail or oars.....	160
Exercise with landing force.....	163
TARGET-PRACTICE SIGNALS.....	165
MISCELLANEOUS SIGNALS.....	176

INTRODUCTION.

1. The Deck and Boat Book contains: Instructions in matters pertaining to boats and boat exercises; rules of the road; United States buoyage system; instructions for making United States Navy signals; international, distress, storm, and Life-Saving Service signals; instructions for dressing ship and for passing in review; deck signals; boat signals.

2. The "deck signals" which shall be so termed for convenience, are nonconfidential general signals reproduced in the Deck and Boat Book for convenient use upon the signal bridge to facilitate smart work in sending and answering, and for the use of Naval Militia and Auxiliary vessels to which the General Signal Book is not supplied.

3. The "boat signals," which shall be so termed for convenience, are provided for intercommunication between ships and boats, and under some conditions with stations and parties on shore. Many of them, especially the (magnetic) compass signals and some of those under "Speed" and "Miscellaneous," are well adapted to communication with tugs and auxiliaries and should be used for that purpose. Supplemented by the deck signals, they form a suitable and fairly complete code for such vessels, which may also be useful for other ships at times. Boat signals should not be made to a vessel where there can be any danger of their being misunderstood as being addressed to her boats. See articles 55-58. As divisions, squadrons, or a fleet will never be called and signaled to by boat signals under conditions of uncertainty as to whether the signal is intended for those units or for a flotilla of boats, no confusion can arise from their calls.

4. Boat signals are divided into three classes, as follows:

- (a) Boat-drill signals.
- (b) Target-practice signals.
- (c) Miscellaneous signals.

5. Boat-drill signals have been reduced in scope from those of previous signal books. In the fleets of the present day the handling of boats by signals has of necessity been reduced to simple exercises under oars and sail and the movements necessary to handle a number of ship flotillas (generally in tow of power-propelled boats) in making or preparing for landings. These signals are arranged under the subheadings "Formation and order," "Primary movements," "Compass signals," "Evolutions from column," "Evolutions from column of ship or division flotillas," "Evolutions from line," "Evolutions from line of ship or division flotillas," "Speed," "Distance and interval," "Guide,"

"Exercise under sail or oars," "Exercise with landing force." The evolutions as signaled are all performed by the oblique or direct method; rectangular evolutions, if desired, can be performed by the necessary individual signals for each movement.

6. **Target-practice signals** will cover all general situations of gun and torpedo target practice. Special temporary codes may still be necessary to meet the requirements of special phases of firing and will be provided in the special instructions governing such firings. These signals are arranged alphabetically. All that apply to torpedo practices are grouped under "Torpedo."

7. **Miscellaneous signals** comprise all boat signals not included in classes (a) and (b) of article 4. They are arranged alphabetically, including references to the subdivisions of (a) and (b).

8. It should be borne in mind that boats are in general not well adapted to the use of flag signals and therefore that the semaphore and wigwag systems should be used when practicable for transmitting boat signals. The megaphone may also frequently be of convenient use in flag boats in place of visual signals.

9. In general the rules for signaling prescribed in the Introduction to the Signal Books hold where practicable in making deck and boat signals. The rules are reproduced in this book so far as needed, with some modifications which apply only to the use of this book; among these the following will be observed: Ship flotilla flag boats repeat signals unless otherwise directed, but other boats and all vessels using only the Deck and Boat Book acknowledge by showing the answering pennant, boats using a hand pennant; the compass signals indicate magnetic courses and bearings; night signals to boats are answered by a hand lantern or torch or Very's red star.

CHAPTER I. BOATS IN GENERAL.

10. The following instructions concerning boats and boat service, boat salutes and etiquette, the handling of boats under varied conditions, etc., are essentially taken from the Boat Book of 1908, corrected to date to conform with authorized changes, such as relate purely to seamanship having been taken originally from either Knight's Modern Seamanship or Luce's Seamanship (Ward) 1895.

11. The term "power boat" as used in this book and in all signaling applies to boats propelled by any mechanical power, such as steam or internal combustion engines or electric motors; the two last-named types are specifically termed, respectively, motor boats (of various kinds) and electric boats (of various kinds).

12. Vessels of the United States Navy are supplied with one or more of the following classes of boats:

Steamers.	Motor whaleboats.
Motor boats.	Dinghies.
Sailing launches.	Dories.
Motor sailing launches.	Motor dories.
Cutters.	Wherries.
Whaleboats.	Punts, catamarans, etc.

Steam barges or motor barges are furnished flagships.

13. A whaleboat habitually used by a commanding officer and flying his pennant is known as a gig while so employed.

GENERAL DESCRIPTION.

14. General remarks.—The size of ships' boats is indicated by their length in feet; for example, a 28-foot cutter, a 36-foot steamer, etc. The following is the length (in feet) of the boats now supplied to vessels: Steamers, 50, 40, and 30 feet; motor boats of various sizes; motor sailing launches and sailing launches, 50, 40, 36, 33, 30, and 24 feet; cutters, 30, 28, 26, and 24 feet, and a standard 31-foot racing cutter; whaleboats, 30, 28, 24, and 20 feet; dinghies, 20 and 16 feet; motor dories, 21 feet; dories, 17 feet;

wherries, 14 and 12 feet; and punts, 14, 12, and 10 feet. Boats of the various classes are distinguished in each ship by their numbers in each class—first, second, and third steamers; first and second whaleboats, etc.

15. **Steamers.**—All steamers of the regulation type are fitted to mount a light rapid-fire or machine gun in the bow. They are not fitted with sail power, but are fitted with rowlock sockets in the gunwale and should always carry two oars and rowlocks for use in an emergency. Those assigned to the use of flag officers are termed steam barges.

16. **Sailing launches** are heavy working boats, square sterned, and generally sloop rigged. They are fitted to mount a light rapid-fire or machine gun in the bow. They are supplied with oars, and instead of rowlocks they have grommets and thole pins; by double banking the oars a considerable speed may be attained. These boats are specially designed for ships' heavy work, such as carrying stores or large liberty parties or landing force, carrying out anchors, weighing kedge anchors. All sailing launches are now built with engine foundation, shaft log, etc., so that a motor may readily be installed. When motors are installed in sailing launches the boats are termed motor sailing launches. Motor sailing launches are considered primarily as pulling (or sailing) boats, and they have all of the outfit of sailing launches, and, in addition, the running lights, bell, fog horn, etc., required by law. The 24-foot sailing launch is fitted with swivel rowlocks and lug rig.

17. **Cutters** are double-banked, square-sterned boats, with finer lines than launches, pulling 10 or 12 oars, according to size. They are used as running boats and for ship's general duties and are fitted with either sunken or swivel rowlocks. Their sailing rig is the sliding gunter or double standing lug rig, either with or without jib. They are frequently fitted to carry a light rapid-fire or machine gun in the bow. These boats are not being supplied to the newest vessels.

18. **Whaleboats** are double-ended and may be either single or double banked, pulling 6 or 12 oars, respectively. They are used as running boats and for ship's general duties of a lighter character than that assigned to launches and cutters. They are fitted with swivel rowlocks. Their sailing rig is the sliding gunter or double standing lug rig, frequently without jib. In port they are steered with a rudder, but at sea are fitted with a steering oar passed through a steering rowlock on the quarter. These boats are therefore particularly adapted for use at sea and are generally used as lifeboats.

19. **Dinghies** are small handy boats, shaped like cutters, single banked with four oars. They are used as market boats or for

light rough work or ship's light duties. Owing to the small crew required, they are particularly convenient for nearly any light work in port. They carry sails and are sprit rigged.

20. **Wherries** are light handy boats for officers' use. They can be pulled by one man and are not furnished sails.

21. **Punts** are rectangular flat-bottomed boats, intended for painting and general cleaning around the ship's water line. They are fitted with rowlocks on each side, but are usually propelled by sculling.

22. **Catamarans** (or **balsas**) are platforms secured to two hollow floats. They are used for the same purpose as punts, but are less handy. They are really carried on account of their demonstrated value in case of shipwreck. They are fitted with swivel rowlocks and oars, but are usually sculled. Life rafts of various designs are sometimes carried, but no regulation type has been adopted.

23. **Motor boats** are classified as follows:

(1) The barge of a flag officer as a "motor barge."

(2) Service type launches built for heavy duty, and speed and semispeed boats, as "motor boats."

(3) Sailing launches with auxiliary engines as "motor-sailing launches."

(4) Double-ended power boats, whaleboat type, as "motor whaleboats."

(5) Power dories as "motor dories."

NOMENCLATURE.

24. The following are the authorized names of the various parts of a naval boat:

Backboard.—The thwartship board immediately forward of the coxswain's box, placed across the stern sheets of the boat to support the backs of the occupants.

Bilge.—The flat part of a boat's bottom, on each side of the keel, on which the boat would rest if aground. The bilge extends out to where the frames turn upward, which part is known as the "turn of the bilge."

Blade.—The board flattened part of an oar.

Boom.—The long pole or spar used to extend the foot of a fore-and-aft sail; for example, main boom, jib boom.

Bottom boards.—The fore-and-aft strips secured to the frames, forming the floor of the boat.

Brails.—The lines used for hauling the clew of a sliding gunter sail up to the masthead. They are secured to the clew of the sail, lead up through leaders at the masthead, thence down into the boat.

Clew (of a sail).—The lower after corner of a fore-and-aft sail.

Deadwood.—A body of timber built on top of the keel at either end of the boat to afford a firm fastening for the cant frames.

Frames.—The ribs of the boat; curved timbers secured to the keel and extending upward to the gunwale.

Fore sheets.—The portion of the boat forward of the foremost thwart.

Gaff.—A spar used to extend the upper edge of the quadrilateral fore-and-aft sail of a sloop rig.

Gooseneck.—A sort of iron hook, fitted to the inner end of main boom, used for securing the latter to the mainmast. It permits free movement of the boom in any direction, with the gooseneck as a center.

Gripes.—Boat gripes are made of sennit or canvas and go around the bottom of the boat in securing a boat for sea, those for lifeboats being usually fitted with a slip hook. Boat gripes for steamers and sailing launches are made of chain, have a hook or clamp on the rail and are secured to the deck by turnbuckles.

Gudgeons.—Small metal fittings, similar to eyebolts, secured to the stern post of a boat for the rudder to hand on. They receive the pintles and thus support the rudder.

Halliards.—Lines used to hoist and lower topmasts or yards or jib, or the gaff of a sloop.

Handle (of an oar).—The small part of an oar, on the inboard end of the loom, which the oarsman grasps when pulling.

Head of sail.—The upper corner of a triangular sail. The upper edge of a quadrilateral sail.

Heel of mast.—The lower part of the boat's mast; the end of the mast which fits in the step on the keel.

Keel.—The principal timber of a boat, extending from stem to stern at the bottom, and supporting the whole frame.

Leather.—The portion of an oar which rests in the rowlock. This is sometimes covered with canvas, but is usually covered with leather, hence the name.

Loom.—The portion of an oar extending from blade to handle.

Lug rig.—Applied to large quadrilateral sails bent to yards that hang obliquely to the mast; the halliards being secured nearer to one end of the yard than to the other. In the "standing lug" rig used in the Navy, the foretack is lashed or hooked to an eyebolt on the after side of the foremast.

Main boom.—The boom on the mainmast which spreads the foot of the mainsail.

Oars.—Long wooden implements for propelling boats by pulling. Oars consist of blade, loom, and handle.

Painter.—A rope, secured in the bow, for towing or for securing the boat.

Peak.—The upper after corner of a quadrilateral fore-and-aft sail.

Pintles.—Small straight pieces of metal secured to the rudder and fitting in the gudgeons on the sternpost, thus supporting the rudder. In some boats the pintle is a long erect pin on the sternpost fitting in rings or gudgeons on the rudder.

Plug.—The stopper which is placed in the drain hole when the boat is lowered. It should be secured in the boat by a small lanyard or chain.

Rising.—The narrow fore-and-aft strakes inside of a boat, secured to the frames, on which the thwarts rest.

Rowlocks.—Forked pieces of metal in which the leathers of oars rest while pulling. Sunken or box rowlocks are those which are set down into the gunwale of the boat. Swivel rowlocks are movable, the shank of the rowlock fitting in a socket in the gunwale.

Rudder.—A flat board hung abaft the sternpost by means of gudgeons and pintles, used for steering a boat.

Sheer.—The rise of the longitudinal lines of a boat from the horizontal plane, as seen in looking along a boat's side. The curve of the gunwale when compared with the straight water line.

Sheer strake.—The upper strake of the boat.

Sheets.—The lines secured to the clew of a sail, or to the main boom, used to set the sail and hold it in position.

Shrouds.—Lines stretched from the masthead to a boat's rail. They support the mast on each side.

Sliding gunter rig.—A rig for boats in which a sliding topmast is used to extend a triangular sail. As used in the Navy, it consists of two triangular sails (fore and mainsail) and usually a jib. The mainsail is fitted with a main boom.

Sloop rig.—Consists of a large fore-and-aft quadrilateral sail with gaff and boom, also a jib and jib boom.

Sprit rig.—Consists of a single mast carrying a large quadrilateral sail, the peak of which is held out by a light movable wooden boom, called a sprit, which, when in place, extends from the peak of the sail to a stirrup on the lower part of the mast.

Stem.—The upturned portion of the keel, at the bow of the boat, to which the forward ends of the planks are secured.

Step of mast.—A small metal receptacle on the keel in which the heel of the mast rests.

Steering rowlock.—A peculiar form of swivel rowlock, fitted near the stern of a whaleboat, in which the steering oar is shipped. This is sometimes called a crutch.

Stern fast.—A stern painter for use in securing the stern of a boat.

Sternpost.—The principal piece of timber in a boat's stern frame. It is a vertical continuation of the keel at the after part of the boat.

Stern sheets.—The space in the boat abaft the thwarts.

Strakes.—Continuous lines of fore-and-aft planking. Each line of planking is known as a strake.

Stretchers.—Athwartship, movable pieces against which the oarsmen brace their feet in pulling.

Strongback.—The spar lashed to the two davits on which a boat is hoisted.

Tack.—The forward, lower corner of a fore-and-aft sail.

Thrum mats.—Mats made of a small piece of canvas, with short strands of rope yarn sewed on it—called "thrumming." These are placed between the rowlocks and the oars to prevent noise in pulling.

Thwarts.—The seats on which the oarsmen sit.

Throat.—The forward upper corner of the quadrilateral fore-and-aft sail in a sloop rig. Also called the nock.

Tiller.—A bar or lever, fitted fore-and-aft in the rudder head by which the rudder is moved.

Topping lift.—A line used for supporting or hauling up the boom of a fore-and-aft sail.

Trailing lines.—Small lines secured to the boat and around the oars to prevent the latter from getting adrift when trailed.

Yard.—A spar to which the head of a lug sail is attached. The term lug is applied to the forward part of it when it has to be dipped (in some rigs) from one side to the other of the mast in going about.

Yoke.—Athwartship piece fitting over the rudder head, and by which the rudder is moved when the tiller is not shipped.

Yoke lanyards.—Small lines attached to or rove through the ends of the yoke for use in steering when the yoke is shipped.

CHAPTER II.

BOAT GEAR AND EQUIPMENT.

BOAT GEAR.

PULLING-BOATS.

25. The following boat gear shall be carried by pulling-boats at all times, except when special circumstances render it undesirable:

(1) Anchor, with chain, or line, bent and ready for use.

(2) Boat painter.

(3) Stern fast.

(4) One complete set of oars. If swivel rowlocks or thole pins and grommets, which do not permit tossing, are used, each oar must be fitted with a trailing line.

(5) Spare oars for one thwart (fitted with trailing line if the above-described rowlocks are used).

(6) Three boat hooks, except dinghies and wherries, two.

(7) Spars, sails, and rigging, in spar cover complete, ready for use. (Spars and sails are not furnished for racing cutters, dories, or wherries. They are furnished for only one boat on destroyers or torpedo boats.)

(8) Awnings and stanchions if climatic conditions demand. (They are not furnished for racing cutters or dories.)

(9) Boat bucket for bailing and for general use.

(10) Breakers with a quantity of fresh water equal to at least one-half gallon for each person in the crew.

(11) One set of stretchers complete.

(12) A canvas bag containing one boat ensign and staff, a 2-foot red wigwag signal flag and staff, one answering pennant and staff, one boat distinguishing flag and staff, and in the case of gigs a captain's pennant and staff.

(13) Boat compass (when boat is in the water).

(14) Boat box. (Boat boxes are not furnished for dinghies, dories, or wherries, or for boats issued to destroyers or torpedo boats.)

(15) Tin box with cover for cleaning gear.

(16) Key to boat box.

(17) Rudder and tiller, each fitted with a light lanyard.

(18) Plug, secured to keel by a good lanyard or to hull plug fitting by a chain.

(19) One set of rowlocks, and two spare ones (if swivel rowlocks are used), each fitted with a short lanyard.

(20) One set of boat fenders, fitted with lanyards.

26. (1) A tarpaulin and two grapnels fitted with chain or rope are supplied for each boat for use if needed.

(2) When a boat is to be absent from the ship after dark it shall carry a deck lantern ready for use in addition to the boat signal lantern in the boat box.

27. The compass, unless secured in boat, shall habitually be kept in the navigator's storeroom when the boat is not in the water. The remainder of the boat gear shall habitually be kept in the boat. Water in breakers shall be renewed from time to time, to keep it palatable and healthful.

STEAMERS AND MOTOR BOATS.

28. The following articles form the complete equipment of a steamer and a motor boat, and shall be carried at all times except when special circumstances render it undesirable:

(1) Anchor, with chain or line bent and ready for use.

(2) Boat painter.

(3) Stern fast.

(4) Two oars, with rowlocks, or grommets and thole pins.

(5) Three boat hooks.

(6) Boat bucket.

(7) Breaker, filled with drinking water (same amount as for pulling boats, art. 25 (10)).

(8) A canvas bag containing a boat ensign and staff, a 2-foot red wigwag flag and staff, one answering pennant and staff, one boat-distinguishing flag and staff, and, in case of a special boat, appropriate flag or pennant and staff.

(9) Boat compass.

(10) Boat box, complete.

(11) Tin box, with cover, for cleaning gear.

(12) Key to boat box. *Digitized by Microsoft®*

(13) Puddings or fenders.

- (14) Cushions and cushion covers.
- (15) Necessary fuel, lubricating oil, water, etc.
- (16) Lantern, trimmed, filled, and ready for lighting.
- (17) Necessary implements for service of engines.
- (18) Two circular life buoys, one aft and one forward, neatly secured where readily detachable.
- (19) Life jackets in the stern sheets.
- (20) Running lights, fog horn, fog bell, whistle, etc., as required by "Rules of the Road."
- (21) Two hand grappels, fitted with chain or rope.
- (22) A bucket of sand for extinguishing gasoline fires (for gasoline boats).
- (23) A chemical fire extinguisher (for gasoline boats).
- (24) Tarpaulin.

MOTOR SAILING LAUNCHES, MOTOR WHALEBOATS, AND MOTOR DORIES.

29. These boats shall carry the following equipment at all times, except when special circumstances render it undesirable:

- (1) All equipment carried by pulling boats of a similar type.
- (2) Running lights, fog horn, fog bell, whistle, etc., as required by "Rules of the Road."
- (3) A bucket of sand for extinguishing gasoline fires.
- (4) A chemical fire extinguisher.
- (5) Fuel.
- (6) Necessary tools for service of engine.

BOAT BOX.

30. The boat box shall be water-tight, as small as possible, and arranged to go under the thwarts without difficulty. It should be provided with a lock and key, and the boat shall never leave the ship without the latter. It shall contain the following articles:

- | | |
|------------------------|--|
| (1) Ax. | (9) One pair of cutting pliers,
large size. |
| (2) Hatchet. | (10) One brace, with $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$,
and 1 inch bits. |
| (3) Handsaw. | (11) Marlin spike. |
| (4) Hammer. | (12) Palm. |
| (5) Screw driver. | (13) Sail needles. |
| (6) Cold chisel. | (14) Assorted wire nails. |
| (7) Boat calking iron. | |
| (8) Giant tool handle. | |

- | | |
|--|---|
| (15) Assorted screws. | (24) One pound of tallow. |
| (16) Tacks, copper, $\frac{3}{4}$ -inch. | (25) Six candles. |
| (17) Sheet lead. | (26) Safety matches in hermetically sealed box, or large-mouthed bottle with screw top. |
| (18) Two pounds of $\frac{1}{8}$ -inch wire seizing. | (27) Boat signal lantern. |
| (19) Lamp wick. | (28) Bottle, $1\frac{1}{2}$ -pint, illuminating oil. |
| (20) Spun yarn. | (29) Deck and Boat Book. |
| (21) Sail twine. | |
| (22) Fishing lines, hooks, and sinkers. | |
| (23) Lead and line, first 2 fathoms marked in feet. | |

31. The following articles shall be assigned to each boat. They shall be kept in a designated place on board ship, and placed in the boat only when required for drill or service.

(1) One small medical emergency box, containing the following articles and directions for giving medicines:

Antiseptic tablets (bichloride mercury)	bottle	1	Mustard plasters	box	1
Bandages		6	Packages, first-aid		6
Beef, extract	bottle	1	Plaster, rubber	roll	1
Calomel, tablets	do	1	Quinine pills (3-grain)	bottle	1
Cathartic tablets	do	1	Soda, bicarbonate	can	1
Chlorodyne tablets	do	1	Tourniquets, rubber, instant		4
Gauze	yards	2	Vaseline, carbolized	jar	1
Lead and opium tablets	bottle	1	Whisky	bottle	1

(2) One set of arm curtains with fittings complete.

COOKING UTENSILS.

32. These are supplied only when required. For example, at abandon ship they are undesirable complications, excepting a kettle and mess gear. Boat expeditions may or may not require them, depending upon the nature of the service.

33. The cooking outfit for boat expeditions, when it is expected to do cooking in the boat, would consist simply of:

- (1) Galvanized iron bucket, or pan, filled with sand.
- (2) Fuel.
- (3) Iron mess kettle and frying pan.
- (4) Mess gear. At least 6 plates, 6 knives, 6 forks, 6 spoons, 6 cups or bowls.

34. (1) If cooking in the boat is anticipated, additional portions of the ration, such as butter, salt, pepper, sugar, coffee, etc., would be necessary.

(2) These can be most expeditiously supplied by the man who provides mess gear, if they are to be supplied in small quantities. If providing for a considerable force ashore, the amounts of each shall be carefully determined and provided by the commissariat.

(3) In actually abandoning ship, the man providing mess gear should provide a small amount of these items, if landing is probable, since, though no cooking will be done in the boat, they might be necessary on shore.

PROVISIONS.

35. (1) The amount of provisions and water carried under various circumstances will depend upon the probable length of service and the probable requirements of the expedition.

(2) Bread, if carried, will be carried in water-tight tins. These should be supplied in wooden boxes, in order to preserve the tins intact.

(3) Fresh water is carried in breakers containing 8 gallons each.

(4) Canned meats, if carried, will be in wooden boxes in which shipped.

(5) The specially prepared "emergency abandon-ship rations" are packed in tins, 10 tins in a wooden box, and each tin containing 1 day's ration for 1 man.

(6) Coffee, tea, sugar, and salt, if for a small expedition, are carried in small waterproof packages; if provided by the commissariat for a considerable body of men, in the original cases in which received on board ship.

(7) Other portions of the Navy ration may be carried in actual service, when time and circumstances permit.

36. (1) Except in an emergency, such as abandon ship, the commissary officer will ration men leaving the ship, having in mind the character of the service and probable time of absence from the ship.

(2) The following is suggested as a basis per 100 rations:

	100 rations.
Bread (hard or soft).....	pounds 100
Corned beef (canned)	do. 75
Baked beans (canned)	do. 45
Coffee (roasted and ground)	do. 8
Sugar (granulated)	do. 15
Tomatoes (canned)	do. 100
Salt (table) ..	do. 2
Pepper (black)	ounces 4

37. Abandon ship provisions.—

(1) *Rations*.—There are generally supplied special "Emergency abandon ship rations" (see art. 35 (5)). When these are not provided, the abandon ship ration is 1 pound of hard bread and three-fourths pound canned meat. In either case there shall be kept ready for use abandon ship rations for each officer and man of the ship's complement sufficient for $1\frac{1}{2}$ days in the case of battleships, battle cruisers, and armored cruisers, and for 3 days in the case of all other vessels.

(2) *Water*.—The amount of water carried in breakers for abandon ship is based upon the number of men that can be carried at one time in the ship's boats. The allowance per man on this basis is one-half gallon on battleships, battle cruisers, and armored cruisers, and $1\frac{1}{2}$ gallons on all other vessels.

HOSPITAL BOATS.

38. (1) The boat with the ambulance party shall carry the medical officer and a large medicine chest containing stimulants and medicines. Each article shall be labeled in English and distinctly marked, with directions for administering and quantity of dose, in terms that any one can understand. The medical officer shall also take a set of surgical instruments, stretchers, and other necessary surgical conveniences.

(2) The hospital boat shall carry no arms whatever, and shall fly a Red Cross flag on a staff in the bow.

ARTILLERY BOATS.

39. (1) If gun is to be used in boat only, artillery boats shall carry the following:

Boat gun-mount, complete, secured to deck plate.

All implements for service of the gun.

Box of accessories and spare parts.

Ammunition.

In short, the same supplies should be provided as are required for the service of the gun on board ship.

(2) If gun is to be landed—

Field carriage, with all implements for service of the gun.

Shifting spar, grommet, and lashing, and skids or other means for landing the gun.

Haversack for landing armorer's tools; also accessories, spare parts, and all articles necessary for the service of the gun.

Ammunition.

(3) If gun is to be used both in the boat and on shore, both the boat mount and field carriage shall be provided, and accessories, spare parts, etc., as above enumerated.

(4) The equipment of the artillery boat for drill shall be in all respects the same as if the gun were to be fired in battle.

AMMUNITION.

40. Ammunition shall be carried in the chests in which supplied. The amount will be specified in every case and will depend upon the nature of the service. The following is the minimum amount to be supplied:

3-inch field gun.—Filled ammunition boxes (32 rounds).

1-pounder R. F.—Filled ammunition box (60 rounds).

Benet-Mercié or Colt.—1000 rounds.

Rifle.—100 rounds for each rifle.

Pistol.—48 rounds for each pistol.

SENIOR OFFICER'S BOAT.

41. The boat conveying the commander of the expedition shall carry the means for efficient communication with other boats, and, if practicable, with the ship. When available a boat radio set should be used; otherwise acetylene signal lamps. A box of Very's stars and a supply of rockets may be useful for prearranged signals.

CHAPTER III.

LIFEBOATS.

AT SEA AND IN PORT.

42. At sea.—(1) When at sea, every ship shall at all times keep on each side, ready for lowering, a boat which is best adapted as a lifeboat.

(2) At the beginning of every watch at sea the officer of the deck shall have the lifeboat crew of the watch mustered abreast the lee boat, and the coxswain of the lifeboat crew of that watch shall satisfy himself by personal inspection that *both* lifeboats are ready for lowering and shall report the fact to the officer of the deck.

(3) A lifeboat is secured for sea, i. e., ready for lowering, when in the following condition: Boat at the davits, griped in, falls clear, detaching apparatus ready for detaching at the word, steering oar shipped in crutch, oars fitted with trailing lines and ready for getting out quickly, rowlocks shipped and fitted with lanyards, plug in, sea painter half-hitched around thwart, life lines bent to span, life jackets in boat, lantern filled and trimmed (and at night lighted), and all other articles of the boat equipment in the boat and ready for use, with two days' water and provisions for the crew. When the coxswain of the lifeboat crew of the watch reports a lifeboat ready for lowering, it is understood that the boat is in the above condition and that the crew of the watch have been mustered, each man abreast his own thwart (or station) of the lee boat and that each man understands his duties at "Man overboard." In lowering, the officer or coxswain in charge of the lifeboat will give the command for detaching.

43. In port.—(1) The United States Naval Instructions require that "In port one or both lifeboats shall be kept ready for immediate use from sunset until colors the next morning." Hence when there is no suitable boat in the water ready for immediate use as a lifeboat, at least one boat suitable for this purpose must be kept ready for instant lowering. This is particularly necessary when the boats which are in the water are heavy and unwieldy or are so secured that they could not be quickly used in an emergency or in rough weather or in a strong tideway.

(2) Owing to its handiness, a dinghy is well suited for use as a lifeboat in port in good weather, and under such conditions it may be designated as the lifeboat for port service. The boats designated for use as lifeboats in port are required to carry only the usual equipment for boats in port, but the gear must be in order and ready for instant use, and the lantern must be ready in the boat for lighting, or else a lighted lantern ready for use must be kept at hand on deck.

NOTES ON LIFEBOATS.

44.—(1) Lifeboats should be griped securely against their strongbacks, with chafing pads between the boat and the strongbacks, and the gripes, secured by toggle or pelican hook, ready for instant freeing.

(2) If gripes stretch and become slack, they should be set up taut.

(3) At night, boat falls should be coiled down on deck, clear for running; during the day the coils may be triced up to davit with becket and toggle.

(4) The sea painter is led from a point well forward on the ship, outside of everything, and secured to the inboard side of the forward thwart in such a manner that it can be readily cast off; if necessary, it is stopped up out of the water by a rope yarn.

(5) The knotted lifelines, one for each member of the crew, hang from the span for the use of the crew in case of accident in lowering or hoisting.

(6) The life jackets should be placed, one under each thwart and one under the stern sheets, and each man in the lifeboat shall put one on before the boat is lowered. This is necessary because of the danger of the boat swamping alongside in rough weather.

(7) If the lantern is not provided with a shutter, it shall be fitted with a canvas screen, and when lighted and not in use shall be put in the boat bucket.

(8) Lifeboat crews for each watch are designated on the ship's station bill. When a lifeboat crew is mustered, the men shall muster in line abreast their boat (or the lee boat) in the order of their thwarts, facing inboard; men stationed to lower will be abreast their respective davits, and shall personally see that the falls are clear.

(9) The proper members of the crew shall be permanently stationed for unhooking the falls, tending the sea painter, and for performing other duties in connection with lowering. The lifeboat crew of the watch, including the men stationed for lowering, for observing the man, for signaling, etc., are not to leave the weather deck without permission, except for meals.

(10) At night the lifeboat crew of the watch, and other men stationed in connection therewith, shall remain near their stations.

LOWERING A LIFEBOAT (Or Other Boat) AT SEA IN BAD WEATHER (With Wind and Sea Forward of the Beam).

45. (1) At the call "Man overboard" (which may be given by word of mouth or sounded on the bugle) every member of the lifeboat crew of the watch goes to his station on the *run*. The lee lifeboat should be manned. If there is any doubt about which boat is to be lowered, the officer of the deck immediately indicates it by the command "Clear away the starboard (or port) lifeboat."

(2) The men take their seats on the thwarts; each man immediately puts on a life jacket, gets his oar ready, and then, if not otherwise engaged, seizes a life line as a safety precaution in case of accident.

(3) If there is not a good lee, the officer of the deck shall make one by altering the course of the ship. It is customary to bring the sea a little on the bow, but in this position the lee for the boat is far from perfect, as the ship will roll and pitch considerably, and the waves wash along the lee side. Some seamen prefer to bring the sea on the quarter rather than on the bow, while others advise lying in the trough of the sea, notwithstanding the heavy rolling. The best position will doubtless depend upon the build and trim of the ship, and the nature of the sea. (If in formation, the ship shall be handled as directed in the Fleet Tactics.)

(4) Oil should be used in any case, both ahead and astern of the boat.

(5) The ship should be kept moving slowly ahead. A sea painter, from well forward, should be brought into the boat through the inboard bow rowlock, and a turn taken around the inboard end of the forward thwart.

(6) To keep the boat from swinging, frapping lines may be passed around the falls, the ends leading inboard, to hold the boat close in to the side as it is lowered. In some ships, jackstays with traveling lizards are fitted from the davit heads to the side of the ship. A turn of the lizard is taken under a thwart, or around the standing part of the fall, and the boat is held near the side, as by the frapping lines above described. Under no circumstances should the lizard be secured to the boat so that it could jam; the end must be held in the hand.

(7) The great danger, both in lowering and immediately afterwards, is that the boat will be dashed against the ship's side. A sea painter brought in on the inner bow of the boat, as already described, helps to sheer her off as she strikes the water. The coxswain sheers the bow out by throwing the *stern in* with the steering oar as the boat strikes the water.

(8) The after fall is always unhooked first.

(9) Under no circumstances, short of the most imperative necessity, should a boat be lowered while the ship has sternway; and it is always *desirable* to have a little headway. There is much difference of opinion as to the speed at which it is safe to lower a boat—an important question in picking up a man overboard. Some officers having seen boats lowered without accidents at speeds as high as 8 and 10 knots, maintain that it is perfectly safe to lower at this speed. A more conservative view fixes the maximum at something like half this speed. It is safe to say that there is far less danger at 5 knots than 10, and most practical men would prefer to wait a little longer rather than to take the chance of having to deal with a whole boat crew in the water.

(10) When all is ready the officer of the deck, or the officer in charge of the lowering, commands "Lower away together." The bow and stroke oars tend the falls to keep them clear and to keep the blocks from striking other members of the crew when let go. In case the tumbler hook is used, these men grasp the tumbler lanyard, and as soon as the boat is water borne, unhook the fall, in case it is not unhooked automatically. Should the boat not be supplied with detaching apparatus, these men unhook the boat falls—*the after fall first*—as soon as possible after the boat touches the water. Men in the waist thwarts hold the boat off, if the ship is rolling. The second bowman tends the sea painter, which is hauled taut and brought in through the inboard bow rowlock before lowering. He takes a turn with the painter around the thwart, holding the end in his hand; it should never be made fast.

(11) In lowering a boat the falls must invariably be lowered together, and in rough weather smart lowering may be required.

(12) If the boat is held in by lizards traveling on jackstays, or by frapping-lines around the falls, some of the men in the waist should breast the boat off the ship's side with the boat hooks, being careful to hold the butt end above the outer gunwale to avoid danger of the boat being driven against it and its staving a hole in the planking.

(13) It is well to have an ax or hatchet handy in case anything should jam at a critical time.

(14) When the boat is a short distance from the water the officer of the boat, or in his absence the coxswain, lets go the detaching apparatus, or gives the command "Let go." If the boat is not fitted with detaching apparatus, as soon as boat is water borne, the boat officer or coxswain commands "Let go the after fall," then, "Let go the forward fall." The coxswain gives the boat a sheer out. The greatest danger occurs at this instant, as

there is always a danger of the boat being dashed against the ship's side. For that reason the coxswain should give the *stern a sheer in*, to get the *bow out*. The strain on the sea painter assists to sheer the bow out. When clear of the ship's side, the officer or coxswain directs the second bowman to cast off the sea painter; thwartmen get out their oars as soon as possible, and the boat makes the best of her way to the rescue.

HOISTING A LIFEBOAT (OR OTHER BOAT) IN A SEAWAY.

46. (1) The same general principles of seamanship apply as in lowering. It is preferable for a ship to have a little headway on in case she is under way. The important point is to keep the boat off the ship's side to prevent it being injured.

(2) The boat comes alongside, a lee having been made for her, and in case of a heavy sea oil should be used freely. Oars are boated, before getting alongside, as soon as possible after receiving the sea painter, which should always be hove to her.

(3) The bowman seizes the seapainter and takes a turn around the forward thwart. The boat should then be hauled under the davits by manning the sea-painter on deck.

(4) Tend the ship carefully to retain a lee.

(5) Frapping lines, traveling lizards, etc., will, if necessary, be used as in lowering. Similarly, thwartmen will, by the use of boat hooks, keep the boat from swinging against the ship's side.

(6) If the ship has considerable way on, a line should be led from the stern of the boat to a point well aft on the ship, to prevent the boat from lurching forward when she leaves the water.

(7) The boat falls should be well overhauled, led along the deck so that the men have a clear hauling space, and *they must be well manned*. The boat should never have to wait for preparations on deck.

(8) All being ready on deck, stand by, wait for a smooth time, hook forward, then aft, haul taut, hoist away. Men should run away with the falls as the ship rolls toward the boat, which should be run up quickly but steadily. If the winch is used, the falls should be taken around the barrel, which should be turning at the desired speed before the order "Haul taut" is given.

(9) Boats fitted with automatic releasing hooks should have their falls rove off in one, single leaders at the davit heads, and the blocks must be of sufficient size to permit the falls to render easily.

A METHOD OF PICKING UP A MAN OVERBOARD (Particularly With Wind and Sea Aft the Beam).

47. (1) The following method of picking up a man, in good moderate or rough weather, with a quick-turning steamer, commends itself to many seamen:

(2) At the call "Man overboard" ascertain the position of the man, put the rudder hard over, toward him, so as to throw the stern away from him, and handle the engines so as to make a short turn without stopping. If possible, stop the engine on the side on which the man falls, so that he will not be struck by the propeller.

(3) As the ship turns, clear away and man the lifeboat which is to be lowered, at the same time keeping a good watch on the man; his approximate position will be marked by the life buoy. As the ship approaches the man, toward the end of the turn, maneuver her so as to bring her just to windward of him, and slow the engines so that she will not have too much speed for lowering when she reaches this position. Lower and let go with such precautions as wind and sea demand; stop the ship or get her in position to leeward of the man.

(4) The advantages of this method are:

(a) That the boat may be dropped near the man, so that the coxswain can steer straight for him without being signaled to.

(b) That there is plenty of time to get the boat ready for lowering, and consequently less risk due to haste.

(c) That the boat has a short leeward pull to the man, and while the interval before the boat is in the water may be longer, the interval before it reaches the man would generally be shorter.

(d) That the officer of the deck has better control for regulating the speed at which he is to lower the boat.

(e) That the interval between the alarm and lowering the boat being greater, there is less chance of accident from excitement and confusion.

(f) That by turning after the boat has been lowered the boat will have a pull to leeward after picking up the man.

LIFE BUOYS.

48. (1) In connection with "Man overboard," attention is invited to the regulations concerning life buoys.

(2) The Naval Instructions require that at all times at sea, and where anchored in a strong tideway in port, an efficient person be stationed to let go the life buoy. Except in small ships, one man is usually detailed for each life buoy. These men also act as lookouts, and it is important that they clearly understand their duties.

(3) Men on this post must realize that should a man fall overboard his life will depend largely upon the intelligence and alacrity with which they perform their duty. They must, therefore, know (a) *how* to let go the life buoy; and (b) *when* to let it go.

(4) Ordinarily life buoys are let go by pulling a toggle, which releases the buoy, allowing it to fall in the water. Should it not fall of its own accord it is probable that a slight blow will cause it to do so. The men on that post should, however, understand how to cause it to drop in case the toggle carries away, the mechanism jams, or the buoy fails to fall through any cause. They must, above all, understand *that the buoy must be dropped immediately in some way*, and that it is insufficient for them to simply make a routine effort to drop it, and then report that they can not do so. To familiarize the men on this post with the operation of the life buoy it is well to have them present occasionally when the gunner tests the life buoys in making preparations for sea.

(5) The question as to *when* to let the life buoy go requires intelligence and composure. A cool, intelligent lookout will let the buoy drop within a few feet of the man overboard, while if somewhat excited, or if he does not clearly understand his duties, he may drop it long before the man is abreast the buoy, or long after he has passed.

(6) At the call "Man overboard," the life-buoy lookout should endeavor instantly to ascertain the side on which the man fell and to *get sight of him*; then drop the buoy as soon as possible *after* the man is abreast the buoy, so that it will be between him and the ship, toward which he naturally faces and swims.

(7) If the man can not be seen, the look-out can usually determine the side on which he fell, as he will see many of the people about decks go to that side. Then, to avoid the possibility of dropping the life buoy on the man (instances are recorded where men have thus been killed) the opposite buoy should be dropped when judged to be abreast the man in the water.

(8) If the man is sighted after the first buoy is dropped, and it is then seen that the second buoy can be dropped nearer to him, it should be let go; but as a general rule the second buoy should be kept fast (unless it is really needed) for use in case men fall overboard in lowering or hoisting the lifeboat.

(9) The above instructions are for the guidance of the life-buoy lookout in case he hears no orders and must, therefore, act upon his own initiative. He shall, of course, strictly and promptly obey any commands that he may receive from proper authority, regardless of the above instructions; but as the life buoy, to be of use, must be dropped promptly, the lookout must clearly under-

stand that if no orders have been received by the time it is necessary to drop it (as indicated above), he must drop it at once.

(10) Modern vessels are so large, and life buoys so far removed from the officer of the deck, that it is important that the life buoy lookouts clearly understand the above general principles, and then, in the absence of orders, that they be governed by their common sense.

(11) After dropping the buoy, the lookouts should keep the man in sight until the persons specially detailed for this purpose reach their station in the after rigging, and get the bearing from the life-buoy men. If one lookout is attending both buoys, it would be unwise for him to leave his station to go into the after rigging as a lookout, but if there are two life-buoy lookouts, each may be permanently stationed to go in the rigging and keep a lookout on the man after his own buoy has been let go.

(12) Life buoys should be dropped frequently when the crew are in swimming, in order to familiarize the men with their use.

SIGNALS FOR LIFEBOATS.

49. (1) Signalmen, previously detailed, man the rigging and keep their eyes on the man in the water. Signals hoisted at a yard-arm indicate the direction the boat must pull. Numeral 1 (numeral flag over "Quack") directs the boat to pull to the right of the line looking from the ship to the boat; numeral 2, to pull to the left of the line from the ship to the boat; numeral 3, to pull straight away from the ship; numeral 0, to pull straight toward the ship. These (day) signals shall be obeyed without answering.

(2) At night these same numbers, made by Ardois, shall be used; or, in the absence of a signal set, Very's night signals shall be used, as follows: Red star instead of No. 1; green star instead of No. 2; a bracket instead of No. 3; and a rocket instead of No. 0. At night the boat will acknowledge signals by flashing the lantern.

CHAPTER IV.

DRILLS AND EXERCISES.

DEFINITIONS AND GENERAL INSTRUCTIONS.

50. The term "ship flotilla" applies to the unit formed of the boats from one ship. Normally it will consist only and entirely of boats from one ship, though at times it may be convenient for drill or other purposes to transfer one or more boats from one flotilla to another temporarily in order to equalize the units especially for towing.

51. A "division flotilla" is composed of the ship flotillas of one division when operating together as a unit.

52. A "squadron flotilla" is composed of the ship flotillas of one squadron when operating together as a unit.

53. A "fleet flotilla" is composed of the division flotillas of the fleet when operating together as a unit.

54. (1) For tactical purposes, the boats of each ship shall be numbered consecutively, beginning with No. 1.

(2) These numbers shall be assigned in succession beginning with the power boats (first, second, third, etc.), then sailing launches (first, second, etc.), then cutters, whaleboats, barges, gigs, and dinghies, each in the order of their ship's numbers.

(3) Each boat shall fly at drill a white distinguishing flag in the bow. This flag shall be rectangular, 26 by 18 inches, with the ship's call letters and the boat's number painted upon it in black letters and figures to read from staff to fly, and the staff to show 4 feet above the rail.

(4) Hospital boats shall display the Red Cross in the bow, instead of their boat number, the dimensions of flag and staff being the same as prescribed for other boats.

55. The full flag call of any boat is the call of the ship over the boat's number; but this call should be curtailed as much as may be without confusion. Thus it will generally be sufficient to show the ship-call pennant over the numeral, omitting the group-call flag; and in the case of a ship calling one of its own boats, the number alone is sufficient. A ship call calls all the boats of that ship flotilla.

56. A division call calls all the ship flotillas of that division.

57. A squadron call calls all the ship flotillas of that squadron.

58. The general call calls the fleet flotilla or all boats present for a wigwag or semaphore message. A flag signal to the fleet flotilla requires no individual call.

59. Formations of division and ship flotillas will habitually be in natural order unless otherwise prescribed, the order being the same as that of their divisions and ships in the fleet.

60. The term "on beam" will habitually mean with the guides of formations abreast the boat boom.

61. (1) Unequipped boats are those carrying only the regular boat equipment, which is kept at all times in the boat. (See articles 25, 28.)

(2) Equipped boats are those which are equipped for landing in accordance with these instructions. They will always contain arms, ammunition, and the amount of provisions and water required for the intended service, unless the commissariat actually accompanies the expedition, in which case only arms, ammunition, and filled canteens are required.

62. (1) When the flotillas are exercised in tactical maneuvers, it is chiefly for the training of the officers and coxswains (with a view to utilizing this training at some other time when the boats are equipped for landing), and hence tactical exercises can be carried out as advantageously with an unequipped as with an equipped boat.

(2) When boats are called away for exercise under sails or oars, no arms or equipments will be provided. The regular boat gear shall, however, be carried unless the nature of the exercise renders it desirable to leave some of it on board. When boats are called away for exercise as a flotilla or for landing, dinghies will not be required to go.

(3) When a preparatory signal for getting out boats is made, all preparations shall be made on deck; davits rigged out and boats made ready for lowering.

(4) If the signal indicates that the exercise will be for equipped boats, all necessary articles are to be provided abreast the boats; but no article shall be passed into a boat, nor shall any boat be lowered, until the signal of execution is made.

(5) At the signal of execution (whether preceded by preparatory signal or not) all boats are to be lowered, equipped, manned, and formed as prescribed. If for equipped boats, preparations shall be made as if preparing for some actual specified service in accordance with article 103.

63. As a rule in all operations of boats except for simple exercises under oars or sails, the boats of each ship flotilla will be in

column with the towing power boats leading, ready to tow if not actually towing. When tows are formed, the least powerful towing boat of each ship flotilla should head its column ready to cast off to assist any boat or pick up a man overboard or perform any other duty.

64. When the flotillas are called away, the boats will first form in column, unless otherwise indicated, on the starboard side of their respective ships, the leading boat abreast the lower boom, in the following order: Towing power boats, sailing launches, cutters, whaleboats. Small power boats, such as motor whaleboats, although available for towing if needed, shall take their position at the rear end of the column unless used for towing. The battalion commander shall be in the leading or second towing boat at the head of the column. Hospital boats when present shall be in the rear of their columns or lines.

65. (1) Distance is expressed in boats' lengths and is measured from stern to bow. When not otherwise prescribed, it shall be two boats' lengths.

(2) For the sake of uniformity a boat's length shall be taken as 40 feet.

66. When tactical evolutions begin, the leaders of the ship flotillas will open out if closed, until their intervals are the same as their distance apart in line, which will vary with the number of boats in each ship flotilla.

67. (1) Being in any formation, to form for landing, first form "line of ship flotillas" (or line of division flotillas) and head the line of columns toward the landing place. Then the formations described in The Landing Force and Small-Arm Instructions will be assumed, boats with Artillery casting off and assuming position on the flanks, while the main body of the column (boats carrying Infantry) form line and head in toward the beach. If machine or small rapid-fire guns are carried in Infantry boats, they shall be used to sweep the beach from their position in the general line.

(2) If the boats of a single ship are called away for landing, they shall form in column, in the above-mentioned order, as soon as they shove off from the ship, and be taken in tow. The tow then heads in to the landing place, or as directed. In forming for attack, boats cast off and form line; Artillery boats take position on the flanks and cross their fire, as described under instructions for landing.

(3) Being in tow, and preliminary to casting off, the signals to the tow are made as follows:

Three blasts.—Oars get ready and prepare to cast off.

Two blasts.—Up or out oars.

One blast.—Cast off and let fall.

68. (1) The flag boat of a ship flotilla, when exercising as a part of a division flotilla, shall lead its column; when the ship's flotilla is exercising independently, it may lead the column, or it may leave the formation and be free to take any position.

(2) Similarly, the flag boat of a division flotilla or squadron flotilla may lead the column, or it may leave the formation and take the position from which the flotilla can best be maneuvered.

(3) Flag boats shall, when possible, be power boats, except when boats are being exercised as a division under sail, in which case a sailing launch or other boat may be used.

69. Boat drills shall not be confined to the seaman class, but shall, so far as possible, include all classes of enlisted men. Special attention shall be paid to elementary boat exercises for marines and the engineer force, and they should be encouraged to become good oarsmen.

70. (1) The landing force shall frequently be embarked and landed in the manner that would be required under service conditions. Mustering and equipping the force is not sufficient to develop or maintain the skill of the crew, or to develop or exercise in their proper duties the special details, staff officers, etc. Hence, landing exercises should be complete, thorough, and deliberate.

(2) Similarly, at abandon ship it is always preferable actually to lower the boats and embark their crews, but as it is important that each man be kept constantly familiar with his principal duties at this evolution, it is preferable, in cases where lowering boats is impracticable, to provide articles and muster abreast the boats rather than omit the exercise entirely.

71. (1) Every loaded or manned boat in tow at any time shall carry conveniently for instant use a hatchet (obtained from the boat box) ready to cut the towline instantly in case of man overboard or threatened swamping or other emergency.

(2) The officer or petty officer in charge of a towed boat will be responsible for the proper trim of the boat to insure safety.

ORDINARY SERVICE UNDER OARS.

COMMANDS.

72. The commands given in Tables I and II below are prescribed to cover ordinary cases of a boat manned alongside or at a landing, and thence making passage to a landing or to another vessel.

TABLE I.

- (1) Stand by the oars.
- (2) Shove off.
- (3) Out oars.
- (4) Give way together.
- (5) In bows; or Trail bow.
- (6) Oars (followed by "Way enough" or "Way enough," without the command "Oars").

TABLE II.

- (1) Stand by the oars.
- (2) Up oars.
- (1) and (2) Given before boat is reported ready.
- (3) Shove off.
- (4) Let fall.
- (5) Give way together.
- (6) In bows.
- (7) Stand by to toss; Toss, or Oars (followed by "Way enough" or "Way enough," without the command "Oars").

73. (1) The commands in Table I shall always be used with single-banked boats. With these boats the oars will be in their places in rowlocks, blades in the water, and oar trailing fore-and-aft, before the boat is ready to receive passengers.

(2) With all boats having awnings spread. If the boat is double banked, the oars will remain in the boat until the command "Out oars." At the command "Stand by the oars," the most convenient thwartmen will cast off the awning stops and secure them after the oars are out.

(3) With laden boats, working boats, boats carrying visiting parties, all pulling boats at sea or in rough weather in port, and with all pulling boats after sunset.

74. In all other cases than those specified above, the commands in Table II will be used, in port or in smooth water, for double-banked boats having rowlocks that permit of "letting fall." For example, this table would be used for all double-banked running boats, for all special boats carrying commissioned, warrant, or appointed officers, and, in general, on all occasions not excepted by article 73.

TABLE III.

SPECIAL COMMANDS.	PURPOSE FOR WHICH GIVEN.
Oars	(1) To stop pulling for any purpose, keeping the oars out. (2) To salute.
Trail	(1) To salute. (2) To pass obstructions. For the latter, oars of either side may be trailed independently.
Hold water	To check headway or sternboard. The oars of either side may hold water independently. Requires care if boat has much headway.
Stern all	To acquire sternboard. Should not be given when boat has much headway. When boat has headway, should be preceded by "Hold water."
Back starboard (or port).	To turn. Should "Hold water" before backing, if boat has much headway.
Back starboard, give way port (or vice versa).	To turn quickly when boat has little or no headway.
Stand by to toss; Toss...	(1) To salute. (2) In going alongside, when it is not desirable to boat the oars. The habitual command to be used when coming alongside with double-banked boats on official or dress occasions.
Boat the oars	To get the oars in the boat.
Point the oars	To shove off a grounded or beached boat.

NOTE.—Thwarts and oars are numbered from forward. Double-banked thwarts are designated by No. 1, starboard, No. 1, port; No. 2, starboard, No. 2, port, etc. The thwarts next to the bow and stroke are also properly designated as second bow and second stroke.

EXPLANATION IN DETAIL.

Ordinary ship's service which permits use of commands given in Table I.

76. Suppose a cutter manned at the gangway, bowmen standing in fore-sheets holding on with boat hook to grab ropes or jack-stay, oars boated. The coxswain has orders to shove off and go in for a working party. The coxswain commands and the crew executes the details as follows:

(1) *Stand by the oars.*—Every man except the bowman seizes his oar by its handle and sees the blade clear of other oars. The oars should be shoved forward over the gunwale far enough to

bring the handle in the proper position, but should be kept fore-and-aft. If awnings are spread the most convenient thwartmen cast off the stops.

(2) *Shove off*.—Bowmen shove bow smoothly away from ship's side with boat hooks, at the same time shoving her a little ahead, if possible; the coxswain sheers her off with tiller and hauls ahead on stanchions of the gangway or on the grab rope, assisted as necessary by the inboard stroke oar, who takes his seat as soon as possible and prepares to get his oar out with rest of crew. Fenders are rigged in by men abreast them. Bowmen place boat hooks fore-and-aft midships, seat themselves, and get their oars ready.

(3) *Out oars*.—Given when the boat is clear of the ship's side. Thwartmen throw blades of oars horizontally outward, allowing the leathers to fall in rowlocks, place both hands on handle, and quickly trim blades flat and directly abeam. This is the position of "Oars." Bowmen throw their oars out at the same time as rest of crew, if they are ready; otherwise they swing their oars out together, touching their blades forward to insure making the movements in unison, and bring them to the position of "Oars" or take up the stroke with the remainder of the crew as the case may be.

(4) *Give way together*.—All the oarsmen take the full stroke, keeping accurate stroke with the starboard stroke oar. Feather blades habitually. Bowmen get their oars out together and take up the stroke. (They may have gotten them out before the command "Give way together," in which case they give way with the other members of the crew.) The crew will continue to pull a strong, steady stroke, always using their backs, and maintain silence.

(5) *In bows*.—Given as landing is approached, and while the blades are in the water. Bowmen complete that stroke, toss oars simultaneously to an angle of 45° , and boat them together, seize boat hooks, stand erect in bow, facing forward, holding boat hooks vertical in front of them until needed.

(6) *Oars*.—Given when the coxswain estimates that the boat's headway will carry her to the landing, and while the blades are in the water. Finish that stroke and assume the position "Oars." When in this position, if landing or gangway is clear of other boats, command "Way enough." The crew toss their oars simultaneously to an angle of 45° and lay them in place in the boat, with as little noise as possible, rigging the blades entirely inside the gunwale. The stroke oarsman next to the landing or gangway takes up a boat hook, the men nearest the fenders place them over on inboard side, bowmen and stroke oarsman check headway, keep boat clear, haul alongside, etc., as necessary.

(7) Or, if preferable, and the skill of the crew will enable them to perform the movement together, the command "Oars" may be omitted, and instead, command "Way enough," given when the boat's headway will carry her to the landing, and while the blades are in the water at the beginning of a stroke. Finish that stroke, and as the oars leave the water the men toss them simultaneously to an angle of 45° , and boat them quickly and quietly, rigging the blades entirely inside of the gunwale. The stroke oarsman next to the gangway or landing takes up his boat hook; men nearest the fenders place them over on inboard side; bowmen and stroke oarsman check headway, keep boat clear, haul alongside, etc., as necessary.

NOTE.—With a single-banked boat, the oars would be trailed when the above instructions require those of a double-banked boat to be tossed and boated. The oarsmen simply let go the handles, allowing the oars to trail in a fore-and-aft direction. The oars in this case are not boated until the command "Boat the oars," when the oars are lifted into the boat with the blades aft.

Dress or Special Service, which requires use of commands given in Table II.

77. If a cutter is called away as a running boat, or on special duty to carry officers to another ship, in daylight, in good weather, in port, the oars will be brought to the position of "Up oars" before the boat is reported ready; the bowmen stand in fore-sheets holding on to the grabrope or jackstay, the inboard stroke oar in stern-sheets holds on with boat hook. The oars are brought to the position of "Up oars" by the commands:

(a) *Stand by the oars.*—The same as under Table I; the blades will be kept clear of the bowmen's boat hooks.

(b) *Up oars.*—The oars, except the two bow and the inboard stroke oars, are tossed quickly to a vertical position, blades trimmed in a fore-and-aft plane and in line with that of the stroke oar, handles of oars resting on bottom boards, outboard hand grasping loom of oar at height of chin, wrist of inboard arm resting on inboard thigh, and steadying oar.

78. (1) The boat officer or coxswain then reports to the officer of the deck that his boat is alongside, ready for duty. When the officer of the deck has given necessary orders to the boat, the boat officer or coxswain commands:

(2) *Shove off.*—This command is executed as described in article 76, (2). As soon as possible, the inboard stroke oar lays aside his boat hook and gets up his oar without further command. If time permits, the bowmen get up their oars and await the com-

mand "Let fall." If however, the command "Let fall" is given before their oars are up, they point their oars forward over the gunwale, "kiss" the blades, swing them out, and take up the stroke, or come to "Oars," as the case may be.

(3) *Let fall.*—Given when the boat is clear of the ship's side. It may be necessary to let fall the forward oars before there is room for the after oars to clear the ship's side. This would be done by the command, 1, 2, and 3, "Let fall," or 2 and 3, "Let fall." Other oars remain vertical until the command "Let fall." At this command all the oarsmen raise their oars vertically and drop the blades outboard into the rowlocks smartly and together, slipping the inboard hand to the handle of the oar, and come to position "Oars" with both hands on the handle. Under no circumstances should the blades be allowed to touch the water in letting fall.

(4) *Give way together.*—As described in article 76, (4).

(5) *In bows.*—As described in article 76, (5).

(6) *Stand by to toss. Toss.*—The cautionary command is given as a warning to the crew. The command "Toss" is given as the blades enter the water, and when the boat has sufficient headway just to reach the gangway or landing. The oarsmen complete that stroke and then toss the oars quickly to a vertical position by pressing smartly on the handle with inboard hand, raising the oar with the outboard hand under the loom. Lower handle to bottom boards and assume position described at "Up oars." (See art. 77, b.) The inboard stroke oar lays his oar in the boat quickly after he has it at the vertical position, seizes boat hook, and assists to check headway and haul stern of boat into the gangway.

79. (1) The crew remain at the "Toss" until officers leave the boat. They are then in position to "let fall," when boat is ordered to lie off the quarter or to haul out to the boom.

(2) If it is desirable to lay the oars in the boat, it will be done by the command "Boat the oars," at which each man lays his oar quickly and quietly in the boat, blades forward.

(3) In rough weather or at night (when it is not desired to remain alongside with the oars at "Toss") the commands, "Oars," followed by "Way enough" or the command "Way enough" given alone, may be used as described in article 76, (6) and (7).

EXPLANATIONS OF SPECIAL COMMANDS GIVEN IN TABLE III.

80. (1) *Oars.*—Given when blades are in the water. Finish that stroke and bring oars quickly to position of "Oars." (Art. 76, 3.)

(2) *Trail.*—Given when blades are in the water. Finish that stroke, release the handle of the oar, allowing it to draw fore-and-aft, and trail alongside. If no trailing lines are fitted, retain the

handle of the oar in the hand. With a cutter having sunken rowlocks, lift the handle of the oar quickly when blade is in the water at middle of stroke, throw oar out of rowlock, and retain handle in hand.

(3) *Hold water*.—Given when blades are in the water. Cease pulling, drop the oars in the water, and hold them perpendicular to the keel line, blades vertical. With considerable way on, especially in a laden boat, care in holding water is required to prevent carrying away the rowlock or gunwale or the oar itself. Under these conditions drop the oars in the water with the upper edges of the blades inclined forward and gradually bring the blades vertical as way is lost.

(4) *Stern all*.—Given from positions of "Oars" or "Hold water." The oars are backed, keeping stroke and feathering as when pulling ahead.

(5) *Back starboard (or port)*.—Designated oars are backed as at "Stern all." Generally when boats have way on, oars should not be backed until the headway is checked by holding water or laying on oars.

(6) *Back starboard give way port (or vice versa)*.—Given from the position of "Oars" or "Hold water." Proceed as described in article 76 (4), and article 80 (5).

(7) *Toss*.—(This command should be generally preceded by cautionary command "Stand by to toss.")—Given when blades are in the water or at the position of "Oars." Complete the stroke, press smartly on the handle, and, with the other hand under loom near leather, bring oar quickly to vertical position, blades trimmed fore-and-aft and in line; hands as at the completion of "Up oars."

(8) *Boat the oars*.—Given from the position "Toss" or "Trail" (with boats using swivel rowlocks). Place the oars, quietly and quickly, fore-and-aft in the boat. This command may be given from any position, but it is preferable, when time and room permit, to command "Oars, Toss (or Trail), Boat the oars."

(9) *Point the oars*.—To shove off a boat that has grounded, stand facing aft, point the blades of the oars forward and downward to the beach at an angle of about 30°, ready to shove off at the command. If waves lift the stern of the boat, the united effort to shove off should be made just as her stern lifts.

81. When for any reason it may be desirable, the preparatory command "Stand by to ——" may precede the commands "Toss," "Trail," "Hold water," "Stern all," or in fact any command of execution given in a boat. In order to secure precision and uniformity of movement, and in order to avoid taking the crew by surprise, cautionary orders should usually precede commands of execution, the crew thus being always prepared promptly

to execute the commands when given; they should only be used when necessary, since a multiplicity of cautionary or preparatory orders detracts from the sharp, smart work that boats and their crews should exhibit.

NOTE.—The preparatory command for “Oars” is “Stand by to lay on the oars.”

HANDLING BOATS IN A SURF.

82. (1) The most dangerous duty which a ship's boat is called upon to perform is landing through a surf. This requires greater skill than any other work in an open boat, and lack of skill or inattention on the part of the coxswain is so likely to result in a loss of life that a novice should never attempt to steer a boat through heavy surf to a beach. The skill necessary to make a successful landing through surf can be obtained only by practical experience gained first as an oarsman and later as a coxswain.

(2) If it is absolutely necessary for an inexperienced crew to land through a surf, the safest method should be adopted, which is to back in, keeping bow to sea, and every time a sea approaches pull to meet it with a good headway, then back in as fast as possible after it passes.

(3) If this is impracticable, a fairly safe method is by towing a heavy drag over the stern.

(4) The great danger in landing through a surf is that of “broaching to.” The breaker lifts the stern, forces it to one side until the boat gets broadside on and capsizes. Sometimes, though rarely, a heavy sea gets under the boat, buries her bow, and turns her end over end.

(5) It should always be remembered that surf, when viewed from seaward, is exceedingly deceptive and is always much worse than it appears. On an open seacoast any surf visible from a small boat to seaward would probably be dangerous.

MANAGEMENT OF OPEN ROWING BOATS IN A SURF.

83. The following rules are published by the Royal National Lifeboat Institution:

I. *Rowing to seaward.*—(1) As a general rule, speed must be given to a boat rowing against a heavy surf. Indeed, under some circumstances, her safety will depend upon the utmost possible speed being attained on meeting a sea. For if the sea be really heavy, and the wind blowing a hard, on-shore gale, an approaching heavy sea may carry the boat away on its front and turn it broadside on or up-end it. A boat's only chance in such a case is to

obtain such a way as shall enable her to pass, end on, through the crest of the sea and leave it as soon as possible behind her. If there be a rather heavy surf, but no wind, or if the wind is off shore and opposed to the surf, as is often the case, a boat might be propelled so rapidly through it that her bow would fall more suddenly and heavily after topping the sea than if her way had been checked.

(2) It may also happen that, by careful management, a boat may be made to avoid the sea, so that each wave may break ahead of her, which may be the only chance of safety in a small boat; but if the shore be flat and the broken water extend to a great distance from it, this will often be impossible.

(3) The following general rules for rowing to seaward may therefore be relied on:

(a) If sufficient command can be kept over a boat by the skill of those on board her, avoid the sea if possible, so as not to meet it at the moment of its breaking or curling over.

(b) Against a head gale and a heavy surf, get all possible speed on a boat on the approach of every sea which can not be avoided.

(c) If more speed can be given to a boat than is sufficient to prevent her from being carried back by a surf, her way may be checked on its approach, which will give her an easier passage over it.

II. *Running before a broken sea, or surf, to the shore (flat beach).*—(1) The one great danger, when running before a broken sea, is that of "broaching to." To that peculiar effect of the sea, so frequently destructive of human life, the utmost attention must be directed. The cause of a boat's broaching to, when running before a broken sea or surf, is that her own motion being in the same direction as that of the sea, she opposes no resistance to it, but is carried before it. Thus, if a boat be running bow on to the shore, and her stern to the sea, the first effect of a surf or roller, on its overtaking her, is to throw up the stern, and, as a consequence, to depress the bow; if she then have sufficient inertia (which will be proportional to weight) to allow the sea to pass her, she will in succession pass through the descending, the horizontal, and the ascending positions, as the crest of the wave passes successively her stern, her midships, and her bow, in the reverse order in which the same positions occur in a boat propelled to seaward against a surf. This may be defined as the same mode of running before a broken sea.

(2) But if a boat, on being overtaken by a heavy surf, has not sufficient inertia to allow it to pass her, the first of the three positions alone occurs—her stern is raised high in the air, and the wave carries the boat before it, on its front or unsafe side, the

bow deeply immersed in the hollow of the sea, where the water, being stationary, or comparatively so, offers a resistance; while the crest of the sea, having the actual motion which causes it to break, forces onward the rear end of the boat. A boat in this position will sometimes, aided by careful oar steerage, run a considerable distance until the wave has broken and expended itself. But it will often happen that, if the bow be low, it will be driven under water, when, the buoyancy being lost forward, while the sea presses on the stern, the boat will be thrown end over end. Or if the bow be high, or protected by a bow air chamber, so that it does not become submerged, the resistance forward acting on one bow will slightly turn the boat's head, and the force of the surf being transferred to the opposite quarter, she will in a moment, be turned broadside to the sea, and be thrown by it on her beam ends, or altogether capsized. It is in this manner that most boats are upset in a surf, especially on flat coasts.

(3) Hence it follows that the management of a boat when landing through a heavy surf, must stop her progress shoreward at the moment of her being overtaken by a heavy sea, and enable it to pass her. There are different ways of effecting this object:

First. By turning a boat's head to the sea before entering the broken water, and then backing in, stern foremost, pulling a few strokes ahead to meet each heavy sea, and then again backing astern. If a sea be really heavy and a boat small, this plan will be generally safest.

Second. If rowing to shore with the stern to seaward, by backing all the oars on the approach of a heavy sea, and rowing ahead again as soon as it has passed to the bow of the boat, thus rowing in on the back of the wave; or, as is practical in some lifeboats, placing the after oarsmen with their faces forward, and making them row back at each sea on its approach.

Third. If rowed in bow foremost, by towing astern a pig of ballast or large stone, or a large basket, or a canvas bag, termed a "drogue," or drag, made for the purpose, the object of each being to hold the boat's stern back and prevent her being turned broadside to the sea or broaching to.

(4) A boat's sail bent to a yard, loosed and towed astern, the yard being attached to a line capable of being veered, hauled, or let go, will act in some measure as a drag, and will tend much to break the force of the sea immediately astern of the boat.

(5) Heavy weights should be kept out of the extreme ends of a boat, but when rowing before a heavy sea, the best trim is deepest by the stern, which prevents the stern being readily beaten off by the sea.

(6) When running before a sea, a boat should be steered by an oar over the stern or on one quarter.

(7) The following general rules may, therefore, be depended on when running before, or attempting to land through a heavy surf or broken water:

(a) As far as possible avoid each sea by placing the boat where the sea will break ahead of her.

(b) If the sea be very heavy, or if the boat be small, and especially if she have a square stern, bring her bow around to seaward and back her in, rowing ahead against each heavy surf, sufficiently to allow it to pass the boat.

(c) If it be considered safe to proceed to the shore bow foremost, back the oars against each sea on its approach, so as to stop the boat's way through the water as far as possible, and if there is a drag, or any other appliance in the boat which may be used as one, tow it astern to aid in keeping the boat stern-on to the sea, which is the chief object in view.

(d) Bring the principal weight in the boat toward the end that is to seaward, but not to the extreme end.

(e) If a boat worked by both sails and oars be running under sail for the land, through a heavy sea, her crew should, unless the beach be quite steep, take down her masts and sails before entering the broken water, and take her to land under oars alone, as above described. If she have sails only, her sails should be much reduced, a half-lowered foresail or other small headsail being sufficient.

III. *Beaching, or landing through a surf.*—(1) The running before a surf or broken sea, and the beaching, or landing of a boat, are two distinct operations; the management of boats, as above recommended, has exclusive reference to running before a surf where the shore is so flat that the broken water extends to some distance from the beach. On a very steep beach, the first heavy fall of broken water will be on the beach itself, while on some very flat shores, there will be broken water extending four or five miles from the land. The outermost line of broken water, on a flat shore, where the waves break in three or four fathoms of water, is the heaviest, and therefore the most dangerous; and when it has been passed through in safety, the danger lessens as the water shoals, until on nearing the land, its force is spent and its power is harmless. As the character of the sea is quite different on steep and flat shores, so is the customary management of boats, on landing, different in the two situations.

(2) *On the flat shore*, whether a boat be run or backed in, she is kept straight before, or end-on to the sea until she is fairly aground, when each surf takes her further in as it overtakes her, aided by the crew, who will then generally jump out to lighten her, and drag her in by her sides. As above stated, sail will, in this case, have been previously taken in, if set, and the boat will have been rowed or backed in by the oars alone.

(3) *On the steep beach*, on the other hand, it is the general practice, in a boat of any size, to sail right on to the beach, and in the act of landing, whether under oars or sail, to turn the boat's bow half around, toward the direction in which the surf is running, so that she may be thrown on her broadside up the beach, where abundance of help is usually at hand to haul her as quickly as possible out of the reach of the sea. In such situations, we believe it is nowhere the practice to back a boat in stern foremost under oars, but to row in under full speed, as above described.

RUNNING A LINE.

84. (1) Coil the greater part of the line in the stern sheets, but take end enough in the bow to make fast when you reach the landing. Pull away and let the ship pay out more line until you are sure of having enough in the boat to reach, then pay out from the boat. Always have plenty of good seizing stuff for making all secure, and if you are to stand by the line, have an ax ready for cutting in case you are ordered to do so.

(2) If laying out with the tide, take less line in the boat than otherwise. If against the side, it will save work to take all the line in the boat, pull up and make fast, then bring the end back to the ship. With a long line to be laid out in a strong current, it will usually be necessary to have several boats—one to run away with the end, the other to underrun the line at intervals, floating it and pulling upstream with the bight.

(3) If the line is to be secured to a post, put a bowline in the end before starting and throw this over the post. Bend on a heaving line and let the bow oarsman throw this, if hands are standing by to receive it, or jump ashore with it himself if necessary.

TOWING.

85. (1) In ordinary cases of towing—an unladen boat in a smooth sea—the towing boat passes clear of the oars of the tow (oars of tow should preferably be tossed to facilitate this), placing herself in line ahead, receives painter from the tow, secures it to ringbolt in sternpost, and starts ahead immediately she has hold of the painter.

(2) The bowman in the tow must not give the towing boat his painter until she is about ahead. He will then take in the slack of the towline, keeping a strain on it, and gradually pay it out, thus getting way on the tow gradually. This latter precaution is particularly necessary if the tow is at all heavy.

(3) Though it is frequently impracticable, it is always preferable for the towing boat to give the tow a painter (instead of vice versa), which the tow should tend and keep ready for letting

go in an instant. If this is not done and the tow gives the towing vessel her bow painter, which is shackled in the bow, a hatchet from the boat box or sharp knife should be kept at hand in the towed boat for cutting the towline in an emergency. (See art. 71.)

(4) If the tow is heavily laden or the sea rough the above method brings too much strain on the stem and sternposts of the boats. Hence, in such a case, the painter should be toggled to a stretcher between the two afterthwarts of the towing boat and to the forward thwart of the tow. To steer a boat that is towing in this manner, bear the towline over on the quarter toward which it is desired to turn, to leave the stern more free to answer the rudder.

(5) Towing of ships' boats is now usually done by the power boats, which are frequently fitted with a span, the ends of which are secured to either quarter. This facilitates steering and is in all respects preferable to securing the towline to the shackle in the sternpost.

(6) When being towed astern of a large vessel, use a short scope, so as to remain close under the counter, with the bow partly out of water. In casting off, when there are other boats towing astern, be careful before letting go either to drop clear of them all with your towline, or be handy with your oars to avoid getting athwart the hawse of some of them.

(7) Except in the case of unladen boats in smooth water, a number of boats should never be towed tandem by their painters, for in a long tow this brings a considerable strain on stem and stern timbers of the foremost boats. To avoid this strain, the towing vessel should pay out sufficient line to reach the bow of the last boat, the other boats being secured to it by slip lines at bow and stern.

(8) If towing alongside, have the towline from as far forward on the towing vessel as possible; either toggle it to the forward thwart (steading it over the stem with a bight of the painter), or pass it through the forward rowlock on the side nearest the towing vessel. Pay particular attention to the steering.

CARRYING STORES.

86. (1) When carrying provisions, be careful with the oars, as they are easily injured by letting stores fall on them. Keep all casks "bung up," and leave a space, or "well," under the afterthwart for bailing the boat out.

(2) Have tarpaulins for covering bread or anything that will be injured by salt water or rain.

(3) While loading, make a large allowance for the roughness of the water you may have to encounter.

(4) Do not overload a boat, particularly with men, as it may result in loss of life. When carrying treasure, always attach a buoy, with a drift of line at least equal to the greatest depth of water on the route to be taken.

BOARDING A WRECK.

.87. (1) Whenever practicable, a vessel, whether stranded or afloat, should be boarded from to leeward, as the *principal* danger is that the boat may collide against the vessel or be swamped by the rebound of the sea, and the greater violence of the sea on the weather side of the vessel renders such accidents more liable to occur on that side.

(2) *If a stranded vessel* is broadside to the sea, the chief danger in boarding to leeward is the possible falling of the masts, or that the boat may be stove by the wreckage alongside. Under such circumstances it may be necessary to take a wrecked crew into a lifeboat from the bow or stern of the wreck. In boarding a wreck that is stranded on a flat shore, lifeboats usually anchor to windward and veer down from a safe distance until near enough to throw a line on board.

(3) *In rescuing people* from a drifting wreck, approach from leeward, taking care to avoid wreckage floating alongside. If there is much wind it is best to lay well off, throw a strong line aboard, have the people secure the line around their bodies, one at a time, and jump overboard, for if the boat gets alongside of a wreck which is rapidly drifting to leeward, there is danger of swamping, and much difficulty in getting her clear of the side.

(4) Should it be necessary to go alongside, it is preferable to run the bow or stern to the gangway or sea ladder, keeping her headed at right angles to the ship's keel, with oars out ready for pulling or backing away.

(5) An exception to the usual rule of boarding a drifting vessel to leeward occurs in the case of a vessel of very low freeboard, such as small schooners, etc. Board such craft on the weather quarter to avoid being stove in by her main boom, chains, etc.

NOTES ON HANDLING BOATS UNDER OARS.

88. (1) In going into a crowded or difficult landing, pull easily and keep the boat under control with the oars as long as possible, laying on oars if necessary, and boating oars only at the last moment.

(2) In going through a narrow entrance, get good way on the boat, then trail or toss the oars.

(3) Remember that a loaded boat holds her way much longer than a light one.

(4) In pulling across a current, try to get a range on two objects in line and steer by these to avoid being set down by the current.

(5) Having a long pull against the tide, run inshore, where the tide is slacker than in midstream, and where there is sometimes an eddy.

(6) There should always be a lantern, filled and trimmed, in the boat, and boats should never leave the ship for a trip of any great length without a compass. Weather is liable to thicken at any time, and a boat without a compass would have difficulty in reaching a landing or returning to the ship. For this reason, boat officers and coxswains of running boats should at all times know the compass course between the ship and landing; and if they are away from the ship and it begins to thicken, they should ~~at~~ once observe the compass course before the ship is shut in.

(7) In power boats, owing to deviation of the compass, coxswains must understand that the only way to obtain a correct compass course is to put the boat compass in its regular place, head the boat on the correct course, then read the compass course. If this is not done, considerable errors are liable to occur.

(8) At sea no boat should ever leave the ship without a compass, water, and provisions, and, excepting lifeboats, all boats sent away from a ship at sea will carry rifles and ammunition.

(9) Never go alongside a vessel which has sternboard or which is backing her engines.

(10) In coming alongside in a seaway or when a strong tide is running, warn the bowman to look out for the boat line which will be hove from the ship.

(11) If caught in a gale in an open boat, rig a sea anchor by lashing the spars and sails together, sails loosed. Fit a span to this and ride by the painter. If there is oil in the boat, secure a bag of it to the sea anchor.

BOATS UNDER SAIL.

89. (1) The principles of boat sailing are the same for all rigs. The use of the lee oars is dangerous when under sail; a slight gust of wind lowers the gunwale so as to prevent the oars being lifted from the water, thus "catching a crab" and the headway of the boat will cause the oars to fly violently fore-and-aft.

(2) The boat officer or coxswain shall never permit anyone to climb the mast of a boat. If halliards, brails, etc., are unrove, unstep the mast.

(3) Coming alongside under sail requires care, judgment, and experience. In the first place it should not be attempted if a boat, or other obstruction which the masts could touch, overhangs the gangway, nor in rough weather when the rolling motion of the boat would cause the masts to strike the gangway platform. In such cases masts should be unstepped and the boat brought alongside under oars.

(4) If the ship is riding to a windward tide, approach the gangway from abaft the beam, tend all gear and shorten sail when boat has sufficient way to reach gangway. The bow and stroke oarsmen tend boat hooks, the other men performing their duties in shortening sail.

(5) If the ship is riding to the wind, approach the gangway from about abeam, tend all gear, bow and stroke oarsmen stand by with boat hooks; when there is sufficient way to make the gangway, command: "In jib and foresail." The jib tack and sheet are let go, jib smothered in to foremast; lower the foresail or brail it up, at the same time put the tiller hard down, haul main boom amidships or a bit on the weather quarter. This throws the boat's head into the wind, and hauling main boom to windward deadens her headway, when desirable. When alongside command: "In mainsail," stow sails and unstep, if desirable.

(6) The above is the surest and safest method, but with skillful handling all sails may be taken in together, the tiller put hard down, and boat rounded up to gangway. This requires more skill and judgment and should not ordinarily be attempted.

(7) If there is any current, make allowance for it by heading for a point further forward or aft, as the case may be.

SLIDING GUNTER RIG.

90. (1) Following are the commands which apply to the sliding gunter rig, and the drill shall be adapted and applied to other rigs as well as may be practicable.

COMMANDS.

DUTIES.

- (2) *Being under oars, to make sail.*
- (a) Way enough. Oars are boated as above described.
- (b) Stand by to step. All hands cast off spar covers.
- Starboard thwartmen launch mainmast forward until heel of mast is even with step; raise masthead.
- Similarly, port thwartmen launch foremast to position and raise masthead.
- All the crew remain seated whenever their duties will permit.

COMMANDS.

DUTIES.

- (c) Step the masts. Stroke oars guide heel of main into step.
Bow oars guide heel of fore into step.
Starboard thwartmen stand on bottom boards and raise mainmast.
Port thwartmen stand on bottom boards and raise foremast.
Bow and stroke oarsmen get masts on proper slue and, when nearly vertical, guide them into step.
Bow and stroke oarsmen and second bow and second stroke cast off shrouds and set them up. If jib boom is used, it is stepped by bowmen after mast is stepped. In this case the second bowmen set up the fore shrouds.
- (d) Loose sail. Stroke oarsmen cast off sheet from main and take place in stern sheets with mainsheet in hand.
Second stroke attends main brails. The other second stroke mans maintopmast halliards.
Starboard stroke reports when all is ready aft.
Second bowman casts adrift foresheet passes it aft, and attends forebrails. The other second bowman mans foretopmast halliards.
One bowman casts adrift jib halliards, hauls head of jib down to the deck and mans jib halliards. The other bowman sets up jib tack and passes sheets aft on each side.
Starboard bowman reports when all is ready forward.
- (e) With starboard (or port) sheet. Make sail. Topmasts are hoisted chock up, brails eased down and well overhauled, and jib hoisted.
Thwartmen convenient to sheets, haul them aft on designated side and attend them.
Bowman keep bright lookout ahead; keep coxswain fully informed of the proximity of obstructions or approaching vessel.

COMMANDS.

DUTIES.

(3) *To tack.*

(a) Ready about.....Given as a warning for the crew to prepare for the evolution. The coxswain gives the boat a good full, waits for a smooth time, then eases down the tiller. At the same time the man tending mainsheet hauls main boom amidships slowly. (Do not haul it across midship line, for it then acts as a back sail.)

(b) Ease off the jib sheet.Given when jib begins to shiver.

(c) Let go fore sheet...Given when foresail ceases to draw. If boat seems inclined to stop head to wind, haul jib sheet to windward; this will be taken aback and pay her head around. If boat gathers sternboard, shift the tiller.

(d) Shift over main-sheet.....When wind is ahead, shift over the mainsheet and stand by to haul it aft when well around on the new tack.

(e) Haul aft fore and jib sheets.....As soon as the bow of the boat has passed the wind, haul aft fore and jib sheets, leaving the mainsheet slack until boat is well around, then trim by the wind.

If the boat falls off too far from the wind, and there is little steerage way, haul aft mainsheet and keep jib sheet flying until she is brought up by the fore and mainsail and the tiller.

When nearly high enough, haul aft the jib sheet and trim her by the wind.

(4) *To wear.*

(a) Stand by to wear...Given as a warning for the crew to prepare for the evolution. The coxswain puts the tiller up when ready.

(b) Ease off mainsheet..Given as her head pays off, in order to get the maximum effect of the mainsail in increasing her headway. Keep fast fore and jib sheets until wind is abeam, as they help pay her head off.

(c) Ease off fore and jib sheets.....Given when wind is a little abaft the beam. Slack the sheets off gradually to give headway.

COMMANDS.

DUTIES.

- (d) Up mainsail..... Given when wind comes nearly aft. Brail up mainsail, leaving topmast halliards fast.
- (e) Shift over sheets... Given when wind is aft. Stand by to haul all sheets aft on other side.
- (f) Down mainsail..... Given when wind is slightly on new weather quarter. Set mainsail and haul it flat aft; leave other sheets flying, or smothered into mast, so she will come up rapidly.
- (g) Haul aft fore and jib sheets..... Given as she comes by the wind on new tack. Haul both sheets flat aft.

NOTE.—If wearing in a light to gentle breeze, it is unnecessary to brail up the mainsail but in a moderate breeze, or anything stronger, it should always be done on account of danger from gybing under those circumstances.

With a sloop rig, put tiller up and ease off sheets. When wind is nearly aft, trim in main boom to avoid danger from gybing violently. In anything stronger than a gentle breeze, sloop-rigged boats should always be tacked to avoid this danger. If absolutely necessary to gybe a sloop in a fresh breeze, the peak should be dropped in addition to hauling in main boom.

(5) *To brail up.*

- (a) Stand by to brail up. Designated thwartmen man the brails, men tending sheets stand by to slack them off.

Bowmen stand by to lower away jib.

- (b) Brail up..... The clews of foresail and mainsail are hauled up, keeping fast the topmast halliards.

The jib halliards are slacked off and head of jib hauled down in the fore sheets, keeping jib entirely inside the rail.

NOTE.—To make sail from this position, see Article 90 (2) (e).

(6) *To heave to.*

- (a) Stand by to heave to. Given as a warning for the crew to prepare for the evolution.

Coxswain brings boat by the wind and keeps tiller a-lee.

COMMANDS.

DUTIES.

- (b) Haul main boom amidships. Haul aft weather jib-sheet. Up foresail. These commands are given simultaneously, and are obeyed by the men at the various stations.
- (b) Haul main boom amidships. Haul aft weather jib-sheet. Up foresail. In heavy weather the foresail is brailed up, keeping fast fore-topmast halliards. In slight breezes the fore sheet may be simply slacked off. If bow falls off, slack away jib sheet. The boat in this condition should lie dead in the water, wind about abeam.
- (7) *To get under way from "Heave to."*
Make sail Haul aft fore and jib sheets, ease the tiller, and ease off the main boom.
- (8) *To reef sail.*
(a) Stand by to reef. Given as a warning for the crew to prepare for the evolution. Tend all halliards. Pass reef points through eyelet holes, if not already rove off. Coxswain brings boat by the wind.
- (b) Slack down the halliards Coxswain luffs slightly, but not enough to cause boat to lose headway. Topmast and jib halliards are slacked down about 18 inches.
- (c) Reef sail. Secure reef earings to tack of sails. Pass reef points around foot of sail. Earing in leech should be tightly bound around foot of sail, not around the boom. The bowmen report "*all ready forward.*" When ready command:
- (d) Hoist away Men at halliards hoist sails, and coxswain lays the boat on desired course. Always keep boat under control, if possible, while reefing. Reef whenever boat begins to take in water over lee rail. Never be afraid or reefing too soon.

COMMANDS.

DUTIES.

- (g) *To douse sail.*
 (a) Stand by to shorten sail..... Given as a warning for crew to stand by their stations. Tend topmast halliards, man brails, bowmen stand by jib tack and get it ready for slipping quickly.
- (b) Shorten sail..... Lower topmasts, brail up fore and main sails; ease off jib tack, keeping halliards fast; smother jib into foremast. Men sit on their thwarts awaiting next command.
- (c) Furl sails..... Bowman and second bowman, stroke and second stroke bundle all gear into sails; roll them up neatly around mast, making smooth skin; pass sheets around sails, binding them to masts.
- (d) Prepare to unstep... Cast off shrouds; bow and stroke oarsmen take a shroud in each hand, and, by repeated crossing from one side to another, frap each sail securely in to its mast; bind the shrouds together near foot of mast and tuck in all ends. Bow and stroke oarsmen report when all is ready for unstepping.
- (e) Stand by; unstep... Make a slight pause between these commands.

The bow and stroke oarsmen seize their respective masts and lift them vertically (inclining mast in direction it is to be lowered) until heel is clear of hole in thwart, then lower them, foremast on port side, mainmast on starboard side.

Men amidships stand on bottom boards and help receive and stow masts. After masts are unstepped launch them bodily to stowing positions. Men quickly take seats on thwarts.

Care shall be observed to keep masts from going by the board or going down with a run, but even in this case it should be possible for men in the waist to receive them without injury to themselves.

COMMANDS.

(e) Stand by; unstep. . . . A well-drilled crew should easily be able to go from oars to sails, or vice versa, in one minute.

(continued.)

DUTIES.

Except with a considerably reduced crew, or in a heavy seaway, masts shall never be stepped or unstepped singly. It is not seamanlike and encourages laxity at drill.

(10) It will be observed that a distinction is made between "Shorten sail" and "Brail up." Shorten sail always requires topmasts to be lowered, while "Brail up" requires that they be kept fast. A similar distinction should be made between "In mainsail" and "Up mainsail" (or "Foresail"); "In mainsail" requires topmasts to be lowered; "Up mainsail" requires topmasts to be kept fast and the sail brailed up. "Shorten sail" and "Brail up" apply to both masts, working simultaneously. "In mainsail" (or "In foresail") are the commands used to take in either sail singly.

(11) In general it will be noted that the stroke oarsmen handle the main, assisted by the second stroke. The bow oarsmen handle the fore (assisted by second bowmen), until jib is cast adrift; they then devote their attention to the jib, leaving the work around foremast to the second bowmen. Stroke oarsmen handle main sheets; second stroke handles the main brails and halliards and attends foresheets. In general, the men on thwarts nearest the cleats attend the sheets, regardless of the sail to which it belongs. The starboard bow oarsman is in general charge forward and the starboard stroke in general charge of the main, and these men will make necessary reports to the officer or petty officer in charge of the boat.

STANDING LUG RIG.

91. (1) The lug rig does not usually carry a jib. With that exception the following modifications of the foregoing drill for the sliding gunter will adapt that drill to the lug rig.

(2) *Stepping masts.*—In stepping, the proper slue will be with the halliard sheaves fore and aft, the standing part of the halliards being abaft the mast.

(3) *Loosing sail.*—The command is "Stand by to make sail." Starboard thwartmen light the mainsail aft and hook on the yard; second starboard stroke secures jaws of main boom in place; second port stroke stands by to hoist away on the halliards; port thwartmen clear away the foresail and hook on the yard; bow-

men stand by to lash tack of foresail to eyebolt in the foremast and to hoist away on the halliards.

(4) *Making sail.*—Substitute “yards” for “topmasts” in the commands.

(5) *Tacking.*—The Navy rig being the standing lug, it is not necessary to dip the lug in going about. However, in making a long board on one tack it may be worth while to dip the lugs to leeward, as the sails will stand a little better. This can usually be done without touching the halliards, a man grasping the luff of the sail and the forward end of the yard and bearing down on them while the sheet is slacked.

(6) *Wearing.*—The main boom should be topped up when the wind is nearly aft, except in very light airs, and eased down again on the new lee quarter. In a strong breeze the mainsail should be lowered.

Brailing up.—Lug sails have no brails.

Heaving to.—Heaving to is not practicable unless there is a jib. In this case the commands are the same as with the sliding gunter, except that instead of “Up foresail” the command is “Down foresail,” whereat the foresail is lowered. Upon filling away again hoist the foresail.

Reefing.—Substitute “yards” for “topmasts” in the commands.

Dowsing sail.—At the command “Shorten sail” lower the sails and cast off foretack and jaws of main boom. At “Furl sail” starboard thwartmen unhook and furl mainsail, using the sheets as gaskets; port thwartmen unhook and furl foresail.

Unstepping masts.—At the preparatory order, cast off shrouds. At the final order, lift the masts out clear of the mast holes in the thwarts and place them as directed for the sliding gunter. Put the foresail and mainsail along their respective masts and lash them with the shrouds.

NOTES ON HANDLING BOATS UNDER SAIL.

NOTE.—The following general notes on handling boats under sail were taken from the Petty Officer's Drill Book, 1902, in which they were reproduced by permission from Knight's Modern Seamanship:

92. Trim.—(1) To do her best under sail, a boat must be trimmed in accordance with her build and rig.

(2) If she carries considerable headsail, she will need to be deeper forward than would otherwise be desirable. If she has little or no headsail, she would trim by the stern. The build and rig are fixed upon with reference to each other, due consideration being given to the purpose for which the boat is designed. Once fixed, the characteristics are practically permanent. The trim of both boat and sails, on the other hand, can be varied within rather

wide limits; but they, too, must be considered with reference to each other. Most boats when on the wind sail best when carrying a little weather tiller; that is to say, when they have a slight tendency to come into the wind. Too much weather tiller may be corrected by shifting weights aft; too much lee tiller by shifting them forward.

(3) *The weights* should be kept out of the ends of the boat, without being unduly crowded together amidships. It is especially important to keep heavy weights out of the bow. The only ballast, as such that should be carried, is water in breakers. Under no circumstances should "sinking" ballast be allowed; ballast, in other words, which is heavier than water. The lower the weights can be stowed, the better; but care should be taken to keep the "well" clear for bailing. Ballast and cargo must be secured against the possibility of shifting. The crew should be kept well down, and nobody be allowed to stand on the thwarts or to sit on the gunwale. If the men are sitting to windward in a fresh breeze, they should move amidships when passing under the lee of a vessel or other object, where the wind may fail or even shift in an eddy. The mast should be properly stayed up and down or with a slight rake aft, and the halliards taut up.

93. (1) On the wind, as has been said, a boat should carry a little weather tiller. The sails should be kept rap full, sheets not too flat, but everything drawing and the boat alive. It is a common mistake to get the sheets so flat that the boat, while pointing high, actually makes a course to leeward of that which she would make if kept away a little with sheets eased accordingly; and it is, of course, clear that if kept away, her speed will be greater than when jammed up into the wind in the hope of stealing a fraction of a point. A boat of good draft with a deep keel or centerboard and yachts designed for racing, with fin keels hanging 10 feet below their normal draft, will lie amazingly close to the wind with little or no leeway. Ships' boats, however are not constructed on yachting lines and can not be held up in the same way.

(2) Sheets may be hauled flatter in smooth water than in rough, and the sheets of standing lugs, gaff and boom sails, sliding gunters, and the like may be hauled flatter than those of dipping lugs. The sails being properly set, the leech cloths of the sails are kept just trembling, with enough weather tiller to let the steersman "feel" that she wants to come into the wind. As the wind will vary more or less (in apparent if not real direction), it is necessary to be watchful and to bring her up or keep her away, from time to time, in order that she may be always at her best. The sails should be kept fuller in rough than in smooth water, and it is more important that the boat should be kept going so as to be always under command of the rudder. If a heavy breaking sea is

seen bearing down upon her, she should be luffed up to meet it, and kept away again as soon as it has passed. If she loses way, she becomes helpless at once. It is dangerous to be caught by a heavy sea on the beam; and if the course to be made in rough water would bring the boat into the trough of the sea, the best plan is to run off for a time with the sea on the quarter, then bring her up with it on the bow, and so make good the course desired without actually steering it at any time.

94. (1) It is a universal rule in boat sailing that the sheets should never be belayed in any weather.

(2) For a moderate squall the boat should be luffed sufficiently to shake, without spilling the sails, thus keeping headway enough to retain control, but with the sheets (as always) in hand. If it comes stronger, she must be luffed more decidedly and the sheet slacked more or less. The sheet may, of course, be let go, and in a sudden emergency this must be done at once, in addition to putting down the tiller and, if necessary, reducing sail; but the longer she can be kept under control the better, and to let go the sheet is to give up control.

(3) The situation is quite different in running free. Here the sail can not be spilled by a touch of the tiller, and the only prudent thing is to slack the sheet while luffing. The force of the wind would be much reduced by running off, but the trouble with this is that if it comes too strong there is no resource but to lower the sail, and the chances are that it will bind against the shrouds and refuse to come down. Moreover, there is always danger that the wind will shift in a squall, and the mainsail may gybe with dangerous force.

REEFING.

95. (1) When a boat begins to take water it is time to reef; she should never, even in smooth water, be allowed to heel too much. A boat that is decked over may run her lee rail awash; but when an open boat is approaching this point it must be remembered that a fresher puff may bear the gunwale lower without warning, and that the moment it dips the boat will almost certainly fill and capsize. The details of reefing will depend upon the rig, but a few general rules may be laid down. The men should be stationed before beginning, and should all be required to remain seated. One hand lowers the halliards as much as may be necessary, another hauls down on the leech and shifts the tack. The sheet is hauled in a little to let the men detailed for the reef points get hold of and gather in the foot. The sheet is then slacked and shifted, the reef points passed, the halliards manned, the sail hoisted, and the sheet trimmed. It is important to keep the boat under command while reefing, and for this she must have

way enough to obey her rudder. If she can be luffed a little and still be kept going through the water sufficiently to obey the rudder then it is unquestionably wise to luff, but not sufficiently to risk losing control.

(2) If the boat has more than one sail, it is a safe plan to reef them one at a time, when the sea is dangerously heavy. If there is sufficient crew in the boat, and the sea is moderate, the seaman-like method is, however, to reef all sails simultaneously, as is the habitual practice on drill.

RUNNING BEFORE THE WIND.

96. (1) This is the most dangerous point of sailing in a fresh breeze, because of the chance of gybing. The danger increases if the boat yaws, as she will have a tendency to do if trimmed at all by the head; from which follows the rule: in running keep the weights fairly well aft, though never at the extreme after end. Very careful steering is required, and if the sea is really heavy, the chances are that the boom will gybe in spite of all the care that can be taken, unless lashed to the rail or to a shroud by a "lazy guy."

(2) Squalls are not so dangerous before the wind as when close-hauled, unless they are accompanied by a shift of wind. If they call for any reduction of sail, it may be made by dropping the peak of a mainsail (if a gaff sail), or, more satisfactorily, by reefing.

(3) In running before the wind the foresail is sometimes set on the side opposite the mainsail, a temporary boom being rigged by using a boat hook or an oar. A boat sailing in this way is going "wing and wing."

(4) If the sea is rough, it is well to avoid running with the wind dead aft. To make good a course directly to leeward, the wind may be brought first on one quarter and then on the other, the mainsail being clewed up, or the peak dropped, each time the course is changed, if the breeze is strong enough to make gybing dangerous.

(5) A serious danger in running before a heavy sea is that of "broaching to." The boat will yaw considerably, the rudder will be often out of water when it is most needed to meet her, and the sails will be becalmed in the trough of the sea. The situation here is much like that of a boat running in a surf; and, as in that case, the yawing will be reduced by keeping the weights aft and by steering with an oar. The jib should always be set, with the sheet hauled aft. It helps to meet and pay her off if she "flies to" against the rudder. A drag towed over the stern is also helpful.

(6) Another danger in running is that the boom may dip in the water as she rolls, and thus capsize the boat.

TACKING.

97. (1) In tacking, the same principles apply to a boat as to a ship. After-sail tends to bring her head to wind, head-sail to keep her off; but all sails, so long as they draw, give her headway and so add to the steering power of the rudder.

(2) It is clear that a short, full boat will turn to windward better than a long, narrow one, and will require a much shorter distance for coming around. Thus a short boat is preferable to a long one for working up a narrow channel.

(3) Under ideal conditions, a boat closehauled, but with good way on, shoots up into the wind as the tiller is eased down, makes a good reach to windward, and fills away on the new tack without for a moment losing headway. The main boom is hauled amidships, and, as the jib and foresail lift, their sheets are let go. The boat comes head to wind, and as she pays off on the new tack the sheets are hauled aft and she is steadied on her course. Under less favorable conditions, tacking is not so simple. If there is a sea on the bow, advantage must be taken of a smooth time to ease the tiller down; the main boom must be hauled amidships gradually, and the foresail kept full as long as it will draw. If the boat loses headway, the jib-sheet is held out on the old lee bow (not too far) to pay her head around, and care must be taken not to make a "back sail" of the mainsail. As she gathers sternboard the tiller is shifted, and, if necessary, an oar is gotten out to help her around. Carrying the weights forward is favorable for tacking, but when a boat has stern-board she may be helped around by putting a few of the crew on the (new) lee quarter, where, by increasing the immersion of the full lines of the counter, they add to the resistance and cause the bow to fall off.

(4) If she gets "in irons," either an oar must be used or the jib and foresail sheets must be hauled over on the old tack, flat aback, to give her sternboard. This last is a dangerous maneuver in a strong breeze and rough sea. The use of an oar at any time with a boat under sail is to be discouraged as being lubberly.

WEARING.

98. (1) In wearing, the tiller is put up and the mainsheet slacked away roundly. The boat goes off before the wind, the mainsail is either gybed or taken in and shifted over (preferably the latter), and the boat is hauled up on the new tack, losing more or less ground to leeward, according to circumstances. The details of the maneuver may vary considerably according to the conditions of wind and sea and the peculiarities of the boat as to rig and trim. In a light breeze, the mainsheet is slacked away

roundly until the wind is aft, then hauled in smartly for gybing and eased away steadily on the new lee quarter. In a fresh breeze, where gybing would be dangerous, the mainsail is taken in just before the wind comes aft, and set again in time to bring her to the wind on the new tack.

(2) The fore and jib sheets are shifted when nearly before the wind. As she comes to on the new tack, they are left flowing until hauled aft to meet her by the wind.

GYBING.

99. (1) A boom sail is "gybed" when it is allowed to swing from one side to the other, the wind being aft or nearly so, and the sail full, first on one side and then on the other. This may be done intentionally, as in wearing or in changing course, or it may come unexpectedly from a shift of wind or from the yawing of the boat. As it necessarily involves a violent swing of the sail, it puts a heavy strain upon the spars and fittings and causes the boat to lurch more or less deeply to leeward. Moreover, the violent sweep of the boom across the stern endangers everybody in its path.

(2) In a light breeze, these dangers are perhaps not serious enough to justify the rule that a mainsail should never be gybed, but in a fresh breeze it should not be thought of; and the fact that it is often done by experienced boatmen does not make it any more seamanlike.

(3) When a necessary change of course in a fresh breeze will bring a shift of wind from one quarter to the other, the sail should be lowered or clewed up for a moment before putting up the tiller, and then set again on the other quarter. If this can not be done and it is still necessary to gybe, the peak should be dropped, the boom hauled in slowly and eased away on the new tack.

POWER BOATS.

SPECIAL DUTIES OF COXSWAINS.

100. (1) The coxswain of a power boat is responsible for the whole boat and for the discipline and obedience to regulations of all men in the boat.

(2) While the engineer and fireman, so far as relate to their technical duties, remain responsible to the senior engineer officer for the proper performance of these duties, they are nevertheless, in general matters, entirely under the orders of the coxswain.

(3) The engineer of the boat, in technical matters, has general charge of the boiler and engine or motor, and is responsible that

the fireman efficiently performs his duties, as he is simply the assistant of the engineer.

(4) If anything is required about the engines, such as coal, gasoline, oil, or water, or if any repairs are required which necessitate temporarily disabling the boat, the engineer will report it to the coxswain, who will report to the officer of the deck.

(5) In overhauling the boat while in the cradles the same rule prevails; while the engineer will attend to the technical details of the work on the machinery, any outside assistance necessary, not technical in nature, should be obtained by the coxswain, if necessary, by applying to the officer of the deck.

(6) Orders relating to getting up steam are given to the coxswain of the boat, who will inform the engineer. The coxswain is responsible that all reasonable efforts have been made to have steam up at the moment ordered.

(7) The coxswain of a power boat should, as soon as possible after being assigned to that duty, make a special study of his boat with a view to getting perfectly familiar with her. He should learn by practice the turning circle, the effect of the screw under different conditions. Also the amount of fuel, water, and oil usually carried, the maximum speed of the boat, the operating radius, and the amount of extra fuel, water, and oil required to cover a given distance at the ordinary speed.

(8) The general instructions for coxswains of boats apply with equal force to the coxswain of a power boat, but he is particularly warned, owing to the greater power of his boat, and the greater injury in case of a collision, to carefully study the "Rules of the Road."

(9) In running in a fog, the coxswain should remember that owing to the presence of the machinery in the boat, more especially in a steamer, the compass will be affected. Therefore, to get a correct compass course, it must not be taken from a chart, but should be observed by reading the compass when it is in its place for steering by it, and with the boat headed in the desired direction. This gives the proper reading of the compass when the boat is headed on the desired course. Therefore, on his very first trip in and out from a landing the coxswain should always use his compass, observe and, if necessary, record the compass courses, so that he could make the trip either way in a fog.

(10) Knowledge of the effect of the screw on the steering is most essential to a coxswain. Generally speaking, the right-handed screw when going ahead tends to throw the stern to starboard; when backing, to port. In other words, the stern is dragged around in the direction the propeller is turning, and this

effect is noted whether the boat itself has begun to answer the motion of the propeller or not. In attempting to turn a power boat, the rudder should be shifted when the propeller is shifted instead of waiting for the boat to lose its headway, for the rudder has the same general effect on the steering of the boat when the propeller is backing, whether the boat itself is moving astern or has not yet lost its headway and is still forging ahead. This rule is not strictly applicable to all boats, but it is a good general

NOTES ON POWER BOATS.

101. (1) In making a landing, it is a common mistake to keep too much headway on and to rely on backing the engines full speed to stop the boat. This is poor seamanship, as the engines may fail to back promptly, causing a collision or smash up, and if they do back hard, it throws unnecessary strain on them. Therefore, make landings with slow speed.

(2) In landing alongside a ship's gangway in a strong current, do not let the tide catch your boat on the outboard bow, as this might sweep her underneath the gangway. The boat line from forward should in all cases be used, the boat being kept off a little from the side until it is fast, and then sheered in by the rudder. A boat may lie alongside safely in a strong current with a line from the inner bow, and the rudder slightly over for sheering out.

(3) In towing, the stern of the towing boat should be kept well down by shifting weights aft if necessary. This keeps the propeller well immersed, and gives it a good hold on the water.

(4) When running in a seaway, speed should be reduced somewhat not only to avoid shipping seas but to reduce the strain on the machinery due to the racing of the screw. In running into a sea, it is possible by careful nursing to make fair speed, watching the seas and slowing or even stopping for a moment as heavy ones are seen bearing down upon the boat. If the man who is running the engine has sufficient experience to regulate the speed in this way, it is convenient to leave this to him, if he can see ahead. If running more or less across the sea, it is well to head up momentarily for a heavy wave.

102. (1) The water used in a boiler should always be obtained from the ship, as this is always distilled. Fresh water from shore often contains corrosive ingredients or lime salts, and should never be used when it can be avoided. Salt water should never be used, and the water in the feed tank should be frequently tasted and never allowed to grow brackish through leaky connections.

(2) When a steamer is about to be lowered, the fires should be started promptly and steam got ready to try the engine by the time the boat is in the water. As soon as the steamer is in the water, if not before, the feed pump or pumps must be worked by steam, and the engines turned back and forth, and the whistle, safety valve, bell, and steering gear tried. Failures to work must be immediately remedied.

(3) When a steamer is alongside a gangway, never permit any firing. Attention to the fires before coming alongside will prevent the necessity of doing this, and the dirt and the inconvenience of having thick, black smoke over the ship is avoided. For the same reason the use of the steam jet is to be avoided when alongside.

(4) Steamer crews are generally inclined to carry too little water in the boiler; a third to half a glass should be the rule.

(5) In water-tube boilers the fires may be forced, or suddenly hauled, or put out with a bucket of water, without danger of seriously injuring the boiler, but this should only be done when there is more or less of an emergency.

ARMED-BOAT EXPEDITIONS.

103. (1) There shall be no separate organizations or routine drills for "distant service" or "cutting-out" expeditions of armed detachments in boats. The landing-force organization shall be utilized in all cases where an armed force is needed. Certain section of a ship's landing force—infantry or artillery, or both—with the arms, provisions, boat equipment, etc., that may be required by the special circumstances of the service, shall be designated for the work in any case.

(2) One or more squads of a section may be retained on board ship if their presence is not necessary for the service for which the boat is being equipped.

(3) The necessary number of men shall be selected from the regular special details of the landing force—pioneers, messmen, signalmen, ambulance and ammunition parties—to accompany the expedition. These men may be distributed in the boats with the main body, or they may be assigned to separate boats, as occasion requires.

(4) It would be quite impossible to anticipate and provide for every emergency of service in boats. Each case must necessarily be handled as a separate problem, and the regulations for the organization, equipment, and instruction of the landing force and its various units, if carefully observed, can be made to supply the force—officers, men, and staff—that may be required in any case.

104. (1) When great haste is necessary, the combatant part of the expedition, or a portion of it, shall be embarked at once, with arms and ammunition, emergency rations for two days, stowed in haversacks, canteens and regular boat breakers filled, the boat box and the boat equipment enumerated in Articles 25, 28. Reserve ammunition, extra provisions, and special equipment shall follow in separate boats. The "firing line," so to speak, shall never be delayed, in an emergency, until extra provisions, water breakers, and other articles are hoisted from holes and store-rooms. The fighting force must not be hampered, and the material and supplies for its maintenance shall be supplied and forwarded without undue haste or confusion, but with all care and with every attention to detail.

(2) Communications between the expedition and the ship, by signal or otherwise, shall be provided for, in order that reserves of men and material may be supplied and forwarded, if necessary.

105. (1) It is evident that armed boats have so many possible uses that their complete enumeration would be difficult, and to provide efficiency for all such cases by routine drills would be impracticable.

(2) The final test in fitting out an expedition in any particular case would be: "Are the boats and the crews properly equipped and prepared for the service to be performed?"

106. (1) The method of landing an armed force is fully described in the Landing Force and Small-Arm Instructions, United States Navy.

ABANDON SHIP.

107. On signal for abandon ship the ship's company proceeds with the least possible delay, to stations and duties outlined in the "Ship and Gun Drills" and given in detail in the ship's Abandon Ship Bill.

108. **Equipment.**—Every boat used for abandoning ship should have the following equipment:

(1) The complete boat equipment, including boat compass, tarpaulin, and medical box. Arm curtains will not be carried unless required by special circumstances.

(2) Provisions and water, as prescribed in article 37 (1) and (2), or as much more as the boat will carry safely. When actually abandoning ship, if time permits and if landing is probable, a small quantity of salt, pepper, coffee, and sugar may be provided for use on shore, but this will not be required at ordinary drill.

(3) At least two rifles and a supply of ammunition.

(4) Mess gear and iron kettle.

(5) If possible, a sextant, Nautical Almanac, Bowditch's tables, chart, paper, and pencil. At least one boat, preferably that of the senior officer, must be so equipped.

109. At least two officers should go in every boat, if practicable, and carry service belt, revolver, ammunition, and binoculars if supplied.

110. Steamers.—Spars and sails are no longer provided for steamers, and therefore occasions will be more rare in which it would be advisable to hoist out the boilers. If abandoning ship at sea, or in very rough weather, it would be well to relieve the boat of that weight and encumbrance if there should be time; in smooth water, near the land, the engine could be used to advantage, though the motor boats can probably do all the towing needed. If the boiler is to remain in the boat, fuel and water must be provided.

111. Secure.—When "Secure" is sounded, boat crews will secure their boats, and return supplies; and divisions will fall in at quarters for muster. Boat officers shall report "Secure."

112. Notes.—(1) The boat officer should see that all men stationed in his boat at this evolution are present and that they understand their duties. If a man is unavoidably absent, he should be notified, after the drill, of his station and duties.

(2) Boats (except dinghies) should have not less than 12 inches freeboard when fully manned and equipped. Ten inches is a fair freeboard for the dinghy class.

(3) Junior boats, which will usually not be able to obtain sextants, Nautical Almanacs, etc., will keep near senior boats which are so equipped, after they abandon ship.

(4) The particular station of each man in a boat at abandon ship will be determined by the boat officer, and the men will be carefully drilled to take their stations quickly, quietly, and without crowding or confusion. The position of each article of equipment must also be carefully specified, and men stationed to stow articles must be thoroughly instructed with regard to the stowage; otherwise there will always be confusion of the personnel and slovenly stowage of the equipment.

CHAPTER V.

DETAIL NOTES ON BOAT DUTY.

DUTIES OF A BOAT OFFICER.

NOTE.—Owing to the fact that many boats do not have a boat officer, the general instructions for handling boats were written to cover the cases where a coxswain has charge. Boat officers will also be governed by these instructions, in so far as they are applicable. The instructions under articles 113-115 apply to coxswains in the absence of boat officers.

113. (1) When ordered to take charge of a boat, the boat officer shall report promptly to the officer of the deck, dressed in the uniform of the day and with appropriate side arms.

(2) Sees boat lowered and manned, or manned at the boom and dropped down to the gangway. If boat was lowered for this duty, he sees boat falls hauled taut.

(3) Sees all required equipment is in boat, and that boat gear is in good order.

(4) Sees crew in place and in proper uniform, oars up-and-down, blades trimmed fore-and-aft, coxswain at his station.

(5) Reports to officer of the deck that boat is alongside, manned, and ready for duty. Receives orders and makes sure that he understands them perfectly before leaving ship.

114. (1) The boat officer shall at all times require that the crew preserve silence and pull a strong, regular stroke, that all rules concerning the handling and management of boats, whether under sails or oars, are carried out, that all boat salutes are promptly made or returned, and that prescribed rules for boat etiquette are strictly observed.

(2) In going alongside a man-of-war, use the port side, unless the boat officer is a commissioned officer, and except where there are commissioned officers or their guests in the boat or when only the starboard ladder is shipped. In all cases, however, the lee gangway should be used in heavy weather. Salute the colors, if hoisted, on stepping over the gangway and report to the officer of the deck.

(3) In ordinary weather, as a general rule, as soon as the boat officer steps out of his boat at the gangway, he should order the coxswain to shove off and lie off the quarter. If, however, he simply has a brief report to make or message to deliver to the officer of the deck, he may leave his boat at the gangway (pro-

vided other boats are not approaching), make his report, ask permission to shove off, and leave immediately.

(4) If there is a strong tideway, or if he expects to be detained on board for some time, he should ask permission for his boat to haul out to the boom; and if the delay is likely to be long enough to make it worth while, he should ask permission for his crew to come on board—a privilege that is usually much appreciated by the men, who thus have an opportunity to see old shipmates, take a smoke, etc.

(5) In this connection, the attention of young officers is invited to the importance of treating their men with all due and proper consideration. If boat officers thoughtlessly leave their boat crews lying off the quarter in a tideway, or in excessively hot or cold weather, and otherwise subject them to unnecessary exposure or discomfort, it can not but react against the interests of discipline and efficiency.

(6) When ready to leave a visited ship, the boat officer should request the officer of the deck to have his boat manned, or called alongside, but he should in no case give the orders himself, unless specially invited to do so—as is sometimes done when the officer of the deck is much occupied.

(7) When the boat officer must absent himself from his boat, as, for example, to call upon a consul, or do other duty on shore, he should give his coxswain positive orders concerning the duties to be performed during his absence.

(8) On his return to his ship, the boat officer shall report the completion of his duty to the officer of the deck. If the boat is no longer required, he will see that it shoves off and pulls out to the boom; or if it is to be hoisted, he will see the necessary preparations made and report when the boat is ready, unless the officer of the deck excuses him from this duty.

(9) A boat officer has general charge of the boat, but when carrying commissioned officers, the senior line officer has authority to give directions, and if need be to take command; since by Navy Regulations the senior line officer in a boat is responsible for its management and safety under all circumstances.

(10) When ordered on boat duty the boat officer should remember the men's meal hours, and, if there is a likelihood of the boat not returning in time, he should ask the officer of the deck to have their meals saved.

(11) **Boarding duty.**—A frequent duty of a boat officer is boarding. Every ship keeps a boarding book, which should always be carried on boarding duty. In this book is entered the following routine information: Name of vessel, nationality, name of captain (if man-of-war, also obtain rank of captain or senior officer of

gro up of ships); where from; kind of passage; special incidents of voyage; men-of-war sighted; probable date of departure, and where bound; besides this, any other information which might be of value or interest. Frequently information as to date of commission of the senior officer, length of service on station, etc., is of value in determining the proper interchange of courtesies; in such cases this information should be obtained. The boarding book may be taken on board a merchant steamer and filled out, but when boarding a foreign man-of-war the boarding book should be left in the boat out of sight, and the information entered after leaving the ship. Ordinary boarding calls on foreign men-of-war are usually of a purely courteous nature; therefore, unless the boat officer has a special message for the captain of the vessel, he should inform the officer of the deck that he was sent to present the compliments of his commanding officer and to offer his services. The officer of the deck of the boarded vessel will then be guided by his own instructions as to whether the boarding officer shall see the captain or not. If he states that the captain requests to be excused, the boat officer obtains the information which is desired, and requests permission to leave the ship.

(12) If doing guard duty, or if sent on board the senior ship, a notebook is to be carried to record verbal orders which the boat officer may receive. This notebook shall be carried on board the senior ship and the orders recorded immediately they are received.

115. In delivering a message, always first present the compliments of the officer from whom the message comes, then deliver the message.

DUTIES OF COXSWAIN.

116. (1) The coxswain of a boat should be perfectly familiar with everything relating to the care and handling of his boat and be competent to instruct his crew in all details of general service or drill.

(2) He is responsible to the officer in charge of the boat for its cleanliness and readiness for service, and he should constantly keep himself informed as to the condition and completeness of the boat equipments, reporting all deficiencies to the boat officer.

(3) He is responsible for the appearance and behavior of his boat crew and that they always pull properly and conduct themselves in a seamanlike manner.

(4) Coxswains and boat crews should remember that they represent their ship, and they should therefore be taught to take a pride in their own appearance and in that of their boats. The efficiency and smartness of a ship's boats and boat crews generally reflect most clearly the tone of the ship.

(5) The coxswain is to be careful that his boat crew is always properly dressed, paying particular attention to the following points:

(a) Hats and caps properly worn with ship's name square to the front, and no hair showing on the forehead below the hat or cap.

(b) That the brims of white hats are never turned down unless necessary to shield the eyes from prolonged exposure to the sun.

(c) That grommets are always worn in blue caps, except in windy weather, when he will direct that all grommets be removed.

(d) That trousers are never turned up, except in bad weather.

(e) That the men of the boat crew are dressed alike as regards oilskins, but oilskins are not to be worn unless it is actually raining.

(f) That all members of the crew are in uniform in regard to foot-gear; that is, either that they all wear shoes or all go bare-footed.

(g) That in cold weather the men have their overcoats at hand.

(6) Owing to the constant use of power boats in port, and their consequent greater liability to become soiled, coxswains must devote particular attention to the neat and shipshape appearance of their boat and boat crew.

(7) The coxswain of a power boat is especially responsible that the crew and enlisted passengers sit down in their proper places, that they do not sit on the gunwale, and that the men outside the canopy conduct themselves in a seamanlike and proper manner in extending salutes.

(8) Coxswains of power boats shall devote particular attention to the proper handling of the canopy curtains. When curtains are not required, they will have them neatly rolled and stopped up, and when in use they will be neatly stopped down to the washboard. It is not shipshape to stop down one corner of a side curtain, but when running into a head sea, the coxswain may frequently find it necessary to lower the curtain forward, while it remains stopped up along the sides. Similarly it is frequently necessary to haul down the curtains on one side and leave them furled on the other. Under all circumstances, when the curtains are in use they must be neatly stopped down, as nothing is more slovenly than canopy curtains hanging loosely and flapping to the wind.

(9) Coxswains of power boats must see that towels or clothing are never hanging in the boat when she is called away for service.

(10) Coxswains of power boats will require the stern man to devote particular attention to the appearance of the stern sheets of the boat. Cushion covers shall be kept neat and clean, the lantern filled, trimmed, polished, and the globe cleaned so that it

will give a bright light. The boat flag, when not in use, is to be kept neatly rolled on its flagstaff and triced up overhead, not hanging loosely from flagstaff, where it presents a slovenly appearance and interferes with passengers. When the boat is called away for the use of commissioned officers, the stern man will spread the boat cloth neatly in the stern sheets of the boat, and see the foot cloths, or ladder (if used), on the proper side of the boat.

(11) When boats are called away, coxswains will go in the boat over the boom, will see that the crew is in the boat and everything is ready, and then drop down to the gangway. The coxswain then reports to the officer of the deck, or the boat officer, that the boat is at the gangway ready for service, and in the absence of a boat officer, receives his orders, which he must make sure that he clearly understands.

(12) On his return to the ship he will report that orders have been complied with. He will also report anything amiss that is visible from outside the ship, such as windsails which require trimming, ports to be squared, anything hanging over the side, or clothes being in improper places. He will see his boat properly hauled out to the boom.

(13) The crew shall not be allowed to leave the boats on shore without proper authority. If necessary for any member to leave the boat temporarily, the coxswain will report the fact to the officer of the deck immediately on his return to the ship.

(14) The coxswain shall never permit smoking in his boat during daylight, except when on detached service, surveying duty, or on hunting or fishing expeditions. This rule forbids smoking in boats which are permitted to go out for pleasure sailing, except when special permission is obtained before leaving the ship; but this should be granted only in unfrequented ports.

(15) When boats are ordered to moor, they are to be reported "moored" by the coxswain to the officer of the deck.

CARE AND CLEANING OF BOATS.

117. (1) The coxswain is responsible that his boat and all that belongs to it is kept in good order. When anything is lost or any repairs are required, he is to report the fact to his boat officer. He is responsible that his boat davits are clean, and is to report if any gear connected with them is not in good order.

(2) Care is necessary to see that the oars are properly coppered, leathered, and marked, that they are of the correct length, and are assigned to their proper thwarts. Care should be taken at all times with the blades of the oars, as they are easily split or broken by rough handling or by treading on them.

(3) Great care should be observed to maintain an efficient set of oars, having them neither too heavy nor too light. Ensigns, pennants, staves, and trucks demand careful attention; also trailing lines, rowlock lanyards, boat hooks, and the boat equipment.

(4) Coxswains are always personally to superintend when their boats are being lowered, hoisted, or moored.

(5) Immediately that a boat is hoisted, the coxswain is to see her squared by the falls, dried out, boat gear neatly stowed, the outside cleared of all marks, the plug out (except in lifeboats at sea), and secured close to the plug hole with a lanyard. When the ship is at sea, lifeboats will habitually keep their boat plugs in.

MISCELLANEOUS INSTRUCTIONS.

118. (1) Ship's boats shall always keep a sharp lookout for signals, both from their own and from the senior officer's ship.

(2) Boat ensigns are not to be used for boats to which they do not belong, and the insignia on the head of the pennant staff and flagstaff shall be as prescribed for the rank of the officer to which it belongs. The insignia on the head of the pennant staff and flagstaff are identical and are as follows:

- | | |
|-----------------------|------------------|
| (a) Flag officer..... | Gilt lance head. |
| (b) Captain..... | Gilt ball. |
| (c) Commander..... | Gilt star. |
| (d) Lower rank..... | Flat truck. |

(3) Boat ensigns are half-masted whenever the vessel to which the boat belongs half-masts her colors. If absent out of sight of the ship, and men-of-war in vicinity have colors half-masted, it is proper to follow their movements.

(4) Except when the ship is full dressed, the ensign is never to be left flying in boats made fast astern or at the boom.

(5) A boat under sail is never to fly its ensign at a staff, but the ensign shall be flown from the peak, or head of the mainsail.

(6) As a general rule, boats pulling less than four oars are not to fly boat ensigns.

(7) Boats are not to lie alongside a gangway or landing place, but are to lie off while waiting. In case a long wait is probable, or in bad weather, or on occasions at night, permission may be asked to make fast to the boom, also for the crew to come on board.

(8) Small gear should not be left in boats which remain at the boom after sunset, as otherwise it may be stolen by passing shore boats.

(9) When fresh provisions are being carried in a boat, they should always be covered with a tarpaulin.

(10) When a visiting party goes alongside, the petty officer in charge thereof shall go on board and obtain permission before allowing any of the visiting party to leave the boat. If permission is granted, he allows the party to come on board, each one saluting if colors are hoisted, as he crosses the gangway. If the boat is to wait, it shoves off and lies off the quarter, as above mentioned, unless the officer of the deck gives permission for it to haul out to boom. The regular crew will remain in the boat unless the officer of the deck grants permission for it to come on board.

BOAT KEEPERS.

119. (1) Boatkeepers are detailed by the coxswain of the boat, usually by thwarts in rotation, two men being assigned for one day, in order that they may relieve each other.

(2) Both boat keepers of a running boat clean her out during the morning watch. Boats must be in all respects ready for use by 8 a. m.

(3) The boat keeper of the forenoon watch goes into his boat (when at boom) at 8 a. m., dressed in the uniform of the day.

(4) One of the boat keepers is always to be in his boat when she is at the boom, while the ship's colors are hoisted, unless ordered by the officer of the deck to come on board on account of bad weather. If ordered in on this account, they will remain on deck in sight of their boats, and watch and tend them from that position.

(5) They should be careful that the oars and other gear in their boats are always neatly placed and that the awning is properly spread. They shall wipe out their boats and touch up the bright work as often as necessary. They shall, if necessary, haul their boat up to the boom in order to clear boats coming alongside the gangway.

(6) When not otherwise engaged, boat keepers shall always sit up properly in their boats, and shall never lounge or read.

(7) When boat awnings are not spread they are to stand up and salute all officers who pass their boats, or who come alongside, or leave the gangway.

(8) If awnings are spread, they shall sit erect and salute.

(9) When more than one boat is at the boom, boat keepers shall salute together.

(10) At morning or evening colors, boat keepers stand facing the ship's colors and salute as if on deck. If boat awnings are spread, they will be furled at the first call in the evening.

(11) The rules regarding salutes extended by boat keepers apply to all men in boats at the boom or riding astern. All men in such boats salute together.

NOTES ON MANAGEMENT AND HANDLING OF BOATS.

120. (1) Boat crews are always to man their boats over the boom, and all of the crew should be in the boat in about one minute after the pipe or call. The crews of running boats should remain on deck near lower boom, waiting for a call. A boat should never require longer than three minutes after being called away before reporting ready to shove off from the gangway.

(2) Boat crews are to pull a smart, steady stroke at all times. The first part of the stroke is to be pulled with straight back and arms, keeping eyes always in the boat, body to move directly to the front and rear. Always use the back in pulling.

(3) When laying on oars, they must be horizontal, with blades feathered and the boat crew sitting upright with both hands on the handle of the oar. Lounging on the oars must not be permitted.

(4) When oars are tossed, they must be held vertically, with blades in fore-and-aft plane, handles of oars on bottom boards, the wrist of the inboard hand resting on thigh, outboard hand grasping loom at height of chin, crew sitting upright.

(5) In tossing after the command "Way enough" oars are tossed to an angle of 45° and then carefully and quietly boated.

(6) The practice of sitting close across the bow or stern of a ship, under lower booms or around points of land, is to be avoided.

(7) No one except the coxswain and boat officer is ever to be permitted to sit abaft the backboard.

(8) When under sail:

(a) Never hesitate to reef in good time.

(b) Always see sails well set and trimmed according to the direction of the wind.

(c) See that sheets are never belayed.

(d) See that crew is properly stationed for making and shortening sail, reefing and tacking.

(e) Trim the boat by shifting crew or ballast, as required.

(f) Require crew to sit on thwarts. In making sail no one will stand up, except when absolutely necessary, and even then only on bottom boards of the boat.

(g) Remember that a loaded boat carries more way than an empty one.

(h) In coming alongside, allow plenty of room for rounding to; the mast should be unstepped immediately the sail is lowered. If

for any reason the boat is likely not to come alongside satisfactorily, it is seamanlike to tack or wear and try again.

(9) Boats with full crews shall always pull out from gangway to boom. They shall never haul out by the grabrope when there are more than three men besides the coxswain in the boat.

(10) Boats on ordinary service shall, when the weather is not inclement, use sail in all cases where it will not cause delay in making their trip.

(11) Boatlines should be hove to the bowman whenever a boat comes alongside in a strong tideway, or when a heavy sea is running, in order to assist in holding the boat in place.

ABBREVIATED RULES FOR COXSAINS.

121. (1) Always:

- (a) See required equipment in boat.
- (b) See key to boat box in boat before leaving the ship.
- (c) See boat and boat gear clean and shipshape.
- (d) See crew in uniform.
- (e) See that oarsmen use oars assigned their thwarts.
- (f) Require crew to maintain silence in boat.
- (g) Rise and salute superior officer when he enters or leaves boat.
- (h) See that enlisted men who are passengers in stern sheets rise and salute commissioned officers when they enter boat.
- (i) In getting up, tossing, boating oars, etc., see that men handle oars smartly with arm muscles, keeping body as erect as possible.
- (j) Always give commands in a clear, sharp, and distinct voice.
- (k) Give preparatory commands, when they are necessary to prevent taking the crew by surprise.
- (l) Give commands at proper period of stroke—that is, when the blade is in the water near the beginning of the stroke.
- (m) Require crew to pull a strong, regular stroke, using the back.
- (n) Require crew to feather their blades.
- (o) When laying on oars, see that crews sit upright, with hands on oar handles, blades trimmed horizontal.
- (p) Keep boat bows-on to a heavy sea.
- (q) Watch the ship for signals.
- (r) Obey boat recall as soon as made out.
- (s) See fenders over the side when coming alongside a gangway or landing.
- (t) See sheets tended while under sail, never belayed.
- (u) See sails well set and trimmed.
- (v) Reef in time.

- (w) See that every duty in a boat is done in a sharp, quick, sea-manlike manner.
- (x) Correct every infraction of regulations the moment it occurs.
- (y) In hoisting the boat, hook the forward fall first.
- (z) Report, immediately on return to the ship, any damage to boat or loss of boat gear or equipment, and circumstances attending same.
- (2) **Never:**
- (a) Belay a sheet while sailing.
- (b) Attempt to gybe a main boom in a fresh breeze.
- (c) Stow away boat flag when wet; colors will run.
- (d) Unhook forward fall first in lowering.
- (e) Have after fall hooked when forward one is unhooked.
- (f) Carry heavy weights in extreme ends of boat.
- (g) Go over a ship's after gangway, to or from a boat, when colors are hoisted, without saluting.
- (h) Allow talking in a pulling boat while under way.
- (i) Allow men to leave boat at landing without proper permission.
- (j) Lie alongside shore landing longer than is required to land.
- (k) Pass a senior boat without permission.
- (l) Try to steer in a heavy seaway without a steering oar.
- (m) Try to land through surf, unless expert in doing so, unless absolutely necessary.
- (n) Leave boat after it is capsized, until rescued.
- (o) Permit the crew to lounge when laying on oars.
- (p) Permit any member of the crew to stand on thwarts.
- (q) Permit any member of crew to climb a mast. Unstep if necessary.
- (r) Permit towels or clothing to be hung up in a duty boat.
- (s) Jamb a tiller down too suddenly or too far.

CHAPTER VI.

BOAT SALUTES AND BOAT ETIQUETTE.

122. Salutes shall be exchanged between boats meeting or passing each other, as indicated in the table on the following page. The junior shall always salute first, and the senior shall return the salute with the hand.

123. (1) In boats fitted with swivel rowlocks which are so curved as to render tossing impracticable, oars shall be trailed in all cases, instead of being tossed. Such boats shall always have the oars secured by trailing lines.

(2) In power boats, engines are to be stopped in all cases in which pulling boats toss, trail, or lay on oars.

(3) In laden boats, towing boats, or boats under sail, make the hand salute only on all occasions.

(4) Officers not having their distinctive flag or pennant flying will receive the hand salute only, whether they are in uniform or civilians' clothes.

124. (1) Coxswains in charge of boats rise and salute when officers enter or leave their boats; also when their boats are saluting commissioned officers in other boats or returning a salute from them; but when steering a loaded or towing boat, or a boat under sail, they shall not rise, but shall salute with the hand only.

(2) Enlisted men who are passengers in the stern sheets of a boat shall always rise and salute when a commissioned officer enters or leaves the boat.

(3) Officers in a boat shall rise and salute commanding officers or flag officers when they enter or leave a boat.

(4) Juniors always get into a boat ahead of, and leave it after, their seniors, unless the senior officer in the boat gives orders to the contrary.

(5) As a general rule the seniors take the seats farthest aft; juniors shall leave such seats for their seniors.

125. (1) At morning or evening colors boats passing near a United States naval vessel, or when lying off a foreign man of war, shall salute as follows:

(2) Pulling boats by laying on oars and power boats by stopping engines. Coxswains of the boats, shall stand and salute and members of a power boat's crew outside of the canopy shall stand facing toward the colors and salute when the flag reaches truck or taffrail.

Rank of the senior officer in the boat to be saluted.				
Rank or rate of the senior in the saluting boat.	Flag or general officer, with flag flying.	Commanding officer, above rank of lieutenant (with pennant flying).	Other commissioned officers.	Midshipman or warrant officer.
Flag or general officer..	Junior salutes with hand.	Junior salutes with hand.	Junior salutes with hand.	Junior salutes with hand.
Commanding officer above rank of lieutenant (with pennant flying).	Stops engine, lays on oars, and salutes with hand.	Junior salutes with hand.	Junior salutes with hand.	Junior salutes with hand.
Other naval officer below rank of lieutenant, and marine officers of corresponding rank.	Stops engine, lays on oars, and salutes with hand.	When meeting a senior commanding officer, or immediate commanding officer, stops engine, lays on oars, and salutes with hand.	Junior salutes with hand.	Junior salutes with hand.
Other commissioned officers.	Stops engine, tosses or trails oars, and salutes with hand.	Stops engine, lays on oars, and salutes with hand.	Junior salutes with hand.	Junior salutes with hand.
Midshipman or warrant officer.	Stops engine, tosses or trails oars, and salutes with hand.	Stops engine, lays on oars, and salutes with hand.	Junior salutes with hand.	Junior salutes with hand.
Officer and coxswain in loaded or towing boat, or boat under sail.	Salutes with hand.....	Salutes with hand.....	Junior salutes with hand.	Junior salutes with hand.
Coxswain	Stops engine, tosses or trails oars, stands, and salutes with hand.	Stops engine, lays on oars, stands, and salutes with hand.	Stands and salutes with hand.	Salutes with hand.

126. (1) When a power boat salutes another boat in passing, or when it passes a ship that parades a guard or otherwise salutes an officer in the boat, the members of the crew outside the canopy shall stand at attention, facing the boat or vessel.

(2) Similarly, if the boat is carrying an officer for whom a salute is being fired, men outside the canopy shall stand at attention, facing the saluting ship. The engines are stopped at the first gun, and the boat headed up parallel to the saluting ship.

127. (1) Boatkeepers and all other men in boats that are not under way and not carrying an officer, i. e., at the booms or at a landing, shall, when boat awnings are not spread, stand and salute when an officer comes alongside, leaves the side, or passes near them, and shall remain standing until the boat passes or reaches the ship's side. If boat awnings are spread, they shall sit at attention, article 129 (1), and salute with the hand without rising.

(2) Men working on the ship's side do not salute, but continue their work, except when the bugle sounds the call "Attention."

128. (1) Salutes shall be extended to foreign military or naval officers, or officers of our own Army, Marine Corps, Naval Militia, or Revenue-Cutter Service, in the same manner as to United States naval officers of corresponding rank. This rule applies alike afloat and ashore.

(2) No junior shall ever pass a senior in a boat going in the same direction without first obtaining permission to do so.

129. (1) The position of attention in a boat is sitting erect on thwart or in stern sheets.

(2) At landing places officers are saluted by the crew of a pulling boat sitting at attention, and by the coxswain rising and saluting with the hand.

130. Enlisted men who are passengers in running boats which contain officers shall maintain silence.

131. (1) Boats at landings shall always show deference and respect to boats of other ships of our own or of a foreign service. Coxswains shall remember that landings are for the use of all, that they should exercise patience and forbearance in awaiting their turn to go alongside, and when once alongside they should give way for other boats as soon as possible. In such cases boats carrying seniors should be given the opportunity to land first, and officers shall be saluted and in every way treated with the deference and respect due their rank.

(2) It should be remembered that boats at a landing come more intimately into contact with officers and men from other ships than at any other place; therefore a strict observance of all courtesies by a boat crew will reflect credit upon the ship. If a doubt exists

about the rank of an officer in a boat, it is preferable to salute rather than risk neglecting to salute one who is entitled to that courtesy.

132. Except when there is a special countersign, the answering hail from a boat in reply to a ship's hail shall be varied according to the senior officer or official who may be in the boat, as follows:

President of the United States.....	United States.
Secretary or Assistant Secretary of the Navy	Navy.
Flag officer in chief command.....	Fleet.
Chief of staff (when not in command of a ship).....	Staff.
Division commander.....	—Division (giving num- ber of his division).
Flotilla commander	Flotilla
Commanding officer	The name of the ship un- der his command.
Other commissioned officers	Aye, aye.
Enlisted men of Navy and marines.....	Hello.
Other officers	No, no.
Enlisted men of Navy and marines.....	Hello.
Boats not intending to go alongside, re- gardless of rank of passengers.....	Passing.

133. Power boats approaching a ship when flag or pennant is not displayed in the bow, or at night, or during the day when the curtains are so drawn that the rank of passengers can not be distinguished, may sound short blasts with the whistle, as follows:

President of the United States.....	8
Secretary of the Navy.....	7
Assistant Secretary of the Navy.....	5
Admiral of the Navy.....	7
Admiral	6
Vice admiral	5
Other flag officer.....	4
Commanding officer, chief of staff, or torpedo flotilla com- mander	3
Other commissioned officers	2
All others	1

CHAPTER VII.

RULES OF THE ROAD AND BUOYAGE SYSTEM IN UNITED STATES WATERS.

RULES OF THE ROAD.

NOTE.—The following is a summary of the "Rules for Preventing Collisions at Sea and upon Inland Waters of the United States" which apply to boats.

LIGHTS.

134. The rules concerning lights shall be complied with in all weathers from sunset to sunrise.

(1) All power boats under 26 feet in length shall carry aft a white light to show all around the horizon, and forward, lower than the white light aft, a combined lantern showing red to port and green to starboard, so fixed as to throw the light from right ahead to 2 points abaft the beam on each side.

(2) All power boats designed to be carried on board ship, and 26 feet or more in length, shall carry (a) a bright white light as near the stem as practicable showing 10 points on each side of the vessel; that is, from ahead to 2 points abaft each beam; (b) a white light aft to show all around the horizon; (c) a screened green side light on the starboard side and a screened red side light on the port side, constructed and fixed as prescribed for steam vessels.

(3) Rowing boats, whether under oars or sail, shall have ready at hand a lantern showing a white light, which shall be temporarily exhibited in time to prevent collision.

(4) For an anchor light an ordinary hand lantern showing a white light is to be exhibited when required.

SOUND SIGNALS FOR A FOG.

135. (1) All power boats designed to be carried on board ship are provided with a whistle or other sound-producing appliance capable of producing a blast of 2 seconds' or more duration.

(2) All power boats designed to be carried on board ship, and 26 feet or more in length, shall carry an efficient foghorn and an efficient bell.

(3) In fog, mist, falling snow, or heavy rainstorms, whether by day or night, a power boat shall make the following signals at intervals of not more than one minute:

(a) If under way and not towing or being towed, a prolonged blast of two or more seconds on the whistle or foghorn.

(b) If under way and towing, three blasts in succession on the whistle or foghorn, namely, one prolonged blast followed by two short blasts.

(c) If at anchor, ringing of the bell for about five seconds.

(4) A power boat is under way within the meaning of these rules when she is not anchored or made fast to the shore or a ship, or aground.

SPEED IN FOG.

136. Boats shall, in a fog, mist, falling snow, or heavy rainstorms, go at a moderate speed.

STEERING AND SAILING RULES.

137. (1) When two boats under sail are approaching one another so as to involve risk of collision, one of them shall keep out of the way of the other, as follows:

(a) A boat which is running free shall keep out of the way of a boat which is close-hauled.

(b) A boat which is close-hauled on the port tack shall keep out of the way of a boat which is close-hauled on the starboard tack.

(c) When both are running free, with the wind on different sides, the boat which has the wind on the port side shall keep out of the way of the other.

(d) When both are running free, with the wind on the same side, the boat which is to windward shall keep out of the way of the boat which is to leeward.

(e) A boat which has the wind aft shall keep out of the way of other boats.

(2) When two boats under power or oars are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard so that each may pass on the port side of the other.

(3) When two boats under power or oars are crossing so as to involve risk of collision, the boat which has the other on her own starboard side shall keep out of the way of the other.

(4) When a boat under power or oars and a boat under sail are proceeding in such directions as to involve risk of collision, the boat under power or oars shall keep out of the way of the boat under sail.

(5) Where by any of these rules one of the two boats is to keep out of the way, the other shall keep her course and speed.

(6) Every boat which is directed by these rules to keep out of the way of another boat shall, if the circumstances of the case admit, avoid passing ahead of the other.

(7) Every boat under power which is directed by these rules to keep out of the way of another boat shall, on approaching her, if necessary, slacken her speed or stop or reverse.

(8) Every boat, whether under power, oars, or sail, when overtaking any other shall keep out of the way of the overtaken boat.

(9) Any boat under power approaching another which is in sight of her shall indicate what course she intends to take by the following signals on her whistle:

(a) One short blast to mean "I am directing my course to starboard."

(b) Two short blasts to mean "I am directing my course to port."

(c) Three short blasts to mean "My engines are going at full speed astern."

(d) The words "short blast" to mean a blast of about one second's duration.

(10) In a narrow channel every boat under power or oars shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such boat.

(11) Whenever a boat under power is nearing a short bend or curve in a river or harbor she should give a long blast on the steam whistle.

(12) Boats under power when leaving a ship to proceed ahead and cross to the other bow should give the proper signal on whistles.

(13) Due regard shall be had to all dangers of navigation and collision, and to any special circumstances which may render a departure from the above rules necessary in order to avoid immediate danger.

BUOYS.

UNIFORM SYSTEM OF BUOYAGE IN UNITED STATES WATERS.

138. (1) In coming from seaward, red buoys mark the starboard or right-hand side of the channel, and black buoys the port or left side.

(2) Dangers and obstructions which may be passed on either side are marked by buoys with black and red horizontal stripes and may be left on either hand.

(3) Buoys indicating the fairway are marked with black and white vertical stripes and should be passed close to.

(4) Sunken wrecks are marked by the red and black obstruction buoys described in paragraph 2. In foreign countries green buoys are frequently used to mark sunken wrecks.

(5) Quarantine buoys are yellow.

(6) As white buoys have no special significance they are frequently used for special purposes not connected with navigation.

(7) The starboard and port buoys are numbered from the seaward end of the channel, the black bearing the odd and the red the even numbers.

(8) Perches with balls, cages, etc., will, when placed on buoys, be at turning points, the color and number indicating on which side they shall be passed.

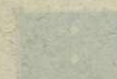
Secretary of the Navy
Assistant Secretary,
Colors reversed



Admiral



Vice Admiral



Rear Admiral
Senior, Blue
Junior, Red

Torpedo Flotilla
Commander



Submarine Flotilla
Commander



Torpedo Division
Commander
Surcharged
Division Number



Submarine Division
Commander
Surcharged
Division Number

Commissioner, Penant



Naval Militia
District (Number)



Naval Militia
Commanders



Naval Militia
Commissioner Penant

(3) Buoys indicating the fairway are marked with black and white vertical stripes and should be passed close to the starboard side.

(4) Sunken wrecks are marked by the red and black combination buoy described in paragraph 1. In foreign countries green buoys are frequently used to mark sunken wrecks.

(5) Quantitative buoys are yellow and to indicate they are the same they have no special significance they are frequently used for special purposes not connected with navigation.

(6) The starboard and port buoys are numbered from the seaward end of the channel, the black buoy being the odd and the red the even numbers.

(7) Buoys with balls, cones, or will, when placed on buoys, indicate the color and number indicating on which side they shall be passed.

BUOYS.



President's Flag



Senior Officer Present



Consular Flag



**Secretary of the Navy
Assistant Secretary,
colors reversed**



**Torpedo Flotilla
Commander**



Commission Pennant



Admiral



**Submarine Flotilla
Commander**



**Naval Militia
Distinguishing**



Vice Admiral



**Torpedo Division
Commander
Surcharged
Division Number**



**Naval Militia
Commodore**


























**Rear Admiral
Senior, Blue
Junior, Red**


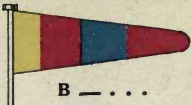

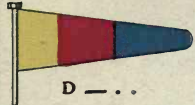




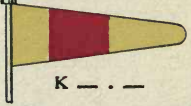

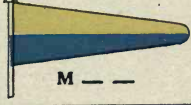
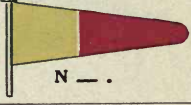
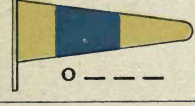



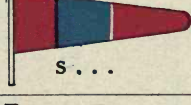
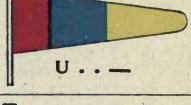
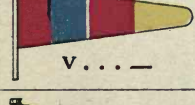
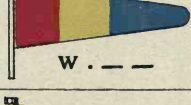
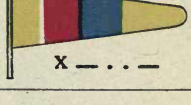




**Submarine Division
Commander
Surcharged
Division Number**



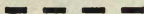
**Naval Militia
Commission Pennant**

 <p>A . _ _</p>	 <p>B _</p>	 <p>C _</p>	 <p>D _ . . .</p>
 <p>F</p>	 <p>G _</p>	 <p>H</p>	 <p>J . _</p>
 <p>K _</p>	 <p>L</p>	 <p>M _</p>	 <p>N _</p>
 <p>O _</p>	 <p>P</p>	 <p>Q _</p>	 <p>R</p>
 <p>S</p>	 <p>U</p>	 <p>V</p>	 <p>W . _</p>
 <p>X _</p>	 <p>Y _</p>	 <p>Z _</p>	<p>CALL FLAGS</p>

 <p>A . —</p>	 <p>B — . . .</p>	 <p>C — . . .</p>
 <p>D — . . .</p>	 <p>F . . — . .</p>	 <p>G — . . .</p>
 <p>H</p>	 <p>J</p>	 <p>K — . . —</p>
 <p>L . — . . .</p>	 <p>M — — —</p>	 <p>N — . .</p>
 <p>O —</p>	 <p>P</p>	 <p>Q —</p>
 <p>R . — . .</p>	 <p>S</p>	 <p>U</p>
 <p>V</p>	 <p>W . — . .</p>	 <p>X —</p>
 <p>Y —</p>	 <p>Z —</p>	<p>SHIP CALL PENNANTS</p>




Cornet.



Numerals.

Ardois—Upper light pulsated.

Very—Rocket }  *Rocket.*

None in other codes.

Repeaters.



1st Repeater.



2d Repeater.



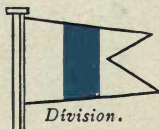
3d Repeater.

Indicators.

Flashed in Ardois. Preceded by call prefix in Sound, and Flash, and by rocket in Very.



Squadron.



Division.



Torpedo Flotilla.



Submarine Flotilla.



Alphabetical Code Flags and Pennants
 (Same as International Code)



ABLE
~~AFFIRMATIVE~~



EASY



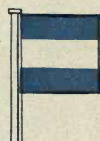
ITEM
~~INTERESTING~~



BOY
 BAKER



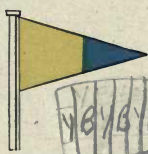
FOX



JIG



CAST



GEORGE



KING



DOG



HAVE



LOVE



MIKE



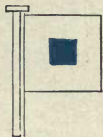
ROGER
RUSH



WILLIAM
WATCH



NIN
~~Navigation~~



SAIL



X-RAY



OBOE
~~option~~



TARE



YOKE



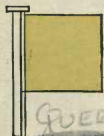
PREPARATORY
PUP



UNIT



ZED


















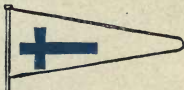
QUEEN
QUACK



VICTOR
VICE

The last ten letters have secondary meanings as numerals in Flag Code, Ardois and Very.

Day.	Ardois.	Flash.	Sound.	Very.
 Answering and Divisional.	<i>Answering.</i>			
	Repeat Display.	• — • • — •		•
	<i>Code Interval.</i>			
K  Negative or No!	— • —			
L  Preparatory.	<i>pulsated</i>	• — • •		
		<i>Signal of Execution.</i>		
N  Annulling.	<i>tight</i>	— •		
		—		
O  Interrogatory.	<i>Upper</i>	— — —		<i>Before a signal.</i>
		— — —		
P  Affirmative or Yes!	• — — •			

Day.	Ardois	Flash	Sound		Very	
 <p><i>Danger and Designating. Navy Register Use.</i></p>	<p>No Danger Signal.</p>				<p><i>Danger.</i> ● <i>Repeated.</i></p>	
		<p><i>Upper light pulsating.</i></p>	<p><i>Designating.</i></p> <hr style="width: 100%; border: 0.5px solid black;"/> <p style="text-align: center;">● — ● —</p>			
		<p>●● <i>"Man Overboard"</i></p>		<p><i>Toots for ten seconds.</i></p>		
<p><i>Guide.</i></p>  <p><i>Guard.</i></p>	<p><i>Convoy.</i></p>  <p><i>Position Division Guide.</i></p>		<p><i>Full Speed.</i></p>  <p><i>Meal. Flag Officer Leaving.</i></p>			
<p><i>General Recall.</i></p>  <p><i>Boat Recall with numeral above.</i></p>	<p><i>Submarine Warning</i></p>  <p><i>Flag.</i></p>		 <p><i>Battle Efficiency.</i></p>			
 <p><i>Red Cross.</i></p>	<p>Q</p>  <p><i>Quarantine</i></p>	 <p><i>Church</i></p>				

CHAPTER VIII.

THE NAVY SIGNAL SYSTEM.

METHODS.

139. The United States Navy Signal System comprises the Navy Flag Code, the Semaphore Code, and the Dot and Dash Code. The last named consisted of the alphabet and numerals of the International Morse Code, with certain additional conventional signals and secondary meanings.

140. In communicating between vessels, or between the shore stations and vessels of the United States Navy, the following methods of signaling are employed:

Flag signals (day). United States Navy Flag Code.

Wigwag signals (day and night). Dot and Dash Code.

Occulting light (day and night). Dot and Dash Code.

Sound Signals (day and night). Dot and Dash Code.

Ardois system (night). Dot and Dash Code, except numerals.

Two-arm semaphore (day and night). Semaphore Code.

Very system (night). Flag Code by Dot and Dash characters.

141. Flag signals are made by hoists of flags, transmitting the Navy Flag Code. The Navy Flag Code may also be transmitted by all other methods of signaling.

142. In the plates, the signs of dots (.) and dashes (—) opposite the various flags and calls illustrate the manner in which they are represented in the Dot and Dash Code. The flags and calls are represented in the semaphore system by displays as shown.

COMMUNICATION WITH THE UNITED STATES ARMY.

143. The International Morse Code has been adopted by joint agreement between the United States Navy and the United States Army for intercommunication by visual and sound signals; an exception is made that in using the Ardois system, numerals shall be spelled out and punctuation marks eliminated.

144. The use of the International Morse Code, however, shall not be understood as prohibiting the employment between the Army and Navy of such other systems of signaling as may be useful under special conditions, such as the International Code,

the two-arm semaphore system, pyrotechnics of any description including rockets, the Very pistol, or any other method of communication not adapted to the Dot and Dash Code, but which at times may become serviceable and which may be temporarily agreed to by the senior officers present of the two services.

CALLS.

NOTE.—Ships' calls are not to be confounded with their International "signal letters."

145. In order to furnish calls for all ships, using the letters of the alphabet for the purpose, combinations of two different letters are necessary, thus—AB, PO, LX, etc. The first letter in each case represents one of the groups in which, for convenience, different ships are arranged; the second letter represents the ship of the group.

146. In order to avoid confusion in making calls by the flag code, two systems of flags and pennants are used—one for the group and the other for the ship. The first system (Plate II) is designated as "call flags;" they are all rectangular flags, as distinguished from pennants, and will be recognized, letter for letter, as modifications of the alphabet flags. The second system (Plate III) is designated as "ship call pennants" because of their shape, and will be recognized as based upon the Dot and Dash Code, red representing a dot, and yellow a dash, and blue the preceding color whether red or yellow.

147. The two-letter call of each ship, therefore, in the flag code is composed of a "call flag," which is always the first letter of the ship call, and a "call pennant," which is always the second letter of the ship call. "Call pennants" are used only as the second letter of a ship call. "Call flags," as explained later, are also used in conjunction with special flags as the call letters of squadrons, divisions, etc.

148. In order to furnish calls by flag code for squadrons, divisions, etc., there are provided in addition to the call flags and call pennants the following special (indicator) flags: (1) squadron (indicator) flag; (2) division (indicator) pennant; (3) torpedo flotilla (indicator) flag; (4) submarine flotilla (indicator) flag.

149. The torpedo flotilla and the submarine flotilla are called or addressed by their special flags, and they have corresponding special calls (or indicators) in the other systems.

150. The squadrons, divisions, torpedo divisions, and submarine divisions have each a call letter. This letter is indicated, in making flag calls, by the use of the "call flag" of that letter hoisted below the squadron, division, torpedo flotilla, and sub-

marine flotilla (indicator) flags, respectively. In calls other than by flag code the letter is used in conjunction with the squadron, division, torpedo flotilla, and submarine flotilla "indicators."

151. All calls except the general call are always flashed by Ardois; are always preceded by the call prefix — in sound and flash; are always preceded by a rocket in Very's. This serves to distinguish the calls from the ordinary use of letters.

152. If necessary to compel attention any call may be made by any two or more systems simultaneously.

NOTE.—For calls of boats or ship flotillas, see Arts. 55–58.

153.

GENERAL CALL (CORNET).

Flag: All flag signals call the whole force present unless displayed with a group, squadron, division, flotilla, or ship call.

Ardois: — — — —, steady display.

Sound: — — — —, including whistle, bell, etc.

Flash: — — — —, including blinker, shutter searchlight, etc.

Very: Rocket, followed by a green star.

Semaphore: By day, cornet at half-yardarm and "cornet" with hand flag or machine.

By night, "cornet" with machine.

Wigwag: By day, cornet at half-yardarm and — — — — by hand flag.

By night — — — — with torch, searchlight beam, etc.

GROUP CALLS.

154. Of the 26 letters of the alphabet, E and T are eliminated to avoid confusion in Ardois and in sound signals of changing the course in thick weather; I is eliminated, reserved for flashing red by Ardois for man overboard. Total of letters eliminated, 3; remaining available, 23. One of these letters, with its corresponding flag or other code call, is assigned to each of the 23 groups. For convenience in calling out the signal, the groups are denominated the first, second, and so on, to the twenty-third, corresponding, respectively, to the call flags A, B, and so on, to Z.

155. All vessels of one group may be called or addressed by the flag or other code call of that group.

156. *Example:* To call all ships of first group (A).

Flag: Call flag, "A."

Ardois: . — flashed.

Sound: — including whistle, bell, etc.

Flash: — including blinker, shutter searchlight, etc.

Very: Rocket . —

Semaphore: By day, call flag "A" at half-yardarm and "A" with hand flag or machine.

By night, "A" with machine.

Wigwag: By day, call flag "A" at half yardarm and . — with hand flag.

By night, . — with torch, searchlight beam, etc.

And so on through 23 groups.

NOTE.—To call two or more groups at one time, each group must be called separately, except that by flag signal, semaphore, or wigwag two or more call flags are hoisted simultaneously.

SHIP CALLS.

157. The call of each ship is a combination of two different letters. In the flag code the first letter is made by the "call flag" of the group to which the ship has been assigned; the second, by the "call pennant" of the ship; the flag being always hoisted over the pennant. By other codes described in this book the call letters are made in the prescribed sequence. There are 22 ship calls in each of the 23 groups, the letter which designates the group being always omitted from the ship calls under each group.

158. *Example:* To call ship G of third group (C):

Flag: Call flag "C" over "G" pennant.

Ardois: — . — . — — . flashed (flash the group call several times first, then the ship call several times; then pause before beginning again, if that is necessary, in order that "C" "G" shall not be misunderstood to be "G" "C").

Sound: — — . — — . including whistle, bell, etc.

Flash: — — . — — . including blinker, shutter searchlight, etc.

Very: Rocket — . — . (·) — — .

Semaphore: By day, call flag "C" over "G" pennant, at half-yardarm, and "C" and "G" with hand flag or machine.

By night, "C" and "G" with the machine.

Wigwag: By day, call flag "C" over "G" pennant at half-yardarm and — . — . — — . with hand flag.

By night, — . — . — — . with torch, searchlight beam, etc.

159. In calling or addressing several ships of one group by flag, the group flag shall not be repeated over each pennant. By the other systems, however, the group call shall be repeated.

160. When a ship calls a ship or ships of the same group as herself, by flag, the group flag need not be hoisted over the call

pennant of the ship addressed. By all other systems, however, the group call must always be made, as otherwise the ship call would be mistaken for the group call.

161. To provide for more than 22 vessels in a group, the ship calls are doubled.

162. *Example:* To call YY ship of twenty-third group (Z):
Flag: Call flag "Z" over "Y" "Y" pennants.

Ardois: — — . . — . — — — . — — flashed; (flash the group call several times first; then the ship call several times twice; then pause before beginning again, if that is necessary).

Sound: . . . — — — . . — . — — — . — — including whistle, bell, etc.

Flash: . . . — — — . . — . — — — . — — including blinker, shutter searchlight, etc.

Very: Rocket — — . . (—) — . — — (—) — . — —

Semaphore: By day, call flag "Z" over "Y" "Y" pennants at half yardarm, and "Z" and "Y" "Y" with hand flag or machine.

By night, "Z" and "Y" "Y" with the machine.

Wigwag: By day, call flag "Z" and "Y" "Y" pennants at half yardarm, and — — . . and — . — — — . — — with hand flag.

By night, — — . . and — . — — — . — — with torch, searchlight beam, etc.

SQUADRON CALLS.

163. The squadrons are independent of the groups and may, when necessary, comprise ships of different groups; it is apt to be more convenient, however, if the ships are of the same group, so as to have the same first call letter. Each squadron has assigned to it a call letter, there being available calls for 23 squadrons. They are numbered consecutively as far as needed through all types of ships except torpedo craft and submarines, and are denominated the first, second, and so on to the twenty-third, corresponding, respectively, to the call flags A, B, and so on to Z, omitting E, I, and T. In the flag code the calls are made by hoisting the squadron (indicator) flag over the call flag representing the call letter of the squadron. In dot and dash codes the letter of the squadron is preceded by a squadron indicator, — — — —, which is the same as the general call, but distinguished from it by being flashed by Ardois, and preceded by the call-prefix in sound, and flash, and preceded by a rocket in Very's.

164. The squadron indicator alone calls all squadron flagships. Alone over a signal, it indicates that the signal is addressed to all squadron commanders.

DIVISION CALLS.

[Other than Torpedo or Submarine Divisions.]

165. The divisions are independent of the groups, and may, when necessary, comprise ships of different groups; it is apt to be more convenient, however, if the ships are of the same group, so as to have the same first call letter. Each division has assigned to it a call letter, there being available calls for 23 divisions; they are numbered consecutively, as far as needed, through all types of ships except torpedo craft and submarines, and are denominated the first, second, and so on, to the twenty-third, corresponding respectively to the call flags A, B, and so on, to Z, omitting the letters E, I, and T. In the flag code the calls are made by hoisting the division (indicator) pennant over the call flag representing the call letter of the division. In dot and dash codes the letter of the division is preceded by a division indicator, ..—, which is the same as "Signals," but distinguished from it by being flashed by Ardois and preceded by the call-prefix in sound and flash, and preceded by a rocket in Very's.

166. *Example:* To call Third Division (C):

Flag: Division pennant over call flag "C."

Ardois: .. — — — . — . flashed.

Sound: — . . — — — . — . including whistle, bell, etc.

Flash: — . . — — — . — . including blinker, shutter searchlight, etc.

Very: Rocket .. — — (·) — . — .

Semaphore: By day, division pennant over call flag "C" at half yardarm, and "Signals" and "C" with hand flag or machine.

By night, "Signals" and "C" with the machine.

Wigwag: By day, division pennant over call flag "C" at half yardarm and .. — — — . — ., with hand flag.

By night, .. — — — . — ., with torch, searchlight beam, etc.

167. The division indicator alone calls all division flagships. Alone over a signal, it indicates that the signal is addressed to all division commanders.

TORPEDO FLOTILLA CALL.

168. The torpedo flotilla (indicator) flag is also the flag call for that flotilla exclusive of any submarine flotilla or division that may

be attached to it. For calling by dot and dash codes there is a special torpedo flotilla call, — — — ., which is the same as "Letters," but distinguished from it by being flashed by Ardois, and preceded by the call prefix in sound and flash, and preceded by rocket in Very's.

169. *Example*: To call the torpedo flotilla:

Flag: Torpedo flotilla flag.

Ardois: — — — . flashed.

Sound: — — — — . including bell, whistle, etc.

Flash: — — — — . including blinker, shutter searchlight, etc.

Very: Rocket — — — .

Semaphore: By day, torpedo flotilla flag at half yardarm and "Letters" with hand flag or machine.

By night, "Letters" with the machine.

Wigwag: By day, torpedo flotilla flag at half yardarm and — — — . with hand flag.

By night, — — — . with torch, searchlight beam, etc.

SUBMARINE FLOTILLA CALL.

170. The submarine flotilla (indicator) flag is also the flag call for that flotilla. For calling by dot and dash codes there is a special submarine flotilla call, . — . — which is the same as "Interval," but distinguished from it by being flashed by Ardois, and preceded by the call-prefix in sound and flash, and preceded by a rocket in Very's. The method is the same as for the torpedo flotilla. The "Interval" is produced by semaphore by causing the hand flags or arms to show intermittently just clear of the body or the machine.

TORPEDO AND SUBMARINE DIVISION CALLS.

171. Each torpedo and submarine division has a call letter, first division having A, second division B, etc., there being calls for 23 divisions of each flotilla, E, I, and T being omitted. In the flag code the division calls are made by hoisting the torpedo flotilla flag or submarine flotilla flag, as the case may be, over the call flag representing the call letter of the division. In other codes, the torpedo flotilla and submarine flotilla calls become, respectively, the torpedo division and submarine division indicator, and, followed by the flag calls, A, B, C, etc., make the torpedo or submarine division calls.

172. In calling two or more divisions or squadrons or torpedo divisions or submarine divisions by flag, the indicator flag shall not be repeated over each call flag. By other systems, however, the indicator shall be repeated.

FLAGS AND PENNANTS OF NAVY FLAG CODE.

173. The flags and pennants used in transmitting the United States Navy Flag Code are as follows:

Alphabet flags.

Negative flag (alphabet flag "K").

Preparatory flag (alphabet flag "L").

Annulling flag (alphabet flag "N").

Interrogatory flag (alphabet flag "O").

Affirmative flag (alphabet flag "P").

Numeral flag.

Repeaters.

Danger and designating flag.

Answering and divisional point pennant.

Cornet.

Call flags.

Ship call pennants.

Indicators.

174. The alphabet flags are the same as those of the International Code. The letters "E" and "T" are not used singly because their displays by the Ardois system are night speed indicators, and by the whistle they indicate a change of course. The letter "I" is used singly only as the dispatch and breakdown flag.

175. To prevent confusion and mistakes due to the similarity in the sounds of different letters when calling out flags or recording signals, the words given in the following table shall be used as the names of the letters on board of all vessels and at all times:

A.....	Able.	N.....	Nan.
B.....	Boy.	O.....	Oboe.
C.....	Cast.	P.....	Pup.
D.....	Dog.	Q.....	Quack.
E.....	Easy.	R.....	Rush.
F.....	Fox.	S.....	Sail.
G.....	George.	T.....	Tare.
H.....	Have.	U.....	Unit.
I.....	Item.	V.....	Vice.
J.....	Jig.	W.....	Watch.
K.....	King.	X.....	X ray.
L.....	Love.	Y.....	Yoke.
M.....	Mike.	Z.....	Zed.

176. The negative flag (alphabet flag "K") when hoisted in answer to a signal means "Not granted" or "No." The call of the ship to which it is addressed as an answer shall be displayed

over it in order to avoid any chance of a misunderstanding. Hoisted over a signal it puts the message in a negative sense.

177. The preparatory flag (alphabet flag "L") hoisted over a signal means "Prepare to execute the signal now shown as soon as the signal of execution is made."

178. The signal of execution is the starting from its point of hoist of the same signal (without the preparatory flag) or of some other signal relating to the same movement or maneuver. Thus, if the signal were made to prepare to moor ship, the signal of execution might be the hauling down later of a signal to "anchor in succession in inverted order."

179. The preparatory flag is hoisted, as a single display, preparatory to certain routine ceremonies, as explained under "Colors signal." It shall also be used as a morning routine time signal, as explained under "Time signal."

180. The annulling flag (alphabet flag "N") annuls all signals at that moment displayed on the same mast. In this case only it is to be answered by hauling down all answering pennants which may have been hoisted in reply to the signal or signals. In case ships have the signal or signals hoisted they shall also display the annulling flag and haul all down with their hauling down on the flagship. Hoisted alone, it annuls the last signal made or the last hoist.

181. Any signal previously made may be annulled by hoisting the signal again with the annulling flag either over it or hoisted at the same time. See Art. 260.

182. The interrogatory flag (alphabet flag "O") when hoisted over a signal changes its meaning to the interrogatory form. For example, the signal "Can maintain present speed" with the interrogatory over it means "Can you maintain present speed?" or the signal "Anchor" with the interrogatory over it means "May I, or shall I, anchor?"

183. The single display of the interrogatory in answer to a signal means that the signal can not be read or is not understood.

184. The interrogatory hoisted alone by a flagship means "You are repeating the signal wrong," or "What movement are you making?" according to the circumstances which will be evident.

185. The affirmative flag (alphabet flag "P") when hoisted in answer to a signal, means assent, consent, permission granted, or "Yes." The call of the ship to which it is addressed as an answer shall be displayed over it in order to avoid any chance of a misunderstanding.

186. Hoisted over a signal, it means that the specific work or service called for by that signal has been completed or the duty has

been performed. For example, the signal "Moor" with the affirmative over it means "I have moored."

187. It is hoisted alone when getting under way with other vessels in formation; when ready to steam ahead after "Man overboard" or other contingency involving stopping; in mooring ship; and in other cases to indicate that some duty called for by a previous signal has been completed.

188. The numeral flag hoisted over certain alphabet flags indicates that those flags are to be interpreted as numerals. The flags whose meanings are thus changed are as follows:

Q	..... 1	V	..... 6
R	..... 2	W	..... 7
S	..... 3	X	..... 8
T	..... 4	Y	..... 9
U	..... 5	Z	..... 0

189. The repeaters serve to reproduce, in numeral and vocabulary signals only, the alphabet flags hoisted above them. The first repeater reproduces the first alphabet flag, the second repeater the second, and the third repeater the third.

190. Other specific uses of repeaters are described in instructions for sending and receiving flag signals.

191. The danger and designating and Navy Register use flag hoisted alone indicates danger ahead. A compass signal under it indicates the bearing of the danger from the ship making the signal.

192. Used as a designating flag it designates a particular ship, place, person, or thing, when hoisted over or at the same time and, if possible, on the same mast as the signal representing the object referred to. For a ship, the signal will be her call or her International Signal letters; for a place or thing, the signal in the vocabulary; for an officer on the active list, his signal number in the Navy Register; for an officer on the retired list, or an enlisted man or other person, the signals spelling out his name. In making an officer's number the January Navy Register of each year shall be used on and after July 1 of that year and until and including June 30, of the following year.

193. The answering pennant is to be hoisted where it can be best seen—at the truck, gaff, or yardarm—in answering, and kept there until the signal is hauled down. At sea, if displayed at the yardarm it shall be at the side not occupied by the speed cone unless that leads to concealment by smoke. In port it shall be displayed at the starboard yardarm.

194. In order that there shall be no uncertainty as to the signal that is answered by a ship, the latter shall display the answering

pennant under the call of the ship making the signal; except that in answering a signal from the senior flagship the latter's call shall not be displayed.

195. The answering pennant is used as a divisional point to represent the divisions of mixed quantities referred to by a signal made at the same time or just previously.

196. The cornet hoisted at the fore, or at the highest gaff or signal yard if the foremast head can not be used for its display, is a peremptory order for all officers and others absent from the ship to repair on board at once. A gun fired denotes urgency.

197. The cornet hoisted half yardarm high is a call for the whole force to receive a semaphore or wigwag message.

SPECIAL FLAGS AND PENNANTS.

198. The Union Jack hoisted at the fore is a signal for a pilot. Hoisted at a yardarm it indicates that a general court-martial or court of inquiry is in session on board. In port a gun shall be fired when it is hoisted upon the meeting of the court.

199. The powder flag (alphabet flag "B") shall be displayed at the fore on all vessels while taking on board or discharging explosives or loaded projectiles, or fuel oil or gasoline in large quantities, and in the bows of all boats and lighters transporting the same. It is also to be displayed by a ship engaged in target practice with either guns or torpedoes while the firing is in actual progress. It shall be hauled down halfway when off the firing line if the practice is to continue, and hauled down at "Cease firing" or "Secure." It may also be used when standardizing propellers, to indicate when the ship is on the course and observations are in progress.

200. The dispatch and breakdown flag (alphabet flag "I") shall be worn at the main in all dispatch vessels to indicate the nature of their service. No vessel shall hoist the dispatch flag without proper authority, nor display it as such until actually under way and out of formation; but when it is hoisted she shall not be interfered with by an officer junior to the one by whom she is sent on such service, except when the public interests imperatively demand such action, of the necessity for which the senior officer present must be the responsible judge. A vessel engaged in carrying dispatches or orders through a fleet should hoist below the dispatch flag the call of the ship to which she is not bound; or she may display in inverse order the calls of all the ships to be communicated with, that of the ship to be next communicated with being the last one in the hoist, and as soon as any ship has been communicated with her call shall be detached from the hoist.

201. In formation underway this flag shall be kept rounded up "in stops" at the fore ready to break in case of accident to machinery or steering gear. When a guide flag is displayed at the foremast head the breakdown flag shall be hoisted "in stops" below the guide flag ready to break below it. In case of accident which is likely to necessitate slowing down or leaving the formation, it shall be instantly broken as an emergency signal, and implies "breakdown" or "not under control," and other ships must keep clear until the ship displaying the breakdown flag shall have gotten well clear of the formation. The breakdown flag does not relieve a ship from responsibility in cases of collision, even though she may have sheered out of formation. It shall be kept flying during daylight until repairs are completed and the ship is headed for the formation to resume her position, or until she is beyond signal distance.

202. In case of man overboard, a ship in formation shall break this flag and at once lower it part way (but not below the level of the smokestacks) as a signal for "man overboard."

203. The guard and guide flag when used at anchor is a guard flag, and indicates that the ship upon which it is hoisted is charged with the guard duty of the division, squadron, or force then at anchor within signal distance. It shall be hoisted at the fore between sunrise and sunset. From sunset until sunrise a red light shall be displayed at the fore truck, except under such conditions as may cause it to be confused with navigation lights. The guard flag shall not be hoisted, nor red light shown, by a flagship or vessel of the senior officer present to indicate that she has the guard duty. A ship may be directed to take the guard duty by hoisting the guard flag under the ship's call; this is answered by hoisting the guard flag. A ship is relieved from guard duty by hoisting the guard flag over the ship's call; this is answered by hauling down the guard flag. To call a guard boat alongside, the flagship may hoist the guard flag under the ship's call or under the call of the division to which the ship belongs; or at night may display a red light after the call, as above. This is answered by dipping the guard flag or pulsating the red light. Boats on guard duty shall display a small guard flag from a staff in their bows during daylight.

204. When a ship is underway and in formation the display of this flag at the fore denotes that she is the guide in the formation. The guide flag at the dip (lowered part way) indicates that the guide ship is temporarily out of position. The division guide pennant (position pennant) shall be displayed under the same rules for rear divisions or squadrons. A ship may be directed to take the guide by hoisting the guide flag under

the ship's call, or to cease being the guide by hoisting it over the ship's call. This is answered by hoisting or hauling down the guide flag or pennant as called for.

205. The convoy and position and division guide pennant shall be worn at the fore of all ships on escort duty to indicate the nature of their service. No vessel shall hoist the convoy pennant without proper authority; but when it is hoisted she shall not be interfered with by an officer junior to the one by whom she was sent on such service, except when the public interests imperatively demand such action, of the necessity for which the senior officer present must be the responsible judge.

206. It is also a division (or squadron) guide pennant, and in compound formations is worn by the guides of divisions (or squadrons) other than the fleet guide.

207. A ship in formation not on escort duty hoists this pennant to indicate that she has attained an assigned position; but it shall not be used in tactical evolutions except as prescribed under fleet tactics. When a ship in formation has been in position and loses it, she shall hoist the position pennant at half-mast as an indication of the fact, and keep it so until she regains her position, when she shall run it all the way up and immediately haul it down. Under battle conditions it shall not be used for this purpose.

208. The position pennant displayed under a call by the senior officer, means to the ship signaled: "You are out of position," or "You are out of order."

209. The full speed and meal and flag officer leaving pennant is kept hoisted as a single display at the port yardarm during the period when the crew is at meals on board vessels at anchor, whether or not the colors are hoisted. This pennant shall be shown for this purpose without reference to the flagship. Under way in formation it shall be used as a full-speed pennant on the same side as the speed cone. When a flag officer is about to leave his flagship officially during the day, this pennant shall be displayed directly under his flag and hauled down when he shoves off.

210. The general- and boat-recall flag is a peremptory order for all boats absent from that ship on detached duty, or otherwise, to return with all speed to their ship. A numeral displayed below the general recall is an order that all boats except the one indicated shall return to the ship. The general-recall flag under a numeral indicates the recall of the ship's boat having that numeral as a call number. Commanding officers of all ships shall assign numbers to all boats for this and for boat exercise purposes. A recall shall be kept hoisted until the boat is made out as returning in obedience to the signal. If necessary, but only in case of emergency, the ship's call letter may be sounded on the steam whistle or a gun

fired to attract the attention of the boat. When a boat recall is hoisted with the annulling flag over it, it indicates that the boat so designated shall not return to the ship at the time previously prescribed, but shall wait for the further display of her recall.

211. At night a boat may be recalled by the display of "I," followed by the number of the boat, and by the ship's call if there can be any uncertainty as to which ship is signaling; or special night recalls may be assigned for particular occasions, observing due care that the recall used shall not be such as to render it possible to be mistaken by other ships as a signal to them.

212. The quarantine flag (alphabet flag "Q") is hoisted at the foremast head or most conspicuous hoist on all infected ships or ships in quarantine. It shall be kept flying day and night and be carried in the bow of all boats belonging to the ship having this flag hoisted. It should be hoisted by incoming ships as a signal to the health officer of the port that pratique is desired.

213. The battle efficiency pennant shall be worn at the fore when at anchor on such vessels as may have been officially declared entitled to fly it for excellence in battle efficiency.

214. The Red Cross flag is, by international agreement, to be worn at the fore on all hospital vessels. It shall also be displayed over the field hospital of any naval force on shore and on hospital boats of landing parties.

215. The submarine warning flag is hoisted on the tender or parent ship of submarines or on launches accompanying them to indicate that submarines are operating submerged in that vicinity.

216. The church pennant shall be hoisted at the same place of hoist and over the ensign during the performance of divine service on board vessels of the Navy.

217. The battalion flags for infantry and artillery are provided for naval landing forces.

218. The Naval Militia distinguishing flag shall be hoisted at the masthead (fore when there is more than one mast) at all times on all vessels loaned by the Navy Department to a State for the use of the Naval Militia or Naval Reserve, and on all vessels "in commission in reserve" and assigned to the States for the instruction of the Naval Militia or Naval Reserve, when such vessels are actually under the command of a Naval Militia or Naval Reserve officer.

219. The Naval Militia commission pennant and commodore's pennant shall be worn by Naval Militia vessels in the same way that is prescribed for the similar pennants on vessels of the Navy.

MAN-OF-WAR LIGHTS.

220. At night when approaching an anchorage where men-of-war are likely to be found, all ships shall display at the peak two white lights in a vertical line. When at anchor in port and sighting an incoming vessel making this display of lights, United States ships at anchor shall answer such signal by making the same display.

SPEED INDICATORS.

221. Speed indicators are primarily intended for use in formation. But as the actual moment of leaving or joining a formation is manifestly indeterminate, ships maneuvering in the presence of other ships under conditions which render it advisable that the latter should be apprised of their movements shall use the speed indicators day or night.

DAY.

222. The dial speed of a ship in formation may be indicated by the position of a speed cone, 2½ feet in diameter at the base and 3 feet in height, hoisted at the signal yardarm. As a black cone is not easily seen when projected against the gray smoke pipes, cage masts, etc., the cones shall be of a bright-yellow color on odd-numbered ships in formation and bright red on the even-numbered ships. (This assists in recognizing a ship for signaling or measuring distance.) The significations are as follows:

Apex up.—All the way up to yardarm, "Going ahead at standard speed." About two-thirds way up to yardarm, "Going ahead at two-thirds standard speed." (It should show above the smoke pipes.) About one-third way up to yardarm, "Going ahead at one-third standard speed." (It should show well clear above semaphores, etc.)

Apex down.—Hoisted part way to yardarm, "Engines backing." All the way up to yardarm, "Engines backing full speed."

Lowered out of sight, "Engines stopped."

223. The cone shall be hoisted on the weather side clear of smoke. Ships shall not change the place of hoist of the speed cone during an evolution; and when changing, the first cone is not to be started until the second one is hoisted to its place. The senior officer may direct the use of two speed cones, one on each side, when in column formation, in getting underway or coming to anchor or when engaged in tactical drills. If the flagship hoists a second cone, other vessels shall do so without further orders. The speed cone may be dispensed with entirely by the senior officer when at sea in open water; this shall be done by signal.

224. The full-speed pennant at yardarm, next to the speed cone (apex up), "Going ahead 1 knot or more faster than standard speed." It shall indicate what is being actually done, not simply what it is desired or attempted to do.

NIGHT.

225. The night speed indicators consist of a double electric lamp at the main truck, showing red or white. The significations are as follows:

White light.—Steady light: "Going ahead at standard speed." Single flashes: "Going ahead at one-third standard speed." Double flashes: "Going ahead at two-thirds standard speed."

Red light.—Steady light: "Stopped." (In emergency, toots for 10 seconds with steam whistle also.) Single flashes: "Engines backing." (In emergency, three blasts with steam whistle also.) Double flashes: "Engines backing full speed." (In emergency, three blasts with steam whistle also.)

226. In all cases of double flashing the double flashes should be well accentuated.

227. The fore-truck lights shall not be used for speed indicators except in case of failure of those on the main. Truck lights shall not be used for signaling except when all other means fail.

228. At night when under way in formation each ship shall carry the "light for an overtaken vessel" prescribed by article 10, International Rules for Preventing Collisions. This light shall be capable of being so screened as to show through only a small arc and of being projected downward to illuminate only the wake when advisable to restrict its range of visibility. In its normal position this light shall be referred to as the "stern light"; when projected downward, as the "wake light." A screened speed and steering light installed on the rail aft may be used in place of the stern or wake light under circumstances rendering it inadvisable to display the truck light or other high lights. It shall be capable of being so screened as to show through only a small arc and to be so projected as not to be discernible outside of the formation; and it shall contain a red and a white lamp capable of being manipulated in the same way as the regular night speed indicator to indicate going ahead, backing, etc. The displays of this light and of the stern and wake lights may all be producible, as needed, in one lantern.

OIL LANTERNS.

229. In the event of the failure of all electric speed indicators, oil lanterns shall be used as follows: One white lantern at the yardarm: "Going ahead at standard speed." One white lantern

at the yardarm and another halfway up: "Going ahead at two-thirds speed or less." One red lantern at the yardarm: "Engines stopped." (In emergency, toots for 10 seconds with steam whistle also.) One red lantern at the yardarm and a white lantern halfway up: "Engines backing." (In emergency, three blasts with steam whistle also.)

INSTRUCTIONS FOR THE USE OF ALL SYSTEMS IN SIGNALING.

SIGNALING WITH FLAGS.

230. To send a flag signal, search in the signals, in alphabetical order, for one of the principal words of the signal which it is desired to send. The signal letters will be found in the left-hand column abreast the signal meaning; or, if the signal has been assigned letters under some other word, the signal letters will be found at the right-hand side of the page.

231. All commodities, distances, weights, measures, etc., are expressed in terms in accordance with the following table:

Table of Units.

Boards, planking, etc	In running feet.
Fresh meat, vegetables, bread, dry or canned commodities (except beans), and small stuff	In pounds.
Cordage	In fathoms.
Coal and fuel oil	In tons (long).
Water, oil (except fuel), liquids, and beans	In gallons.
Salt beef and pork, etc	In barrels.
Ammunition	In rounds.
Distances at sea	In sea miles or yards.
Distances on land	In statute miles or yards.
Depths	In feet (unless specifically stated otherwise in the signal).

232. To receive a flag signal, look in the left-hand column of the signals for the group of letters in alphabetical order and abreast it will be found the message intended to be conveyed. If understood, "answer" by repeating. (Boats and such vessels as are provided with only the Deck and Boat Book shall answer both deck and boat signals with the answering pennant, boats using the hand pennant; ship flotilla flag boats in formation repeat the

signals and hoist the answering pennant when all boats of their flotilla have answered:). If this signal can not be read, or if it can be read but is not understood, hoist the interrogatory.

233. In general, with the exception of an emergency signal—such as danger, breakdown, man overboard, etc.—all flag signals made by any ship are intended for and are replied to by the commander of the division to which the signaling ship belongs, or, if it does not belong to any division, to the senior officer present. On the receipt of a signal, the division commander either acts upon it or repeats it to the commander in chief, as the case may require. In the case of an incoming ship, however, the senior officer shall give or withhold permission to anchor and shall assign the berth, unless specific instructions to do this shall have been given to division or squadron or flotilla commanders; for which purpose specific signals are provided.

234. If signals are flying on any flagship at the time routine reports are required to be made, such routine signals shall not be hoisted by vessels of that division until the signals on the flagship in question are hauled down.

235. To address a signal to a particular ship or division or squadron or flotilla or group, hoist the call of the unit addressed above the signal-flag hoist. To exempt any ship or division or squadron or flotilla or group, hoist the call of the unit exempted under the signal-flag hoist.

236. Except as noted in article 232 for vessels using only the Deck and Boat Book, all flag signals made by a flagship shall be answered by each ship addressed hoisting the same signal, including such ships as may be indicated as exempt. In addition, division commanders shall hoist the answering pennant when all the ships of their divisions have hoisted the signal. When in a squadron formation, squadron commanders shall hoist the answering pennant when all the ships of their squadrons have done the same.

237. Repeating signals.—Under special circumstances a commander in chief may designate a certain ship to repeat signals. The signal to such ship to take that duty is the second repeater under the ship's call. In such cases when a ship, not a flagship, repeats a flag signal she shall exhibit the first repeater over the call of the ship signaling over the signal to show that it is a repetition; and if it is intended for a particular ship, the repeating ship shall exhibit the call of the ship for which the message is intended over the first repeater, or shall hoist at the same time the said ship's signal letters. When a flag signal made by a flagship is a signal to all ships, and is therefore to be repeated by all as acknowledgment, it is manifestly not necessary for the repeating ship to exhibit the first repeater over it.

238. In repeating signals from an individual ship to the flagship of the commander in chief, a division commander shall hoist first repeater over the call of the vessel signaling over the signal; but in repeating the reply he shall not hoist the repeater. For example: Should the *Virginia*, in the fourth division, hoist a signal upon which only the commander in chief could act, it would be answered by the *Georgia*, flagship of the fourth division, which would then hoist "first repeater, over *Virginia's* call over the signal," which would be answered by the *Wyoming*, flagship of the commander in chief.

239. A reply to a signal which is repeated is addressed to the division or squadron commander who repeated it. For example: Taking the case as above, supposing the reply of the commander in chief to the signal to be in the affirmative, the signal made by the *Wyoming* would be "*Virginia's* call, Affirmative." This would be intended for the *Georgia*, but having the *Virginia's* call above it the *Georgia* would, instead of answering it, repeat it, "*Virginia's* call, Affirmative," without repeater. This would be at the same time an acknowledgment to the commander in chief and a call to the *Virginia*. The *Wyoming* would then haul down; the *Georgia* would keep the signal flying until the *Virginia* acknowledged it. In this way the squadron or division commanders never use the repeater when repeating signals from a senior to a ship under their immediate commands.

240. It will sometimes happen, on detached service or otherwise, that one vessel may wish to communicate with another not within signal distance by means of an intermediate vessel, available through position for transmitting messages by signal. In such cases the third repeater hoisted below a call is a request to the ship designated to repeat the signal, which will be hoisted at the same time and will appear with the call of the ship addressed. The repeating ship then repeats the signal according to the rules above and repeats back the acknowledgment or the reply to the ship originating the signal.

241. Vessels of the Navy meeting at sea shall make their calls as soon as within signal distance. As soon as one vessel reads the other's signal she shall "Answer." If using flag signals, the ship which answers shall not haul down her signal until answered by the other ship. At night, as a preliminary, vessels shall make Cornet, and when answered shall make their calls. In case two or more vessels are in company the senior alone shall make her call and answer that of the communicating vessel. A vessel coming into port shall be the first to make her call. In case a ship is so situated that she can see the signal of an incoming ship before the senior officer present, she shall repeat the signal of the arriving

ship. When this is answered by the senior officer, she shall repeat the call of the senior officer's ship to the one coming in.

242. **Numeral signals**, by any method of signaling, are concrete numbers. The answering pennant is used as a divisional point to represent the divisions of mixed quantities and also as the decimal point. Thus, in signaling amounts of United States money or decimal fractions, it represents the decimal point.

243. As a number greater than 9,999 can not be made by one numeral hoist, a special signal in the Signal Book is provided which means: "The numeral which follows represents thousands. A second numeral following represents units." For example: (the signal)—71 means 71,000; or (the signal)—71—454 means 71,454.

244. **Compass signals** given in the table in the General Signals express true azimuths, whether courses or bearings; those given in the Boat Signals express magnetic courses or bearings.

245. **Soundings** shall be reported by signal in feet, unless specifically stated otherwise in the signal. The numeral flag above represents the number of feet (or fathoms) when bottom is reached; below, the depth reached with "No bottom."

246. **Time signals**.—The time of day shall be signaled by the signals in the General or Boat Signals, which give a separate signal for each hour. The minutes shall be indicated by a numeral below the signal. To signal seconds of time, display the numeral indicating the seconds in a separate hoist; but in this case there should be two flags to indicate minutes and two to indicate seconds, thus: "To make 1 hour 00 minutes 03 seconds, a. m.," the signal would be "(signal)—00" on one hoist (indicating 1 hour 00 minutes), and "03," indicating the seconds on the other.

247. When two or more ships are in company the senior officer present shall at 6.55 a. m. make the uniform signal, hauling down the signal at 7 a. m. as a time signal for the purpose of comparing deck clocks. In case it is not necessary to make a uniform signal, the preparatory flag shall be used for the time signal, and the uniform shall be understood to be the same as on the preceding day.

248. **Colors signal**.—In port and under way when preparing to hoist colors, when two or more ships are in company, the senior officer present shall, at 7.45 a. m., hoist the preparatory flag over a numeral to indicate to the other ships present the number of the ensign to be hoisted at colors. Thus: "Preparatory 4" will indicate that a "No. 4 ensign and jack" shall be worn during the day. (Auxiliary vessels and torpedo and other small craft shall display colors of size corresponding to those designated for large ships.) If the signal is hoisted after 8 a. m. colors, ships shall answer and, upon its being hauled down, shall promptly shift colors to the size ordered.

249. In port the preparatory flag shall be hoisted at the yardarm of the ship of the senior officer present, morning and evening, at the time the call for colors is sounded, and it shall be started from the point of hoist at the same instant that the ensign is started up or down and with the first note of the national anthem.

SIGNALING BY OTHER METHODS THAN FLAG SIGNALING.

250. When a signal is characterized as being modified by the negative or preparatory or annulling or interrogatory or affirmative above it or by a numeral signal below it (in flag signaling), the modification is expressed in all other modes of signaling by preceding the signal with those that are stated to be above it and following it with those that are stated to be below it.

251. All signals shall be considered official unless preceded by the letters "UN." Unofficial signals shall in all cases be prefaced by the letters "UN," and may be made by any system except the Ardois or Very. Official signals shall not be addressed nor signed unless necessary for perfect understanding; they shall be understood to come from the senior line officer on board the sending ship or station and to be addressed to the senior line officer on board the receiving ship or station unless otherwise stated in the signal. No unofficial message shall be transmitted by any method of signals unless signed by and addressed to an officer except by special permission in each case.

252. Night signals to boats are answered by a hand lantern or torch or Very's red star.

THE DOT AND DASH CODE.

253. The Dot and Dash Code comprises the alphabet and numerals of the International Morse Code, together with certain additional symbols and secondary meanings, as follows:

Alphabet.

A . —	J . — — —	S
B —	K — . —	T —
C — . — .	L . — . .	U . . —
D — . .	M — —	V . . . —
E .	N — .	W . — —
F . . — .	O — — —	X — . . —
G — — .	P . — . .	Y — . — —
H	Q — — —	Z — . . .
I . .	R . — .	

Numerals.

1 . — — — — —	5	8 — — — — . .
2 . . — — — —	6 —	9 — — — — .
3 . . . — — —	7 — —	0 — — — — —
4 —		

Additional symbols.

Cornet — — — — —	Code interval or designator
Letters (follow) — — — — .	. — . —
Signals (follow) . . — —	

Conventional Signals.

For use in all methods of signals except flag hoists and Very.
 Exceptions; Ardois and Semaphore.

End of word	Interval.	
End of sentence	Double interval.	
End of message	Triple interval.	
Signal separating preamble from address; address from text; text from signature.	— . . . —	Double interval (signature also preceded by "Sig. Interval").
Acknowledgment . . . . .	. — . (R).	
Error . . . . .	. . . . .	A *
Interrogatory . . . . .	. . — — . .	O *
Repeat after (word)	. . . . . Interrogatory, A (word).	
Repeat last word	Interrogatory twice.	
Repeat last message	Interrogatory three times.	
Send faster	ORQ.	
Send slower	QRS.	
Cease sending	QRT.	
Wait a moment . . . . .	. — . . . .	None.
Execute	IX, IX.	
Move to your right	MR.	
Move to your left	ML.	
Move up	MU.	
Move down	MD.	
Finished (end of work) . . . . .	. . . — . —	None.

* Upper light pulsated in Ardois; flags or arms chopped in semaphore.

Secondary Meanings.

Used only in flag hoists, Ardois, Semaphore, Very or in transmitting Navy Flag Code by other systems. (The use of Navy Flag Code is indicated by "Signals follow" . . — —)

Negative (K) — . — Interrogatory (O) — — —
 Preparatory (L) . — . . Affirmative (P) . — — .
 Annuling (N) — .

"Intervals" are expressed as follows in the various systems:

	Interval.	Double Interval.	Triple Interval.
Radio, flashing or occluding light..	. — . —	.. .. .	. — . — .
(The "interval" is not used between words in spelled-out messages.)			
Whistle	Very long blast	.. .. .	. — . — .
Bell .....	.. .. .	.. .. .	.. .. .
Wigwag	Front.	(twice).	(3 times).
Semaphore	Flags crossed 2 or machine closed.	chop-chop signals.	3 chop-chop withdraw flag or close machine and indicator arm.
Ardois .....	. — . —	(twice).	(3 times).

254. The wigwag system is directly applicable to signaling with hand flag, hand torch or electric portable, swinging hand lantern, and beam of searchlight. The Dot and Dash Code as given above is used.

255. Any wigwag signal is a spelled-out message, unless preceded by "Signals," in which case it is to be sought in the General Signal Book. A return to spelling is indicated by "Letters."

A motion to the right is a dot (.) and a motion to the left is a dash (—). One motion to the front is "Interval"; two such motions "Double interval"; three such motions "Triple interval."

256. In the wigwag system there is one position and three motions. "Position" is with the flag or other signal appliance held vertically, the signal man facing squarely toward the station

with which it is desired to communicate. In the first motion ("dot" or .), the flag is waved to the right of the sender, and shall embrace an arc of 90° , starting from the vertical and returning to it, and shall be made in a plane at right angles to the line connecting the two stations. The second motion ("dash" or —) is a similar motion to the left of the sender. To make the third motion, "Interval," the flag is waved downward directly in front of the sender and instantly returned to "position." To prevent the flag fouling on the staff, make a scoop in making the side motions. Make the first part of the scoop to the front if the wind is behind the sender and to the rear if the wind is in front. Be careful not to bring the flag beyond the vertical at the end of a motion unless the immediately succeeding motion is to the other side.

257. It is important to obtain a good background, and to select a color of flag which will afford the most marked contrast with the background; to this end the red or the white flag shall be used as found best from the standpoint of visibility. When signaling to a considerable distance with a hand torch, electric portable, or hand lantern, a footlight should be used as a point of reference to the motions; otherwise the methods are the same as for the hand flag. With an oil hand lantern a variation is permissible, as the lantern is more conveniently swung out and upward by hand from the footlight for "dot" and "dash" and raised vertically for "Interval."

258. To call a station, face it and make its call; if necessary to attract attention, wave the flag (or torch), making the call at frequent intervals. The station called makes "acknowledgment": the sending station then makes "acknowledgment" and proceeds with the message. At night each ship called shall acknowledge by making her own call letter; the calling ship then makes her own call letter which the receiving ships repeat; the calling ship then makes acknowledgment and proceeds with the message.

259. A day wigwag message for the entire force or for a group, flotilla, squadron, division, or ship is indicated by the display, half yardarm high, of the cornet or of the proper call. This is acknowledged by the ship or ships called hoisting the answering pennant halfway; when all ships have thus answered, the message is proceeded with. At the end of a message sent as prescribed, the flagship hoists the call or the cornet, as the case may be, close up to the yardarm, whereupon, if the message is understood, the receiving ship or ships run the answering pennant close up to the yardarm. The hauling down of the call or cornet by the flagship is the acknowledgment of the answers, and the receiving ship or ships then haul down their answering pennants.

260. Any ship, division, squadron, flotilla, or group may be exempted from any wigwag call by displaying its call under

annulling under the call of the larger force called. In this case the unit exempted shall not answer.

261. If, in the course of a signal, the sender discovers that he has made an error, he should make “. interval,” after which he proceeds with the signal, beginning with the word in which the error occurred. If, in the course of a signal addressed to a single ship, the receiver does not understand a word, character, or display, he should “break in” with the characters corresponding to “repeat last word”; or, to have a whole message repeated, he should make the displays which signify “repeat last message.” In the case of a message addressed to several ships, an individual ship failing to understand a word shall not break in, but shall continue to read as much of the message as possible, and after the whole message has been sent request shall be made to the next ship, or to the division commander, or to the commander-in-chief to repeat the missing portion.

262. The second repeater under a call is an order to the ship indicated to repeat the message to the ship whose call is shown below the repeater.

263. A signal made to one or more ships to be passed down the line or column is conveniently referred to as a P. D. L. message.

FLASHING OR OCCULTING-LIGHT SYSTEM.

264. The Dot and Dash Code is used. Any signal is a spelled-out message unless preceded by “Signals,” in which case it is to be sought in the General Signal Book. A return to spelling is indicated by “Letters.” Use a short flash for “dot,” a long flash for “dash,” and a long, steady display for “Interval.”

Double interval is Triple interval is .—.—. The interval is not used between words in spelled-out messages.

265. To call the whole force or a ship, division, squadron, flotilla, or group make cornet or the calls until acknowledged. Each ship called acknowledges by making her own call letter. The calling ship then makes her own call letter, which the receiving ships repeat. The calling ship then makes a steady light until answered by a steady light, and then proceeds with the message. To call two or more ships, call one ship until answered, then call the others, one at a time, until all have answered.

SOUND SYSTEM.

(NOTE.—Not to be used except in emergencies or except for exercise in unfrequented regions.)

266. The Dot and Dash Code is used. Except when made by the steam whistle, any signal is a spelled-out message unless preceded by “Signals,” in which case it is to be sought in the General

Signal Book. A return to spelling is indicated by "Letters." Use a toot or very short blast for "dot," and a longer blast for "dash," and a much longer blast for "Interval." In using a bell or other appliance by which the duration of the sound cannot be controlled, use two strokes in quick succession for "dash" and three strokes for "Interval." Double interval is Triple interval is .—.—. When signaling by bell, triple interval becomes The interval is not used between words in spelled-out messages.

267. To call the whole force, or a ship, division, squadron, flotilla, or group, sound cornet or the calls until acknowledged. Acknowledgment is made by sounding own call letter immediately after .— .— . "Interval." The calling ship then sounds .— .— . "Interval" and own call letter, and proceeds with the message. To call two or more ships, call one ship until answered; then call the others, one at a time, until all have answered. Two or more ships within hearing of each other shall never attempt to make signals at the same time.

FOG BELL.

268. Ships at anchor shall in thick weather sound the ship's bell in accordance with the International Rules for Preventing Collisions. When boats are away from the ship and are expected to return, the ship's call letter may be sounded at intervals for their guidance, provided such call is not the same as that of any neighboring permanent fog bell on the shore or on board a light-vessel.

SIGNALING WITH STEAM WHISTLE.

(NOTE.—Not to be used except in emergencies, or except for exercise in unfrequented regions. This does not apply to the signals indicating change of course or stopping.)

269. See that the condensed steam is blown clear of the pipe before starting. Make the calls as directed for sound signals.

270. While a signal or message is being sent by a vessel, the sounding of a whistle by other vessels within hearing distance shall cease, or be limited to sounding it for strictly navigation purposes in accordance with the "Rules of the Road."

271. Ships answering a general inquiry from the flagship shall answer in the order of their proximity to the flagship.

272. All signals sent by steam whistle shall be flag code signals unless preceded by "Letters." The code "interval" shall be used to separate code groups.

273. To change the direction of the head of the column, the flagship if leading, shall indicate by one short blast if the course is being changed to the right and by two short blasts if it is being

changed to the left, and shall then signal the new course to be steered (true), taken from the table of compass signals. If not leading, the flagship shall call the leader and then make the signal for the desired change of course, and finally the Execute (IX). In thick weather and at night each ship in column shall indicate in turn by the whistle the moment of putting the rudder over; but in the daytime, with clear weather, ships other than the leader shall not make this signal.

274. To change the speed of the fleet the flagship shall make Cornet, then the signal corresponding to the new speed, followed by the Execute. Except in cases of emergency, changes of speed should not be executed until all ships have answered.

275. Signals by steam whistle shall be transmitted in the following manner: The flagship, desiring to send a signal, sounds "cornet" or the desired call. Each ship in succession hearing it acknowledges by making . — . . — . ———, followed by her own call letters, beginning with the one next in formation. All ships then listen to the signal and endeavor to read and understand it. Those that do understand it shall acknowledge, in their order in formation, beginning with the vessel nearest the flagship, by signaling "acknowledgment," followed by their call. If any vessel notes that her next beyond in the formation does not acknowledge, she shall repeat the signal without delay. If only the first ship, for instance, heard it and understood it, she would repeat it to the next ship in the formation, and so on. When the last ship of the formation has received the signal, her acknowledgment, followed by her call, shall be repeated from ship to ship back to the flagship. The repetition of this signal will be both an answer to the repeating ship and a call to the next ahead to repeat it on. The commander in chief will thus know that all his force understands the signal. If he gets back the answering call of some other ships, he knows just how much of his force understands the signal. The "Execute" is then sounded, to be repeated by each ship down the formation. For example, the flagship wishes to signal "Anchor." She would make cornet, which would be answered down the line as far as heard. She would then make the desired signal. This might be received and answered by four ships, which would be shown by the fourth ship acknowledging. As the fifth ship did not acknowledge, it would be the duty of the fourth ship to repeat the message.

THE ARDOIS SYSTEM.¹

276. The Dot and Dash Code, except numerals, is transmitted by the Ardois system, a four-lamp system of incandescent lamps in a vertical hoist, showing either red or white lights, singly or in

¹ The Ardois equipment is being removed from ships and will not be used in the future.

combination to the number of four lamps, by which any character is made in a single display. A red light stands for a "dot," and a white light for a "dash." The upper light is pulsated for the secondary meanings. The upper light is not pulsated in making "Acknowledge (R)" and "Execute (IX)."

Conventional signals of five or six elements cannot be made by Ardois and must be spelled out.

Exceptions.

Error "A" (Upper light pulsated).

Interrogatory "O" (Upper light pulsated).

277.

The Ardois alphabet.

Character.	Display.	Secondary meaning (upper light pulsated).	Character.	Display.	Secondary meaning (upper light pulsated).	Character.	Display.	Secondary meaning (upper light pulsated)
A.....	{ R..... W..... W.....	Error.	L.....	{ R..... W..... R..... R.....	Preparatory.	W.....	{ R..... W..... W.....	7.
B.....	{ R..... R..... R..... R.....		M.....	{ W..... W.....		X.....	{ R..... R..... W.....		8.
C.....	{ W..... R..... W..... R..... R.....	Annul-ling.	N.....	{ W..... R.....	Interrogatory.	Y.....	{ R..... W..... W.....	9.
D.....	{ R..... R..... R.....		O.....	{ W..... W..... W.....		Z.....	{ W..... W..... R..... R.....		0.
E.....	{ R..... R..... R.....	Affirma-tive.	P.....	{ W..... R..... R.....	1.	Cornet..	{ W..... W..... W.....	
F.....	{ W..... R..... R..... R.....		Q.....	{ W..... R..... R.....			2.	Letters (follow).	{ W..... W..... R.....
G.....	{ W..... R..... R..... R.....	3.	R.....	{ R..... R..... R.....	3.	Signals (follow).			{ R..... R..... W.....
H.....	{ R..... R..... R..... R.....		S.....	{ R..... R.....			4.	Interval.	{ R..... W..... R.....	Designator.
I.....	{ R..... R..... W..... W.....	T.....	{ W..... R..... R.....	5.	Interval.	{ W..... R..... W.....		
J.....	{ W..... W..... W.....	U.....	{ R..... W..... R.....			6.	Interval.	{ R..... R..... W.....
K.....	{ W..... R..... W.....	Negative	V.....	{ R..... R..... W.....	6.			Interval.	{ R..... R..... W.....

"C" no longer has a secondary meaning.

"R" pulsated signifies 2.

"R" used to signify "acknowledge" is a conventional signal, not a secondary meaning, and is not pulsated.

278. The numeral "4" is also a night speed indicator. Care shall be taken not to make numerals in this way if there is any possibility of confusion when underway in formation. It will generally be more convenient to spell out the number; but cases may arise when these secondary meanings will be useful, such as in recalling a boat or under conditions that render it advisable to have each display repeated by all ships before making the next.

279. "Interval" shall be made once to indicate the end of a word, "Double interval" for the end of a sentence, and "Triple interval" for the end of a message. In this system, "Double interval" is two intervals and "Triple interval" is three intervals.

280. "Signature follows" is transmitted by Sig "Interval."

281. To indicate that an error has been made, make "interval," then "error," then "interval," and begin with the word in which the error occurred.

282. (Struck out, Department correction.)

283. To annul a signal when the "Execute" is displayed, keep the signal turned on and make "Annulling" by a second set or by blinker or other separate means; when this has been answered by all ships, turn off the "Annulling" and the "Execute" together.

284. Any message is a spelled-out message unless preceded by "Signals"; the "Letters" call therefore shall not be made except to commence spelling out after a flag code signal.

285. To call the whole force, or a ship, division, squadron, flotilla, or group, turn on "Cornet" (steady display), or make the desired call (flashing) until acknowledged. To call two or more ships, call one ship until answered; then call the others, one at a time, until all have answered. Each ship called acknowledges by making her own call; the calling ship then makes her own call, which the receiving ships repeat. The calling ship then proceeds with the message.

286. Each display of a flag code signal shall be repeated by the ships receiving the signal, and this repeating takes the place of any other acknowledgment.

287. When spelling out, only the "repeating ships" shall repeat the signal, but all shall turn on the "interval" at the end of each sentence and of the message to indicate that it is understood. If the whole or any part is not understood, the interrogatory shall be displayed.

288. If, because of a message being very important, or for any other reason, the flagship should wish the display repeated in cases where this would not be done under these instructions, "Repeat"

shall be made immediately after the call, after which each display as it is made shall be repeated by the receiving ships.

289. When many ships are in company, it is not advisable for the flagship to stop a signal to repeat to an individual ship unless the signal is a tactical one involving an immediate movement of the ships of the formation, in which case the flagship shall repeat at once, as requested. In other cases the division or squadron commander shall repeat the signal to the ship failing to receive it after the flagship has finished her message.

290. When the interrogatory is displayed by a flagship without connection with any other signal, all ships in that command shall display their calls to indicate their location.

291. Signals which require a change of formation, course, speed, or order, or the execution of which must manifestly be simultaneous, shall be considered preparatory and shall not be executed until the turning of the "Execute." All other signals are intended for immediate execution or reply, unless the message itself states or distinctly implies otherwise.

292. In pulsating the upper light and in flashing an entire display, the lights must be left turned off and turned on for a sensible length of time—the former to permit the glow to die out and leave the interval of darkness appreciable and the latter to give time for it to be easily read. A display shall not be turned on until the preceding one has been turned off.

293. It is particularly important that flag code signals shall be made slowly and in as perfect a manner as is possible, and every attempt at undue speed should be discouraged.

294. All lights, except speed indicators, which might cause confusion or interfere in any way with the signal lights must be extinguished or covered while signaling.

295. The calls having been answered, proceed with the message, prefacing it with the "Signals" or "Letters" call if required. Example: The commander-in-chief desires to execute the movement "Squadrons change course to right 45°." The signals are as follows: "Cornet" (answered by the same display on all ships); "Signals," "Interval," signal for squadrons change course to right 45°, "Interval" three times. Each display is repeated by all ships. When nearly ready to execute the evolution the "Execute" shall be turned on and repeated by every ship, and the movement shall be executed upon turning off the "Execute."

296. A tactical movement may be signaled to the fleet by a spoiled-out message.

297. When a ship intervenes between or masks the signal lights of two others desiring to communicate, the intervening ship must repeat the displays.

298. But one course of messages is to be maintained at the same time, except in cases of great urgency, and in that event only when the receiving ships are all on such bearings that the signals made by one set of lights will not interfere with those being sent by the other.

299. If a communication is going on between two or more ships and the flagship makes a call, all signaling must cease until the message sent by the flagship is finished.

300. If it becomes necessary to put a signal message into cipher, the marking of the keyboard shall not be changed to accomplish the object.

THE SEMAPHORE SYSTEM.

301. Signals may be transmitted by the two-arm semaphore method, using either hand flags or machine. With the machine, a third arm or "indicator" is displayed on the right of the sender (the left as viewed by the receiver) as shown in the diagrams to indicate which is the sender's right and which his left; at night a red light, screened to the rear, indicates the direction of sending.

302. The machine will be mounted on the ends of the bridge, if practicable, otherwise at some available point so situated that it may be seen through the greatest arc of the horizon. By means of electric lights installed on the vanes, the machine is made available for night as well as for day signaling. The vanes of the semaphore machine shall be painted yellow.

303. Hand flags shall be from 12 to 15 inches square, of blue with a white square (similar to the alphabet flag "P") or red and yellow diagonally (similar to the alphabet flag "O"), the one to be used depending upon the background; they shall be attached to a light wooden staff about two feet in length.

304. With hand flags and machine all positions and motions are the same for both methods with the exception of "Interval."

305. Secondary meanings are imparted by holding the character for an appreciable time and agitating the arms or flags in that position; or, as may be preferable at times with the more important ones, the word may be spelled out.

306. There are no numerals; numbers shall be spelled out.

307. With the machine "interval" is made by closing the arms but leaving the indicator showing. "Double interval" is two successive chop-chop signals. "Triple interval" is three successive chop-chop signals, followed by the closing of both arms and indicator. The chop-chop signal is made by placing

Characters.	Two-arm semaphore.			Characters.	Two-arm semaphore.		
	Machine.	Hand flags.	Secondary meanings.		Machine.	Hand flags.	Secondary meanings.
A			Error.	G			
B				H			
C				I			IX Execute
D				J			
E				K			Nega- tive.
F				L			Pre- para- tory.

The Semaphore Alphabet—Continued.

Characters.	Two-arm semaphore.			Characters.	Two-arm semaphore.		
	Ma- chine.	Hand flags.	Second- ary mean- ings.		Ma- chine.	Hand flags.	Second- ary mean- ings.
M				S			
N			Annul- ling.	T			
O			Inter- roga- tory.	U			
P			Affirm- ative.	V			
Q				W			
R			A c - knowl- edge.	X			

The Semaphore Alphabet—Continued.

Characters.	Two-arm semaphore.			Characters.	Two-arm semaphore.		
	Ma- chine.	Hand flags.	Second- ary mean- ings.		Ma- chine.	Hand flags.	Second- ary mean- ings.
Y				Let- ters (fol- low).			
Z				Sig- nals (fol- low).			
Cor- net.				In- ter- val.			Desig- nator.

both arms at the right horizontal and then moving them up and down in a cutting motion, the indicator being displayed. With hand flags, "interval" is as shown in table; "double interval" is two successive chop-chop signals; "triple interval" is three successive chop-chop signals and withdrawing the flags from view.

Conventional signals are used with the following exceptions:

Error "A" (agitated).
 Interrogatory "O" (agitated).

Those of five or six elements cannot be made and must be spelled out.

309. Any signal is a spelled-out message unless preceded by "Signals," in which case it is to be sought in the General Signal Book. A return to spelling out is indicated by "Letters."

310. To call a station, face it squarely and make its call. If there is no immediate reply, wave the flags over the head or wave the arms toward the upper vertical to attract attention, making the call at frequent intervals. A day semaphore message to the whole force may be indicated in the same way as for a wigwag message. The station called answers by making its own call. With the machine this call is left displayed until the message has been received and understood. When the sender makes "end of message" the receiver, if message is understood, extends the arms or flags horizontally and waves them until the sender does the same, when both leave their stations.

311. The General Instructions in regard to sending semaphore messages are the same as those given for the wigwag.

312. Signaling by the two-arm semaphore is the most rapid method of sending spelled-out messages. It is, however, very liable to error if the motions are slurred over or run together in an attempt to make speed. Both arms should move rapidly and simultaneously, but there should be a perceptible pause at the end of each letter before making the movements for the next letter; and care must be taken, with hand flags, to hold the staffs so as to form a prolongation of the arms. The system possesses an important element of accuracy in that each display may be kept displayed indefinitely. Exceptional certainty of correct receiving may be effected by requiring the receiving ship to repeat each display; this shall be called for by sending the words "Repeat signals" after the call.

THE VERY SYSTEM.

313. The code is transmitted by projecting red stars and green stars into the air from a specially constructed pistol, supplemented by rockets. The code used is the Navy Flag Code. In the displays

which form the letters of the flag code a red star corresponds to the dot and the green star to the dash of the Dot and Dash Code; but the conventional signals, being necessarily limited in number, differ from those of the dot and dash code.

314.

Conventional signals.

General call (cornet).....Rocket and Green Star.
 Answering (acknowledgment)Red star (.)
 RepeatGreen star (—)
 Interval (separating the alphabet { Red Star }
 letters of a signal) { Green Star } Bracketed.
 Double interval (separating the code groups).....Two intervals
 Triple interval (end of message).....Three intervals

NOTE.—Bracketed stars are stars fired simultaneously; great care should be taken to insure their being discharged together and in such directions as not to be too widely separated.

ExecuteRocket and Red Star.
 Distress or Danger.....Red star several times.
 Numerals follow (or end).....Rocket { Red Star .. } Rocket.
 Green Star. }

315. To send a signal, make general call or the call of the group, flotilla, squadron, division, or ship addressed. The ship addressed, or the senior officer of the unit addressed, acknowledges. The signaling ship then proceeds with the signal.

316. Stars should be projected nearly vertically and so as to fall in the direction of the unit addressed. If a star be broken by the shock of discharge, the pieces shall be considered as one star. If the receiver is led to believe that he has missed a star or that confusion of any kind exists, he shall at once make "Repeat." In such case the sender shall cease signaling, wait for about a minute, and then recommence the signal from the beginning.

317. On seeing a triple interval, the receiver shall make "Answering" if the signal is understood, or "Repeat" if it is not understood.

318. Signals which require a change of formation, course, speed, or order, or the execution of which must manifestly be simultaneous, shall be considered preparatory and shall not be executed until the "Execute" is made.

TOWING SIGNALS.

319. In towing, in thick weather or at other times, the following special sound signals may be used if agreed upon previously; but some special arrangement must always be made between the

commanding officers of the ships towing and being towed for communicating under various conditions of wind and weather:

320. (1) All signals to be preceded by a long blast of the steam whistle of about seven seconds duration.

(2) A single blast of the whistle to be about one-half second duration.

(3) A double blast of the whistle to be two single blasts made in quick succession.

(4) Interval between single blasts or between a double blast and a single blast to be one second.

(5) Steer more to starboard: One single blast.

(6) Steer more to port: Two single blasts.

(7) Towline is fast or is towline fast: Three single blasts.

(8) Shorten in on towline: One double and one single blast.

(9) Veer on towline: One single and one double blast.

(10) Let go towline: Two double blasts.



CHAPTER IX. MISCELLANEOUS.

U. S. STORM SIGNALS.

321. The various civilized nations of the world give warning to mariners of the approach of storms. These notices are received by telegraph at various stations along the coast, and indicate the approach of storms and the expected direction of the wind. In the United States the system of weather signals is very complete, information of the approach of storms being received from various stations in the United States, and even throughout the West Indies. These warnings are published at the various seaports by the display of flags by day and by lanterns at night, also by bulletins and reports furnished to newspapers. Every effort is made by the Weather Bureau of the United States Department of Agriculture to give these warnings as early as possible at all points where they may be of service to mariners and others.

322. (1) Storm warnings are displayed by the United States Weather Bureau at 142 stations on the Atlantic and Gulf coasts and at 46 stations on the Pacific coast.



Small craft. NE. winds. SE. winds. SW. winds. NW. winds. Hurricane
Flags 8 feet square. Pennants 5-foot hoist, 12-foot fly.

(2) **Small-craft warnings.**—A red pennant indicates that moderately strong winds are expected.

(3) **Storm warnings.**—A red flag, with a black center, indicates that a storm of marked violence is expected.

(4) The pennants displayed with the flags indicate the direction of the wind: Red, easterly; white, westerly. The pennant above the flag indicates that the wind is expected to blow from the northerly quadrants; below, from southerly quadrants.

(5) By night a red light indicates easterly winds, and a white light below a red light, westerly winds.

(6) **Hurricane warnings.**—Two red flags, with black centers, displayed one above the other, indicate the expected approach of

a tropical hurricane, or one of those extremely severe and dangerous storms which occasionally move across the Lakes and northern Atlantic coast.

(7) Small-craft and hurricane warnings are not displayed at night.

SIGNALS OF LIFE-SAVING SERVICE.

323. (1) The following signals, approved by the International Marine Conference, convened at Washington in October, 1889, have been adopted by the U. S. Life-Saving Service and will be used and recognized by the officers and employees as occasion may require:

(a) Upon the discovery of a wreck by night the life-saving force will burn a red pyrotechnic light or a red rocket to signify: "You are seen; assistance will be given as soon as possible."

(b) A red flag waved on shore by day, or a red light, red rocket, or red Roman candle displayed by night, will signify: "Haul away."

(c) A white flag waved on shore by day, or white light slowly swung back and forth, or a white rocket, or white Roman candle fired by night, will signify: "Slack away."

(d) Two flags, a white and a red, waved at the same time on shore by day, or two lights, a white and a red, slowly swung at the same time, or a blue pyrotechnic light burned by night, will signify: "Do not attempt to land in your own boats. It is impossible."

(e) A man on shore beckoning by day, or two torches burning near together by night, will signify: "This is the best place to land."

(2) Any of these signals may be answered from the vessel as follows: In the daytime, by waving a flag, a handkerchief, a hat, or even the hand; at night, by firing a rocket, a blue light, or a gun, or by showing a light over the ship's gunwale for a short time and then concealing it.

INTERNATIONAL SIGNALS.

NOTE.—For complete detailed instructions as to the use of the International Code, see International Signal Book.

324. (1) These are a set of signals which have been adopted by all nations in order that all ships may have a method of signaling to each other.

(2) This code consists of 26 flags, burgees or pennants (the same as the Navy Alphabet Code), one for each letter in the alphabet, and a code pennant, which is also used as an answering pennant.

(3) In the International Code any particular hoist has the same meaning in each language.

(4) When making a signal by this code, look up the signal in the International Signal Book, and bend on (in order, reading from up, down), the flags corresponding to the letters abreast this signal.

(5) Hoist the code pennant under the ship's ensign and hoist the signal where it can best be seen.

(6) If receiving a message, the meaning will be found abreast the letters represented by the flags in the hoist.

(7) The following instructions show in a general way the manner in which the International Signal Book is divided and how the arrangement of the flags gives a distinctive character to the signal:

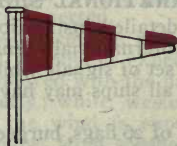
(a) **One-flag signals.**—B, C, D, L, P, Q, S, hoisted singly, have special significations. The code flag over each of the signal flags are signals of a general nature of most frequent use. Signal flags hoisted singly after numeral signal No. 1 refer to the numeral table, as do also two-flag signals with code flag under them.

(b) **Two-flag signals** without code flag are urgent and important signals; with code flag over them are latitude and longitude, time, barometer, and thermometer signals.

(c) **Three-flag signals** express points of compass, money, weights and measures, and all ordinary signals required for communication.

(d) **Four-flag signals** with a burgee (A or B) uppermost are geographical signals; with C uppermost are spelling or vocabulary signals; with G uppermost are names of men-of-war; with square flag uppermost are names of merchant vessels and are not in signal book.

NOTE.—If the vessel flies a United States flag it will be found in list of United States merchant vessels. Naval vessels are usually not supplied with merchant lists of foreign nations and therefore the vessel can not be generally made out; there can, however, be no doubt as to the meaning of a four-flag international signal with square flag on top.



INTERNATIONAL "CODE FLAG" AND "ANSWERING PENNANT."

NOTE.—When used as the "code flag" it is to be hoisted under the ensign. When used as the "answering pennant" it is to be hoisted at the masthead or where best seen.

INTERNATIONAL SIGNALS OF DISTRESS.

325. When a vessel is in distress and requires assistance from other vessels or from the shore, the following shall be the signals to be used or displayed by her, either together or separately:

326. In the daytime—

(1) A gun or other explosive signal fired at intervals of about a minute.

(2) The International-code signal of distress indicated by NC.

(3) The distant signal, consisting of a square flag, having either above or below it a ball or anything resembling a ball.

(4) The distinct signal, consisting of a cone, point upward, having either above it or below it a ball or anything resembling a ball.¹

(5) A continuous sounding with any fog-signal apparatus.

327. At night—

(1) A gun or other explosive signal fired at intervals of about a minute.

(2) Flames on the vessel (as from a burning tar barrel, oil barrel, etc.).

(3) Rockets or shells, throwing stars of any color or description, fired one at a time at short intervals.

(4) A continuous sounding with any fog-signal apparatus.

INTERNATIONAL SIGNALS FOR A PILOT.

328. The following signals, when used or displayed together, or separately, shall be deemed to be signals for a pilot:

329. In the daytime—

(1) The jack, to be hoisted at the fore.

(2) The International-code pilot signal indicated by PT.

(3) The International-code flag S, with or without the code pennant over it.

(4) The distant signal, consisting of a cone, point upward, having above it two balls or shapes resembling balls.

330. At night—

(1) The pyrotechnic light, commonly known as a blue light, every 15 minutes; or

(2) A bright white light, flashed or shown at short or frequent intervals just above the bulwarks for about a minute at a time.

¹ This is purely a code signal and is not one of the signals of distress given in the "Rules of the Road," the needless exhibition of which entails penalties upon the master of the vessel displaying it.

TO DRESS SHIP.

331. Lower into places where secured, all derricks, booms, etc. Hoist a national ensign at each masthead, all such ensigns being of the same size if the masts are of the same height. At the peak or on a staff aft display the largest ensign with which the ship is furnished. Forward, on the jackstaff, hoist the jack. Personal flags and broad pennants shall be displayed as prescribed in the Navy Regulations.

332. If the dressing is complimentary to some other nation, then the ensign or standard of that nation shall be hoisted as provided in the Navy Regulations.

TO FULL DRESS SHIP.

333. In addition to the dressing of the mastheads, as described for dressing ship, a ship may be full dressed with a rainbow of flags reaching from the water line forward to the water line aft by way of head booms, the topgallant mastheads (or topmast heads if there are no topgallant masts), peak, and end of spanker boom. In ships having no head booms or spanker boom, the lines shall be brought to the jackstaff at the height of the ridge rope forward and the flagstaff at the height of the ridge rope aft. In ships rigged with cage masts the lines shall be brought to the platform of the top.

334. In single-masted ships the rainbow shall extend from forward to the masthead and thence in two lines to the heads of the after boat davits on each side.

335. Flags shall be stopped on the lines at a uniform distance of about 12 inches apart, and in the sequences exhibited in the following table, thus: There are two sequences, as shown. The upper flag of each line shall be brought to the middle of the rainbow; this point will generally be between the fore and main, though in some ships it may be at the main and in some abaft it. From this middle point one line shall be carried forward and the other aft, surplus flags at each lower end being discarded.

NOTE.—In a small vessel, when only one-half of the total number of flags is required, one complete set of alphabet flags and repeaters may be dispensed with, as the surplus flags for one-half of the length of each line from the lower end make the complete set. Example: In the *Pennsylvania* a complete rainbow requires two sets of signal flags; in the *Nashville* only one complete set will be required.

Arrangement of Flags.

First line (continued).	Middle.		Second line (continued).
	First line.	Second line.	
First Repeater.	Own Group Call.	Z.	M.
N.	Church.	Answering.	L.
O.	A.	Y.	C.
Meal.	B.	X.	K.
P.	G.	Position.	J.
O.	Numeral.	W.	F.
Third Repeater.	Guard.	V.	I.
R.	D.	U.	H.
S.	Danger.	Second Repeater.	E.
T.	Recall.	T.	Recall.
Second Repeater.	E.	S.	Danger.
U.	H.	R.	D.
V.	I.	Third Repeater.	Guard.
W.	F.	O.	Numeral.
Int. Code Pennant.	J.	P.	G.
X.	K.	Meal.	B.
Y.	C.	O.	A.
Answering.	L.	N.	Own Ship Call.
Z.	M.	First Repeater.	Cornet.

336. In ships where radio spreaders or other equipment or arrangement of masts and smoke pipes render impracticable the methods herein given for running the dressing lines, the commander in chief shall authorize such modifications as seems advisable, adhering to the prescribed arrangement of flags. All such departures from prescribed methods shall be immediately reported to the Navy Department by the commanding officer of the ship concerned.

TO PASS IN REVIEW.

337. The order, formation, speed, and distance and the uniform will be prescribed by signal or order. The directions for passing in review apply equally to ships reviewed at anchor.

338. In being reviewed, ships that have boats so stowed that they interfere with manning the rail continuously shall, if practicable, restow them on the inboard nests or anchor them inshore, so that the line of men at the rail shall be continuous. Boats at davits shall be lowered flush with the rail or anchored. All broadside guns shall be trained abeam and turret guns fore and aft and all level.

339. For the President: The marine detachment, whether posted as a guard or not, shall be paraded under arms aft on the side next to the reviewing vessel. The seaman guard, if posted, shall be paraded under arms on the left of the marine detachment. Forward of this formation the crew shall man the rail in one rank close to the side, officers of divisions in rear of their divisions; all other officers in line on the bridge or bridges. The men shall be evenly spaced along the side and may take distance by extending their arms or elbows, but shall have their hands at their sides at the time of the review.

340. Men shall not be stationed in tops of battleships or on turrets or on bridges on the amidship line.

341. As each ship arrives at a point where the bridge of the reviewing vessel bears 45° forward of the bridge of the ship reviewed, the officers and men of the latter shall salute and shall remain in that position; the marine detachment and the seaman guard, if posted, shall present arms, the drums give four ruffles, and the bugles sound four flourishes. The ruffles and flourishes shall be followed by the National Anthem by the band.

342. As soon as well clear after having passed or been passed by the reviewing vessel, each ship shall fire a national salute, officers and crew resuming the position of "attention" at the first gun.

343. Officers and men shall be at their stations for manning the rail before the ship has arrived within 1,200 yards of the reviewing vessel and shall remain at their stations until the reviewing ship has been passed by more than 1,200 yards.

344. For the Secretary of the Navy: The same honors shall be paid as for the President, except that the crew shall be formed at quarters for inspection facing the reviewing vessel, and the salute shall consist of 19 guns.

345. For the Assistant Secretary of the Navy: The same honors shall be paid as for the Secretary of the Navy, except that the drums shall give four ruffles and the bugles sound four flourishes and the salute shall consist of 17 guns. The uniform for officers is dress instead of special full dress.

CHAPTER X.

DECK SIGNALS.

NOTE.—Deck signals are entered alphabetically under their leading words. Some are entered additionally under a second leading word to facilitate the sender's finding the signal meaning desired.

Signals.	Signal meanings.
A	ATTENTION. Be on the alert for signals or movements of this ship or to note danger.
ABS	ABSENTEE-S. Recall all.
ABT	Absentee-s. Report number of.
ABU	Absentee-s. All, or number indicated have returned.
ABV	Absentee-s. Send for.
ABW	Absentee-s. Sick and, reports. Make.
ABX	Absentee-s. Wait for.
AFU	AFLOAT. The boat-s or the one-s indicated is (are).
AGC	AGROUND. The boat-s or the one-s indicated is (are).
AGP	AHEAD. Boat-s: Go.
AHG	AIR bedding.
AHI	Air bunting.
AHJ	AIRED bedding. Pipe down.
AHK	Aired bunting. Pipe down.
AID	ALLOW boats from shore to come alongside.
AIL	ALLOWANCE. .of fresh meat in days' rations for ship's company as indicated by numeral may be drawn from supply ship.
AIM	ALLOWANCE. .of fresh provisions in days' rations for ship's company as indicated by numeral may be drawn from supply ship.
AIN	ALLOWANCE. .of fresh vegetables in days' rations for ship's company as indicated by numeral may be drawn from supply ship.

Signals.	Signal meanings.
	ANCHOR. Number of fathoms of cable may follow (on each anchor in mooring)..... Q S R
AKT	Anchor ahead of this or designated ship.
AKU	Anchor astern of this or designated ship.
AKV	Anchor with this ship, or the ship or object designated, bearing as indicated. (Distance in hundreds of yards may follow.)
	Anchor in berth-s previously assigned.... Q S T
AKW	Anchor in berth-s previously occupied.
AKX	Anchor between the ships or units designated.
AKY	Anchor with the or the designated buoy bearing as indicated.
AKZ	Anchor with 15 fathoms of cable.
AL	Anchor with 30 fathoms of cable.
ALB	Anchor with 45 fathoms of cable.
ALC	Anchor with 60 fathoms of cable.
ALD	Anchor with 75 fathoms of cable.
ALE	Anchor with 90 fathoms of cable.
ALI	Anchor on the cross bearings of the two objects designated, their respective bearings to be indicated in order.
ALJ	Anchor. Come to with single; number of fathoms of chain may be indicated.
ALM	Anchor in the depth of water indicated in feet.
ALN	Anchor as directed by commander of auxiliaries.
ALT	Anchor at discretion.
AMG	Anchor near the ship-s or type or unit-s designated.
ANE	ANCHORS and hawsers. Send boats with, to this or designated ship.
APY	ARDOIS system of signals. Use.
ASL	ARTICLE-S condemned. Land.
ASM	Article-s condemned. Send, to this or the vessel or place designated.
ASN	Article-s indicated. Have.
ASO	Article-s or supplies. Need, as indicated.
ASP	Article-s required. Send list-s of, or communicate name-s and quantities by signal.
ASQ	Article-s indicated. Running short of.
ASR	Article-s indicated. Can spare.
AST	Article-s indicated. Report by signal quantity-ies of, that you can spare for the use of this or designated ship

Signals.	Signal meanings.
A T J	ASHES may be thrown overboard at this anchorage.
A T K	ASH LIGHTER will take the ashes on the days indicated.
A T P	ASSEMBLE. Board or court or mat indicated will, on board this or designated ship or place immediately or at time indicated.
A T Q	Assemble. A board composed of officers designated will on board this or designated ship or place immediately or at time indicated.
A T X	ASSIST the boat-s or the one-s designated.
A U	Assist distressed ship-s or ship-s designated.
A U D	Assist the strange vessel-s.
A V	ASSISTANCE. Additional, is required.
A V G	Assistance. Immediate, can be rendered.
A V H	Assistance. Immediate, will be rendered.
A V I	Assistance. Medical. Need.
A V J	Assistance. Need.
A V O	Assistance by towing or tugs. Need.
A V P	Assistance. What, do you require?
A W	ASYLUM. Give, to refugees.
A W C	ATHLETIC OFFICER-S: Repair on board this or designated ship now or at time indicated.
A Z V	*ATTENTION. is called to article and paragraph of Navy Regulations indicated in order.
A Z W	*Attention. is called to article and paragraph of Naval Instructions indicated in order.
A Z X	*Attention. is called to the indicated section of the Revised Statutes of the United States.
B A	*Attention. is called to the article and paragraph of the Deck and Boat Book indicated in order.
B A G	*Attention. is called to Note (first or No. indicated) in Deck and Boat Book on page indicated.
B A Y	BAGS. Scrub.
B A Z	Bags, scrubbed. Pipe down.
B A N K	BANK fires X T R
B C M	Bank fires low. Ships with water tube boilers allow unnecessary fires to die out.
B C Q	BAROMETER. Correct height of, now or at the time indicated is (was) as indicated in inches.

* If this signal is addressed to a particular officer other than the commanding officer, he may be designated after the signal is completed.

Signals.	Signal meanings.
BCX	BARRICADED. Streets are.
BEC	BATTALION COMMANDER-S: Repair on board this or designated ship now or at time indicated.
BFR	BEACH MASTER: Repair on board this or designated ship now or at time indicated.
BFZ	BERTH-S. Shift.
BGA	Berth-s. Take, inside of mole or breakwater. (Order may be indicated by call letters.)
BGC	Berth-s. Harbor master will assign.
BGK	BILL OF HEALTH. Get, before sailing.
	BOARD or court or that indicated will assemble on board this or designated ship or place immediately or at time indicated ATP
	Board. A, composed of officers designated will assemble on board this or designated ship or place immediately or at time indicated..... ATQ
BIF	Board or court now in session is dissolved.
BIG	Board or court or one indicated is postponed until further orders or to time indicated.
BIJ	Board of Examiners will adjourn.
BIK	Board of Examiners will assemble on board this or designated ship or at designated place immediately or at time indicated.
BIL	Board of Examiners is dissolved.
BIM	Board of Inspection will assemble on board this or designated ship or at designated place immediately or at time indicated.
BIN	Board of Investigation will assemble on board this or designated ship or at designated place immediately or at time indicated.
BIO	Board of Medical Survey will assemble on board this or designated ship or at designated place immediately or at time indicated.
BIP	Board of Survey will adjourn.
BIQ	Board of Survey will assemble on board this or designated ship or at designated place immediately or at time indicated.
BIR	Board of Survey is dissolved.

Signals.	Signal meanings.
B I S	BOARD, ON , of their respective ships. All persons will go, immediately. (When this signal is made and has been answered each ship shall hoist the cornet at the fore and keep it flying so long as there are absentees.)
B I T	Board, on. All are.
B I U	Board on. All must be, by time indicated.
B I V	Board, on. The commander in chief is.
B I W	Board, on. The flag officer commanding this or designated unit is.
B I X	Board, on. The official-s or person-s indicated is (are), this or designated ship.
B J A	BOAT-S. Allow, from shore to come alongside... A I D Boat-s. All, must be alongside by dark.
B J E	Boat-s. Cast off the.
B J F	Boat-s. Cast off towlines beginning with the rear.
B J I	Boat-s. Exercise, at hour indicated.
B J K	Boat-s. Send, alongside this or designated ship for exercise.
B J L	Boat-s. Each ship exercise her own.
B J M	Boat-s. Away all, for exercise under oars.
B J N	Boat-s. Away all, for exercise singly under oars.
B J O	Boat-s. Exercise at away all, armed and equipped for landing force.
B J P	Boat-s. Away all, for exercise under sail.
B J Q	Boat-s. Away all, for exercise singly under sail.
B J V	Boat-s. Hoist all.
B J W	Boat-s. Hoist in all.
B J X	Boat-s. Hoist out all.
B K A	Boat-s can land safely.
B K C	Boat-s. Lower all, from davits.
B K D	Boat-s: Muster alongside this or designated ship in prescribed order.
B K F	Boat-s. Prepare, for racing.
B K H	Boat-s. Recall the or the designated.
B K R	Boat-s. Send a, (or number indicated) to this or designated ship.
B K S	Boat-s. Send a, (or number indicated) on shore.
B K T	Boat-s. Send, for the officer-s or person-s indicated.

Signals.	Signal meanings.
	BOAT-S—Continued.
	Boat-s. Send, with anchors and hawsers, to this or designated ship A N E
B K W	Boat-s. Send, with hawser-s to this or designated ship.
B L C	Boat-s. Start the.
B L D	Boat-s. Stop all.
B L I	Boat-s. Wait for.
B L N	BOAT SIGNALS. Use.
B L P	BOATSWAIN-S: Repair on board this or designated ship now or at time indicated.
B L Q	Boatswain-s. Send, with working party to this or designated ship or place now or at time indicated.
B L S	BOILER-S and engine-s. Permission requested to overhaul and clean. (Number of days required as indicated.)
B L T	Boiler-s and engine-s may be overhauled. (Number of days allowed may be indicated.)
B L U	Boiler-s and engine-s. Overhaul, and put in order with least possible delay.
B L V	Boiler-s. Repair.
B N J	BREAKFAST. Men going on duty will take, with them.
B N K	Breakfast. There will be time for the crew-s to get their.
B O I	BUOY-S. Moor to, or one-s indicated.
B P C	BURY the dead. (Hour may be indicated.)
B P D	CABLE. Heave in (or veer) to the number of fathoms, indicated.
B P F	Cable has parted.
B P H	Cable. Shorten in.
B P J	Cable. Veer more.
B Q L	CALL LETTER-S. Your, is (are) as designated.
BR J	CARGO consists of articles indicated.
BR M	Cargo. Discharge the.
BR N	Cargo. Land the.
BR S	CARPENTER-S: Repair on board this or designated ship now or at time indicated.
BRT	Carpenter-s. Send, to this or designated ship with carpenter's gang now or at time indicated.
BRU	Carpenter's gang. Send, to this or designated ship or place.

Signals.	Signal meanings.
	CAST or turn to starboard..... R X W Cast or turn to port..... R X Y
B S J	CEREMONIES. The funeral, will begin at the time indicated.
B T H	CHAPLAIN-S: Repair on board this or designated ship now or at time indicated.
B V I	CHEER SHIP. (Person or ship to be honored may follow.)
B V M	CHRONOMETER-S. Compare, with this or ship-s designated.
B V N	Chronometer-s. Error of, Get as accurately as possible before leaving port.
B V O	Chronometer-s. Note time by, for comparison when this signal is hauled down or prearranged signal made.
	CLOSE UP R Y Q
B W P	CLOTHES. Scrub and wash.
B W Q	Clothes. Pipe down washed.
B W R	Clothes. Reef, on the lines.
B W S	CLOTHESLINES. Get up.
B X E	COAL or fuel reports. Make.
B X J	COAL taken last hour or in time designated, amount shown in separate hoist under numeral.
B X K	COALING is completed, number of tons received as indicated.
B Y T	COLORS. Half mast the.
B Y U	Colors. Haul down the.
B Y V	Colors. Hoist the.
B Z T	COMMANDER-S, company: Repair on board this or designated ship now or at the time indicated.
B Z U	COMMANDER-S of division-s, other than submarine or torpedo: Repair on board this or designated ship now or at the time indicated.
B Z V	COMMANDER-S of squadron-s, other than submarine or torpedo: Repair on board this or designated ship now or at the time indicated.
B Z W	COMMANDER-S of submarine division-s: Repair on board this or designated ship now or at the time indicated.
B Z X	COMMANDER-S of torpedo division-s: Repair on board this or designated ship now or at the time indicated.
B Z Y	COMMANDER-S of submarine flotilla-s: Repair on board this or designated ship now or at the time indicated.
C	DANGER. You are standing into.

Signals.	Signal meanings.
C A	COMMANDER-S of torpedo flotilla-s: Repair on board this or designated ship now or at the time indicated.
C A H	COMMANDER-IN-CHIEF. Have dispatches for the, or senior officer present.
C A I	Commander-in-chief. Have dispatches from the.
C A Z	COMMANDING OFFICER-S: Repair on board this or designated ship now or at the time indicated.
C B	Commanding officer-s..other than auxiliaries or submarines or torpedo craft: Repair on board this or designated ship now or at the time indicated.
C B A	Commanding officer-s..of submarine-s: Repair on board this or designated ship now or at the time indicated.
C B D	Commanding officer-s..of torpedo craft: Repair on board this or designated ship now or at the time indicated.
C B E	COMMISSARY OFFICER-S: Repair on board this or designated ship now or at the time indicated.
C B F	COMMUNICATE..with the authorities of the place.
C B G	Communicate..with the consul of the United States (or of nation indicated).
C D M	COMPASS-ES. Compensate.
C D N	Compass-es. Swing ship for deviation of.
	CONDEMNED articles. Land..... A S L
	Condemned articles. Send, to this or the vessel or place designated..... A S M
C E D	Condemned. Man (men), by medical survey. Send, to the hospital on shore or at place designated.
C E F	Condemned. Man (men), by medical survey. Send, to this or designated ship or place.
C E G	Condemned. Officer-s, by medical survey. Send, to the hospital on shore or at place designated.
C E H	Condemned. Officer-s, by medical survey. Send, to this or designated ship or place.
C E U	CONSULATE, U. S. (or of nation indicated). Send to, for mail.
C G K	COURSE. Proceed on.
	COURT or board or that indicated will assemble on board this or designated ship or place immediately or at time indicated..... A T P

Signals.	Signal meanings.
	COURT—Continued.
	Court or board now in session is dissolved... B I F
	Court or board or one indicated is postponed until further orders or to time indicated..... B I G
C G U	Court. Officers of the ship-s designated are relieved from further attendance upon the.
C G W	COURT OF INQUIRY.. will adjourn.
C G X	Court of Inquiry.. will assemble on board this or designated ship, immediately, or at time indicated.
C G Y	Court of Inquiry. (A signal for the daily meeting of a, on board the ship making the signal.)
C G Z	Court of Inquiry.. is dissolved.
CH	Court of Inquiry. Proceedings of, in the case of the person designated are approved.
CHA	COURT-MARTIAL.. will adjourn.
CHB	Court-martial.. will adjourn until to-morrow or time indicated.
CHD	Court-martial.. will assemble on board this or designated ship immediately, or at time indicated.
CHE	Court-martial.. is dissolved.
CHF	Court-martial. Proceedings of, in the case of the person designated are approved.
CHO	CREWS are invited to an entertainment on board this or designated ship or at designated place at time indicated. (Number may be indicated.)
CHY	CUSTOM HOUSE officials will visit ship-s addressed or designated. (Time may be indicated.)
C I O	DANGER bears as indicated. Danger. You are standing into..... C
	DAYS OF THE WEEK :
C J I	Sunday.
C J K	Monday.
C J L	Tuesday.
C J M	Wednesday.
C J N	Thursday.
C J O	Friday.
C J P	Saturday.
CLR	PREPARE for an early departure.
CLV	DEPTH OF WATER is as indicated.

Signals.	Signal meanings.
C N F	DINNER. There will be time for the crew-s to get their.
C N G	Dinner. Men going on duty will take, with them.
C P Q	DISORDER. There is great, in the or the indicated place. (For additional signals concerning disorder see Boat Signals MTJ-MTU.)
C R G	DIVINE SERVICE will be held on board of this or the designated ship or place at the time indicated.
C R H	Divine service will be held on shore at the hour indicated.
	DRESS. OFFICERS OF THE NAVY.
C W O	Special full dress.
C W P	White special full dress.
C W Q	Full dress.
C W R	White full dress.
C W S	Dress.
C W T	Dress, with white trousers.
C W U	White dress (or white undress).
C W V	Undress.
C W X	Undress, with white caps.
C W Y	Undress, with white trousers and white caps.
C W Z	Undress, without swords.
C X	Undress, with white caps, without swords.
C X A	Undress with white trousers and white caps, without swords.
C X B	Service dress.
C X D	Service dress with white caps.
C X E	Service dress with white trousers and white caps.
C X F	Service dress with swords.
C X G	Service dress with white caps and swords.
C X H	Service dress with white trousers, white caps, and swords.
C X I	White service dress.
C X J	White service dress with blue trousers.
C X K	White service dress with swords.
C X L	White service dress with blue trousers and swords.
C X M	Evening full dress.
C X N	Evening dress.
C X O	Evening dress with full dress trousers.
C X P	Evening dress with full dress trousers, epaulets, and blue cap.

Signals.	Signal meanings.
DRESS. OFFICERS OF THE NAVY—Continued.	
CXQ	Dinner dress.
CXR	Mess dress.
CXS	Mess dress with white trousers.
CXT	Uniform-A.
CXU	Uniform-A, all white.
CXV	Uniform-B.
CXW	Uniform-B, all white.
CXY	Uniform-C; evening full dress.
CXZ	Uniform-C; evening full dress without swords and with blue caps.
CY	Uniform-C; dinner dress.
CYA	
CYB	
DRESS. OFFICERS OF THE MARINE CORPS.	
CYD	Special full dress.
CYE	Special full dress with full dress trousers.
CYF	Special full dress with white trousers.
CYG	Special full dress mounted.
CYH	White special full dress.
CYI	Full dress.
CYJ	Full dress with white trousers.
CYK	Full dress mounted.
CYL	White full dress.
CYM	Undress.
CYN	Undress with white caps.
CYO	Undress with white trousers and white caps.
CYP	Undress without swords.
CYQ	Undress with white caps, without swords.
CYR	Undress with white trousers and white caps without swords.
CYS	Undress mounted.
CYT	Undress mounted, with white caps.
CYU	Undress mounted, without swords.
CYV	Undress mounted, with white caps, without swords.
CYW	White undress.
CYX	White undress without swords.
CYZ	White undress with undress trousers.
CZ	White undress with undress trousers, without swords.
CZA	Mess dress.

Signals.	Signal meanings.
DRESS. OFFICERS OF THE MARINE CORPS—Continued.	
C Z B	Mess dress with undress caps.
C Z D	Mess dress with white mess jacket.
C Z E	White mess dress.
C Z F	Summer field dress.
C Z G	Summer field dress with field trousers, without leg- gings.
C Z H	Summer field dress without coats, with flannel shirts.
C Z I	Summer field dress without coats, with flannel shirts and field trousers, without leggings.
C Z J	Summer field dress with summer field caps.
C Z K	Summer field dress with field trousers and summer field caps, without leggings.
C Z L	Summer field dress with field trousers, flannel shirts, and summer field caps, without coats or leggings.
C Z M	Winter field dress.
C Z N	Winter field dress with trousers, without leggings.
C Z O	Winter field dress with flannel shirts, without coats.
C Z P	Winter field dress with trousers and flannel shirts, without coats or leggings.
C Z Q	Winter field dress with winter field caps.
C Z R	Winter field dress with trousers and winter field caps, without leggings.
C Z S	Winter field dress with flannel shirts and winter field caps, without coats.
C Z T	Winter field dress with trousers, flannel shirts, and winter field caps, without coats or leggings.
C Z U	
C Z V	
DRESS. ENLISTED MEN OF THE NAVY.	
C Z W	Blue dress.
C Z X	Blue dress with white hats.
C Z Y	Blue dress with white hats; chief petty officers, bandsmen, and servants in white trousers.
D A	Blue undress.
D A B	Blue undress with white hats.
D A C	Blue undress with white hats; chief petty officers, bandsmen, and servants in white trousers.
D A E	Blue undress without jumpers, and white hats.
D A F	White dress.
D A G	White dress with blue trousers.

Signals.	Signal meanings.
DRESS. ENLISTED MEN OF THE NAVY—Continued.	
D A H	White undress.
D A I	White undress with blue trousers.
D A J	White undress without jumpers.
D A K	Blue working dress.
D A L	Blue working dress with white hats.
D A M	Blue working dress with white hats; chief petty officers, bandsmen, and servants in white trousers.
D A N	White working dress.
D A O	Dungarees with blue caps.
D A P	Dungarees with white hats.
D A Q	Dungarees with watch caps.
D A R	
D A S	
DRESS. ENLISTED MEN OF THE MARINE CORPS.	
D A T	Dress.
D A U	Dress with white cap covers.
D A V	Dress with white trousers and white cap covers.
D A W	Summer field dress.
D A X	Summer field dress with summer field cap covers.
D A Y	Summer field dress with flannel shirts, without coats.
D A Z	Summer field dress with flannel shirts and summer field cap covers, without coats.
D B	Summer field dress without leggings.
D B A	Summer field dress with summer field cap covers, without leggings.
D B C	Summer field dress with flannel shirts, without coats and without leggings.
D B E	Summer field dress with flannel shirts and summer field cap covers, without coats and without leggings.
D B F	Winter field dress.
D B G	Winter field dress with winter field caps.
D B H	Winter field dress with flannel shirts, without coats.
D B I	Winter field dress with flannel shirts and winter field caps, without coats.
D B J	Winter field dress without leggings.
D B K	Winter field dress with winter field caps, without leggings.
D B L	Winter field dress with flannel shirts, without coats and without leggings.

Signals.	Signal meanings.
DBM	DRESS. ENLISTED MEN OF THE MARINE CORPS—Contd Winter field dress with flannel shirts and winter field caps, without coats and without leggings.
DBN DBO	DRESS. BANDSMEN OF THE NAVY.
	(NOTE.—The following signals need not be made unless a uniform is to be prescribed for the bands different from that for other enlisted men of the Navy.)
DBP	Blue dress.
DBQ	Blue dress with white cap covers.
DBR	Blue dress with white trousers.
DBS	Blue undress.
DBT	Blue undress with white cap covers.
DBU	Blue undress with white trousers.
DBV	White dress.
DBW	White dress with blue trousers.
DBX	White undress.
DBY	White undress with blue trousers.
DBZ	Blue working dress.
DC	Blue working dress with white cap covers.
DC A	White working dress.
DC B	
DCE	
DC F	DRESS. CHIEF PETTY OFFICERS will, the same as the officers.
DC G	DRESS. CHIEF PETTY OFFICERS, MARINES AND BAND will, the same as officers.
DC H	DRESS. OFFICERS AND CREW-S will, the same as yesterday.
DC I	Dress. Officers and crew-s, will, with overcoats.
DC J	Dress. Officers and crew-s will, without overcoats.
DCK	Dress. Officers and crew-s will, in blue.
DCL	DRESS. LANDING FORCE will, in the uniform of the day, with leggings.
DCM	Dress. Landing force will with overcoats.
DCN	Dress. Landing force will, without overcoats.
DCO	Dress. Landing force will, in the uniform designated, with leggings.

Signals.	Signal meanings.
D C P	DRESS. OFFICERS attending the ceremonies or entertainment will, in the uniform indicated.
D C Q	Dress. Officers attending the funeral will, in the uniform of the day or that indicated.
D C R	DRESS. WORKING PARTIES will, in blue working dress.
D C S	Dress. Working parties will, in white working dress.
D C T	Dress. Working parties will, with watch caps.
D C V	DRESS SHIP. (Nation to be honored may be designated.)
D C W	Dress ship. .to-morrow, at the hoisting of the colors. (Nation to be honored may be designated.)
D C X	Dress ship. .to-morrow at sunrise. (Nation to be honored may be designated.)
D C Z	DRESS SHIP, FULL. (Nation to be honored may be designated.)
D E	Dress ship, full. .to-morrow, at the hoisting of the colors. (Nation to be honored may be designated.)
D E A	Dress ship, full. .to-morrow, at sunrise. Nation to be honored may be designated.)
D E L	DRY. Hoist flags to.
D E M	Dry all wet gear and clothing.
E C T	ENGINE-S. and boilers. Permission requested to overhaul and clean. (Number of days required as indicated.) B L S
E C V	Engine-s. and boiler-s may be overhauled. (Number of days allowed may be indicated.) B L T
E C T	Engine-s. and boilers. Overhaul and put in order, with least possible delay. B L U
E C T	Engine-s. Repair.
E C V	ENGINEER OFFICER-S (senior): Repair on board this or designated ship now or at time indicated.
E C Y	ENTERTAINMENT. .on board this or designated ship or at designated place at time indicated. Crew-s are invited to attend. (Number may be indicated.) C H O
E C Y	Entertainment. Officers attending the ceremonies or, will dress in the uniform designated. . . D C P
E C Y	Entertainment. .on board this or designated ship or at designated place at time indicated. Officers are invited to attend. (Number may be indicated.)

Signals.	Signal meanings.
EDK	EQUIPPED. Fully.
EDL	Equipped. Lightly.
EGA	EXCUSED. .from guard duty to-morrow or day designated.
EGB	Excused. .from shore patrol.
EGC	Excused. .from obeying the last signal.
EGH	EXECUTIVE OFFICER-S: Repair on board this or designated
	ship now or at time indicated.
	FIRES. Bank XTR
	Fires. Bank, low. Ships with water tube boilers
	allow unnecessary fires to die out. BCM
EJV	Fires. Let unnecessary, die out.
EJW	Fires. Light.
	Fires. Spread XTU
EKB	FIRE AND RESCUE PARTIES. Send, to the place or ship
	designated or requiring them.
	FLAGS. Hoist, to dry. DEL
EKV	Flags or bunting. Pipe down.
EKW	FLAG LIEUTENANT-S: Repair on board this or the ship
	designated now or at time indicated.
EMS	FOG BELL. Sound ship's call letter on, to indicate position.
	FOG. Form for XTW
	FUEL or coal reports. Make. BXE
	FUNERAL. .ceremonies will begin at the time indicated. .
	BSJ
EOH	Funeral. .honors will be paid to the deceased at the
	time indicated.
EOI	Funeral. Officers that can be spared from duty will
	attend the, (at the time and place indicated).
EOJ	Funeral. Officers and men that can be spared from
	duty will attend the, in prescribed uniform (at
	time and place indicated).
	Funeral. Officers attending the, will dress in the
	uniform of the day or that designated. DCQ
EOK	Funeral. Officers are invited to attend the (at the
	time and place indicated).
EOP	GARBAGE may be thrown overboard at this anchorage.
EPY	GUARD BOATS will make mail trips at hour-s indicated.
EPZ	GUARD MAIL. Send, to this or designated ship or place
	now or at time indicated.
ERO	GUNNER-S: Repair on board this or designated ship now
	or at time indicated.

Signals.	Signal meanings.
	HAIL. Come within, of this or designated ship. X V T
ERU	HAMMOCKS. Pipe down scrubbed.
ERV	Hammocks. Reef scrubbed.
ERW	Hammocks. Scrub.
ERX	Hammocks. Shake out reef in scrubbed.
ESB	HARBOR MASTER. Arrange with, to take your ship-s to buoy-s or berth-s.
	HEAVE SHORT X V U
	HOIST all boats..... B J V
	Hoist in all boats..... B J W
	Hoist out all boats..... B J X
ESH	Hoist in power boat-s.
ESI	Hoist out power boat-s.
ESV	HOSPITAL SHIP or ship designated will leave with sick and wounded at time indicated.
ESY	HOSPITAL TICKET-S. Send, of persons invalided to this or designated ship or place.
EVH	INTERCOURSE. Permit, with the shore.
FAL	LEAVE OF ABSENCE. Grant.
FAM	Leave of absence. Grant the usual, to officers.
FAN	Leave of absence. Grant the usual, to officers and men.
FAS	LIBERTY. Grant, to crew-s for number of hours indicated.
FAT	Liberty. Grant, to special first conduct class men.
FAU	Liberty. Grant to first conduct class men.
FAV	Liberty. Grant the usual, to crews.
FAW	LIBERTY MEN. Recall all.
FCQ	MAIL has arrived (from place that may be designated). Mail. Send for, to consulate of U. S. or nation indicated C E U
FCR	Mail. Have, for the fleet or ships present.
FCS	Mail. An opportunity offers for sending, at the time indicated.
FACT	Mail. An opportunity offers for sending, to the place or in the direction indicated.
FCU	Mail. Send to post office for the.
FCV	Mail. Send, to post office.
FCW	Mail. Send on shore for the.
FCX	Mail. Send, on shore.
FCY	Mail. Send for, to this or designated ship.

Signals.	Signal meanings.
	MAIL —Continued.
FCZ	Mail. Send, to this or designated ship.
FD	Mail. Wait for the.
FDJ	MAN overboard.
FDK	Man the rail or yards.
FDL	Man (men). Need. (Ratings and numbers may be indicated.)
FDM	Man (men). Recall all, without delay.
FDN	Man (men). .has (have) been saved.
FDO	Man (men). Send, to this or designated ship or place. (Ratings and numbers may follow.)
FDP	Man (men). .whose terms of service will expire within the number of days indicated. Send list of names and ratings of.
FDQ	Man (men). .whose terms of service have expired. Send list of names and ratings of.
FDR	Man (men). .whose terms of service have expired or will expire within the number of days indicated. Report by signal ratings and numbers of
FEC	MARINES . Commanding officer-s of: Repair on board this or designated ship now or at time indicated.
FEJ	MEAT . Fresh, may be drawn from supply ship as indicated in days' rations for ship's company as indicated by numeral following.
FEM	MEDICAL assistance. Need AVI
FEN	MEDICAL OFFICER-S , Senior: Repair on board this or designated ship now or at time indicated.
	Medical officer-s. Send a, or number indicated to this or designated ship or place.
	MOOR ship. (Under Negative: "Unmoor" or "Do not moor.") YRW
	Moor to buoy-s or to one-s indicated..... BOI
FIU	NAVIGATOR-S : Repair on board this or designated ship now or at time indicated.
FIV	NAVY YARD . Supplies will be sent from, or naval station.
	Need articles or supplies as indicated..... ASO
FJL	NUMERAL . The, signal following represents thousands; a second numeral signal following represents units.
FLQ	ORDNANCE OFFICER-S : Repair on board this or the designated ship now or at time indicated.

Signals.	Signal meanings.
	OVERBOARD. Man F D J
F M D	PASS in review.
F M S	PAY OFFICER-S of ships: Repair on board this or the designated ship now or at time indicated.
F N K	PERMISSION granted to proceed.
G M O	POSITION BUOYS. Put over. (Under Negative: "Take in.")
G M S	POWER BOAT-S. Prepare, for use.
G M T	Power boat-s. Send, to tow or assist vessel in distress or designated.
G M V	PRATIQUE has been granted.
G N A	PREPARE for review.
G O J	PROCEED.
G O V	Proceed on service assigned.
G Q D	PROVISIONS. Fresh. Can procure, on shore or at place designated.
G Q E	Provisions. Send to supply ship or ship or place designated for, or supplies.
G Q S	RACE is postponed indefinitely or until time indicated.
G Q T	Race will start at time indicated.
	RACING. Prepare boats for..... B K F
G Q V	Racing. Recall the, boats.
G W D	REGISTER. Use the Navy, of the date of which the last two figures are indicated by numeral.
G Y B	RESCUE those in distress.
G Y C	Rescue the drowning person-s.
G Y D	Rescue the fugitive-s or refugee-s.
G Y E	Rescue the wrecked people.
	SEARCH LIGHT-S. Use, as prescribed for fog.... Y W S
H A G	SALUTE the Commander-in-Chief or person designated.
H D V	SEMAPHORE signal system. Use.
	SICK and wounded. Hospital ship-s or ship-s designated will leave with the, at time indicated.... E S V
H G V	SIGNAL DRILL, now or at time designated, with flag hoists or by method designated.
H G W	SIGNAL DRILL, now or at time designated; ship designated leading ship; ships whose distinguishing pennants are shown under first repeater, repeating ships.

Signals.	Signal meanings.
H I G	<p>SIGNALS. Storm, are displayed on shore. (Direction of approaching wind may follow.)</p> <p>Signals. Use Ardois, system..... A P Y</p> <p>Signals. Use blinker, system..... B G M</p> <p>Signals. Use boat B L N</p> <p>Signals. Use semaphore, system..... H D V</p>
H I J	Signals. Use sound, system.
H I N	Signals. Use Very, system.
H I Q	Signals. Use wigwag, system.
H I U	SIGNAL BOOKS. Send naval, to this or designated ship for comparison and correction.
H J	SIGNAL OFFICER-S: Repair on board this or designated ship now or at time indicated.
	<p>SPARE. Can, article-s indicated..... A S R</p> <p>Spare for the use of this or designated ship. Report by signal the quantities of article-s indicated that you can A S T</p>
H K N	SPEED. Be prepared to make, indicated in quarter knots at the time indicated.
H K R	Speed. Each ship or the ship-s addressed will report the number of hours required to have steam for standard, designated in knots.
H K W	Speed. Standard, will be or will be changed at the time indicated to that indicated in quarter knots.
	STREETS are barricaded..... B C X
H N Q	Streets are cleared.
H O R	SUPPER. Men going on duty will take, with them.
H O S	Supper. There will be time for the crew-s to get their.
	UNDERWAY. Get, now or at time indicated..... Z Y S
	UNIFORM. See DRESS.
H R J	TIME. Shown by accompanying hoist under numeral, answering pennant separating hours from minutes.
H W G	UNMOOR..ship.
H W I	Unmoor..ship and ride to upstream anchor. Fathoms may be indicated by numeral.
H W J	Unmoor..ship and ride to downstream anchor. Fathoms may be indicated by numeral.
H W K	Unmoor..ship on next ebb tide, and ride to upstream anchor. Fathoms may be indicated by numeral.

Signals.	Signal meanings.
HWL	Unmoor . . . ship on next flood tide, and ride to down-stream anchor. Fathoms may be indicated by numeral.
HWP	VEGETABLES. Fresh, may be drawn from supply ship as indicated in days' rations for ship's company by numeral.
HY	WELL DONE. (Under Negative: "Badly done.") Z Y X
QSR	WHISTLE. Sound the.
QST	ANCHOR. Number of fathoms of cable may follow (on each anchor in mooring).
RXW	Anchor in berths previously assigned.
RXY	CAST or turn to starboard.
RYQ	Cast or turn to port.
XTR	CLOSE UP.
XTU	FIRES. Bank.
XTW	Fires. Spread.
XVT	Fog. Form for.
XVU	HAIL. Come within, of this or designated ship.
YRW	HEAVE SHORT.
YWS	MOOR SHIP. (Under Negative: "Unmoor" or "Do not moor.")
ZYS	SEARCHLIGHT-S. Use, as prescribed for fog.
ZYX	UNDERWAY. Get, now or at the time indicated.
Z Y X	WELL DONE. (Under Negative: "Badly done.")

CHAPTER XI. BOAT SIGNALS.

NOTE.—Boat signals are entered in only one place, being divided for convenience into various classes and subheadings. See Introduction, Arts. 3-7.

Signals.	Signal meanings.
BOAT DRILL SIGNALS.	
<i>Formation and order.</i>	
J A	Form column.
J A B	Form column with the boats of each flotilla in the order best adapted for towing.
J A C	Form column on this or designated boat.
J A D	Form column on starboard beam of this or designated ship.
J A E	Form column on port beam of this or designated ship.
J A F	Form column with power boats of each ship flotilla towing the pulling boats.
J A G	Form line.
J A H	Form line on this or designated boat.
J A I	Form line on starboard beam of this or designated ship.
J A K	Form line on port beam of this or designated ship.
J A L	Form line of ship flotillas.
J A M	Form line of division flotillas.
J A N	Form ship flotillas for service as previously arranged.
J A O	Form as prescribed for making an opposed landing.
J A P	Formation. Leave the, and follow at such speed as can.
J A Q	Formation. Leave the, and return to your ship-s.
J A R	Order of ship flotillas in formation is as indicated by ship calls.
J A S	Order. Ship flotillas: Form in inverted of flotillas in formation.
J A T	Ship flotillas or the one addressed: Form column on starboard beam of respective ships.

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Formation and order—Continued.

- J A U** Ship flotillas or the one addressed: Form column on port beam of respective ships.
- J A V** Ship flotillas or the one addressed: Form individual column-s on starboard beam of this or designated ship-s.
- J A W** Ship flotillas or the one addressed: Form individual column-s on port beam of this or designated ship-s.

J A X

J A Y

Primary movements.

- J A Z**
- J B** Boats right 15 degrees.
- J B A** Boats right 30 degrees.
- J B C** Boats right 45 degrees.
- J B D** Boats right 60 degrees.
- J B E** Boats right 75 degrees.
- J B F** Boats right 90 degrees.
- J B G** Boats right about, 180 degrees.
- J B H** Boats right, number of degrees indicated by numeral or to course indicated.
- J B I** Boats left 15 degrees.
- J B K** Boats left 30 degrees.
- J B L** Boats left 45 degrees.
- J B M** Boats left 60 degrees.
- J B N** Boats left 75 degrees.
- J B O** Boats left 90 degrees.
- J B P** Boats left about, 180 degrees.
- J B Q** Boats left, number of degrees indicated by numeral or to course indicated.
- J B R** Column-s right 15 degrees.
- J B S** Column-s right 30 degrees.
- J B T** Column-s right 45 degrees.

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Primary movements—Continued.

J B U	Column-s right 60 degrees.
J B V	Column-s right 75 degrees.
J B W	Column-s right 90 degrees.
J B X	Column-s right countermarch; head of column-s right about.
J B Y	Column-s right, number of degrees indicated by numeral or to course indicated.
J B Z	Column-s left 15 degrees.
J C	Column-s left 30 degrees.
J C A	Column-s left 45 degrees.
J C B	Column-s left 60 degrees.
J C D	Column-s left 75 degrees.
J C E	Column-s left 90 degrees.
J C F	Column-s left countermarch; head of column-s left about.
J C G	Column-s left, number of degrees indicated by numeral or to course indicated.
J C H	Ship flotillas, Column right 15 degrees.
J C I	Ship flotillas, Column right 30 degrees.
J C K	Ship flotillas, Column right 45 degrees.
J C L	Ship flotillas, Column right 60 degrees.
J C M	Ship flotillas, Column right 75 degrees.
J C N	Ship flotillas, Column right 90 degrees.
J C O	Ship flotillas, right countermarch, 180 degrees.
J C P	Ship flotillas, Column right, number of degrees indicated by numeral or to course indicated.
J C Q	Ship flotillas, Column left 15 degrees.
J C R	Ship flotillas Column left 30 degrees.
J C S	Ship flotillas, Column left 45 degrees.
J C T	Ship flotillas, Column left 60 degrees.
J C U	Ship flotillas, Column left 75 degrees.
J C V	Ship flotillas, Column left 90 degrees.
J C W	Ship flotillas, left countermarch, 180 degrees.
J C X	Ship flotillas, Column left, number of degrees indicated by numeral or to course indicated.
J C Y	Front, change, to the right 15 degrees, oblique method.
J C Z	Front, change, to the right 30 degrees, oblique method.

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Primary movements—Continued.

J D	Front, change, to the right 45 degrees, oblique method.
J D A	Front, change, to the right 60 degrees, oblique method.
J D B	Front, change, to the right 75 degrees, oblique method.
J D C	Front, change, to the right 90 degrees, oblique method.
J D E	Front, change, to the right to course indicated or the number of degrees indicated by numeral, oblique method.
J D F	Front, change, to the left 15 degrees, oblique method.
J D G	Front, change, to the left 30 degrees, oblique method.
J D H	Front, change to the left 45 degrees oblique method.
J D I	Front, change, to the left 60 degrees, oblique method.
J D K	Front, change, to the left 75 degrees, oblique method.
J D L	Front, change, to the left 90 degrees, oblique method.
J D M	Front, change, to the left to course indicated or the number of degrees indicated by numeral, oblique method.

NOTE.—The 14 preceding signals for changing front are to be used when in Line or Line of Flotillas or Column of Flotillas. In other cases of changing course use the previous signals in this section.

J D N	.....
J D O	.....

MAGNETIC COMPASS SIGNALS.

All courses or bearings are *Magnetic*.

Northeast quadrant.					
Signals.	De- grees.	Points.	Signals.	De- grees.	Points.
JDP	0°	North.	JFK	45°	NE.
JDQ	1°	.....	JFL	46°	.....
JDR	2°	.....	JFM	47°	.....
JDS	3°	.....	JFN	48°	.....
JDT	4°	.....	JFO	49°	.....
JDU	5°	.....	JFP	50°	.....
JDV	6°	.....	JFQ	51°	.....
JDW	7°	.....	JFR	52°	.....
JDX	8°	.....	JFS	53°	.....
JDY	9°	.....	JFT	54°	.....
JDZ	10°	.....	JFU	55°	.....
JE	11°	.....	JFV	56°	.....
JEA	12°	.....	JFW	57°	.....
JEB	13°	.....	JFX	58°	.....
JEC	14°	.....	JFY	59°	.....
JED	15°	.....	JFZ	60°	.....
JEF	16°	.....	JG	61°	.....
JEG	17°	.....	JGA	62°	.....
JEH	18°	.....	JGB	63°	.....
JEI	19°	.....	JGC	64°	.....
JEK	20°	.....	JGD	65°	.....
JEL	21°	.....	JGE	66°	.....
JEM	22°	.....	JGF	67°	.....
JEN	23°	.....	JGH	68°	.....
JEO	24°	.....	JGI	69°	.....
JEP	25°	.....	JGK	70°	.....
JEQ	26°	.....	JGL	71°	.....
JER	27°	.....	JGM	72°	.....
JES	28°	.....	JGN	73°	.....
JET	29°	.....	JGO	74°	.....
JEU	30°	.....	JGP	75°	.....
JEV	31°	.....	JGQ	76°	.....
JEW	32°	.....	JGR	77°	.....
JEX	33°	.....	JGS	78°	.....
JEY	34°	.....	JGT	79°	.....
JEZ	35°	.....	JGU	80°	.....
JF	36°	.....	JGV	81°	.....
JFA	37°	.....	JGW	82°	.....
JFB	38°	.....	JGX	83°	.....
JFC	39°	.....	JGY	84°	.....
JFD	40°	.....	JGZ	85°	.....
JFE	41°	.....	JH	86°	.....
JFG	42°	.....	JHA	87°	.....
JFH	43°	.....	JHB	88°	.....
JFI	44°	.....	JHC	89°	.....
JFK	45°	NE.	JHD	90°	East.

MAGNETIC COMPASS SIGNALS—Continued.

All courses or bearings are *Magnetic*.

Southeast quadrant.					
Signals.	De- grees.	Points.	Signals.	De- grees.	Points.
JHD	90°	East.	JIZ	135°	SE.
JHE	91°	.....	JK	136°	.....
JHF	92°	.....	JKA	137°	.....
JHG	93°	.....	JKB	138°	.....
JHI	94°	.....	JKC	139°	.....
JHK	95°	.....	JKD	140°	.....
JHL	96°	.....	JKE	141°	.....
JHM	97°	.....	JKF	142°	.....
JHN	98°	.....	JKG	143°	.....
JHO	99°	.....	JKH	144°	.....
JHP	100°	.....	JKI	145°	.....
JHQ	101°	.....	JKL	146°	.....
JHR	102°	.....	JKM	147°	.....
JHS	103°	.....	JKN	148°	.....
JHT	104°	.....	JKO	149°	.....
JHU	105°	.....	JKP	150°	.....
JHV	106°	.....	JKQ	151°	.....
JHW	107°	.....	JKR	152°	.....
JHX	108°	.....	JKS	153°	.....
JHY	109°	.....	JKT	154°	.....
JHZ	110°	.....	JKU	155°	.....
JI	111°	.....	JKV	156°	.....
JIA	112°	.....	JKW	157°	.....
JIB	113°	.....	JKX	158°	.....
JIC	114°	.....	JKY	159°	.....
JID	115°	.....	JKZ	160°	.....
JIE	116°	.....	JL	161°	.....
JIF	117°	.....	JLA	162°	.....
JIG	118°	.....	JLB	163°	.....
JIH	119°	.....	JLC	164°	.....
JIK	120°	.....	JLD	165°	.....
JIL	121°	.....	JLE	166°	.....
JIM	122°	.....	JLF	167°	.....
JIN	123°	.....	JLG	168°	.....
JIO	124°	.....	JLH	169°	.....
JIP	125°	.....	JLI	170°	.....
JIQ	126°	.....	JLK	171°	.....
JIR	127°	.....	JLM	172°	.....
JIS	128°	.....	JLN	173°	.....
JIT	129°	.....	JLO	174°	.....
JIU	130°	.....	JLP	175°	.....
JIV	131°	.....	JLQ	176°	.....
JIW	132°	.....	JLR	177°	.....
JIX	133°	.....	JLS	178°	.....
JIY	134°	.....	JLT	179°	.....
JIZ	135°	SE.	JLU	180°	South.

MAGNETIC COMPASS SIGNALS—Continued.

All courses or bearings are *Magnetic*.

Southwest quadrant.					
Signals.	De-grees.	Points.	Signals.	De-grees.	Points.
JLU	180°	South.	JNP	225°	SW.
JLV	181°	.....	JNQ	226°	.....
JLW	182°	.....	JNR	227°	.....
JLX	183°	.....	JNS	228°	.....
JLY	184°	.....	JNT	229°	.....
JLZ	185°	.....	JNU	230°	.....
JM	186°	.....	JNV	231°	.....
JMA	187°	.....	JNW	232°	.....
JMB	188°	.....	JNX	233°	.....
JMC	189°	.....	JNY	234°	.....
JMD	190°	.....	JNZ	235°	.....
JME	191°	.....	JO	236°	.....
JMF	192°	.....	JOA	237°	.....
JMG	193°	.....	JOB	238°	.....
JMH	194°	.....	JOC	239°	.....
JMI	195°	.....	JOD	240°	.....
JMK	196°	.....	JOE	241°	.....
JML	197°	.....	JOF	242°	.....
JMN	198°	.....	JOG	243°	.....
JMO	199°	.....	JOH	244°	.....
JMP	200°	.....	JOI	245°	.....
JMQ	201°	.....	JOK	246°	.....
JMR	202°	.....	JOL	247°	.....
JMS	203°	.....	JOM	248°	.....
JMT	204°	.....	JON	249°	.....
JMU	205°	.....	JOP	250°	.....
JMV	206°	.....	JOQ	251°	.....
JMW	207°	.....	JOR	252°	.....
JMX	208°	.....	JOS	253°	.....
JMY	209°	.....	JOT	254°	.....
JMZ	210°	.....	JOU	255°	.....
JN	211°	.....	JOV	256°	.....
JNA	212°	.....	JOW	257°	.....
JNB	213°	.....	JOX	258°	.....
JNC	214°	.....	JOY	259°	.....
JND	215°	.....	JOZ	260°	.....
JNE	216°	.....	JP	261°	.....
JNF	217°	.....	JPA	262°	.....
JNG	218°	.....	JPB	263°	.....
JNH	219°	.....	JPC	264°	.....
JNI	220°	.....	JPD	265°	.....
JNK	221°	.....	JPE	266°	.....
JNL	222°	.....	JPF	267°	.....
JNM	223°	.....	JPG	268°	.....
JNO	224°	.....	JPH	269°	.....
JNP	225°	SW.	JPI	270°	West.

MAGNETIC COMPASS SIGNALS—Continued.

All courses or bearings are *Magnetic*.

Northwest quadrant.					
Signals.	De- grees.	Points.	Signals.	De- grees.	Points.
JPI	270°	West.	JRD	315°	NW.
JPK	271°	.....	JRE	316°	.....
JPL	272°	.....	JRF	317°	.....
JPM	273°	.....	JRG	318°	.....
JPN	274°	.....	JRH	319°	.....
JPO	275°	.....	JRI	320°	.....
JPQ	276°	.....	JRK	321°	.....
JPR	277°	.....	JRL	322°	.....
JPS	278°	.....	JRM	323°	.....
JPT	279°	.....	JRN	324°	.....
JPU	280°	.....	JRO	325°	.....
JPV	281°	.....	JRP	326°	.....
JPW	282°	.....	JRQ	327°	.....
JPX	283°	.....	JRS	328°	.....
JPY	284°	.....	JRT	329°	.....
JPZ	285°	.....	JRU	330°	.....
JQ	286°	.....	JRV	331°	.....
JQA	287°	.....	JRW	332°	.....
JQB	288°	.....	JRX	333°	.....
JQC	289°	.....	JRY	334°	.....
JQD	290°	.....	JRZ	335°	.....
JQE	291°	.....	JS	336°	.....
JQF	292°	.....	JSA	337°	.....
JQG	293°	.....	JSB	338°	.....
JQH	294°	.....	JSC	339°	.....
JQI	295°	.....	JSD	340°	.....
JQK	296°	.....	JSE	341°	.....
JQL	297°	.....	JSF	342°	.....
JQM	298°	.....	JSG	343°	.....
JQN	299°	.....	JSH	344°	.....
JQO	300°	.....	JSI	345°	.....
JQP	301°	.....	JSK	346°	.....
JQR	302°	.....	JSL	347°	.....
JQS	303°	.....	JSM	348°	.....
JQT	304°	.....	JSN	349°	.....
JQU	305°	.....	JSO	350°	.....
JQV	306°	.....	JSP	351°	.....
JQW	307°	.....	JSQ	352°	.....
JQX	308°	.....	JSR	353°	.....
JQY	309°	.....	JST	354°	.....
JQZ	310°	.....	JSU	355°	.....
JR	311°	.....	JSV	356°	.....
JRA	312°	.....	JSW	357°	.....
JRB	313°	.....	JSX	358°	.....
JRC	314°	.....	JSY	359°	.....
JRD	315°	NW.	JDP	360°	North.

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Evolutions from column.

- J S Z** Form line to the front.—Rear boats, right oblique.
J T Form line to the front.—Rear boats, left oblique.
J T A Form line of ship flotillas.—Rear ship flotillas, column right 30 degrees.
J T B Form line of ship flotillas.—Rear ship flotillas, column left 30 degrees.
J T C Form line of division flotillas.—Rear division flotillas, column right 30 degrees.
J T D Form line of division flotillas.—Rear division flotillas, column left 30 degrees.
J T E Form column of ship flotillas.—Ship flotilla leaders, forward; other boats, right oblique.
J T F Form column of ship flotillas.—Ship flotilla leaders forward; other boats, left oblique.

Evolutions from column of ship (or division) flotillas.

- J T G** Form column to the front.—Right boats of ship (or division) flotillas, forward; other boats, right oblique.
J T H Form column to the front.—Left boats of ship (or division) flotillas, forward; other boats, left oblique.
J T I Form line to the front.—Leading ship (or division) flotilla, forward; other flotillas, boats right oblique.
J T K Form line to the front.—Leading ship (or division) flotilla, forward; other flotillas, boats left oblique.

Evolutions from line.

- J T L** Form column to the front.—Right boat, forward; other boats, right oblique.
J T M Form column to the front.—Left boat, forward; other boats left oblique.
J T N Form column of ship flotillas.—Right ship flotilla, forward; other ship flotillas, boats right oblique.
J T O Form column of ship flotillas.—Left ship flotilla, forward; other ship flotillas, boats left oblique.

Signals.	Signal meanings.
----------	------------------

BOAT DRILL SIGNALS—Continued.

Evolutions from line—Continued.

J T P	Form line of ship flotillas.—Right boats of ship flotilla forward; other boats, right oblique.
J T Q	Form line of ship flotillas.—Left boats of ship flotilla forward; other boats, left oblique.
J T R	Form line of division flotillas.—Right boats of division flotilla forward; other boats, right oblique.
J T S	Form line of division flotillas.—Left boats of division flotilla, forward; other boats, left oblique.

Evolutions from line of ship (or division) flotillas.

J T U	Form column to the front.—Right ship (or division) flotilla forward; other ship flotillas, column right 30 degrees.
J T V	Form column to the front.—Left ship (or division) flotilla forward; other ship flotillas, column left 30 degrees.
J T W	Form line to the front.—Ship (or division) flotilla leaders forward; other boats, right oblique.
J T X	Form line to the front.—Ship (or division) flotilla leaders forward; other boats, left oblique.

J T Y

J T Z

Speed.

J U	Speed. Make all possible.
J U A	Speed. Make, indicated in quarter knots by numeral.
J U B	Speed. Standard, make.
J U C	Speed. Full, make.
J U D	Speed. Steerage way, Maintain.
J U E	Speed. Increase a little.
J U F	Speed. Decrease a little.
J U G	Stop.
J U H	Back.
J U I	Speed. Two-thirds, make.
J U K	Speed. One-third, make.

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Distance and interval.

JUL	Distance.	Take standard.
JUM	Distance.	Take double.
JUN	Distance.	Take half.
JUO	Distance.	Take proper.
JUP	Distance.	Take, as indicated in boat lengths by numeral.
JUQ	Distance.	Observe, carefully.
JUR	Interval.	Take standard.
JUS	Interval.	Take double.
JUT	Interval.	Take half.
JUV	Interval.	Take proper.
JUW	Interval.	Take, as indicated in boat lengths by numeral.
JUX	Interval.	Observe, carefully.

JUY

JUZ

Guide.

JV	Guide right.
JVA	Guide left.
JVB	Guide center.
JVC	Guide. Observe, carefully.

JVD

Exercise under sail or oars.

JVE	Ahead. Go.
JVF	Assist sails with oars.
JVG	Boats. All, Return to ships or to ship-s designated.
JVH	Boats. Power, Return to ships or to ship-s designated.
JVI	Boats. Pulling, Return to ships or to ship-s designated.
JVK	Boats. Send a, or number indicated alongside this or designated ship or boat.
JVL	Column. Form, by the wind on starboard tack.
JVM	Column. Form, by the wind on port tack.

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Exercise under sail or oars—Continued.

J V N	Come alongside.
J V O	Come under the bow.
J V P	Come under the stern.
J V Q	Course. Steer magnetic, indicated by compass signal.
J V R	Course. Resume.
J V S	Course. Change, now or at time indicated to that (magnetic) indicated by compass signal.
J V T	Go off in succession number of fifteens of degrees indicated by numeral.
J V U	Go off together number of fifteens of degrees indicated by numeral.
J V W	Hail. Ship flotillas or the one addressed: Pass within, of this or designated ship.
J V X	Haul by the wind in succession, starboard tack.
J V Y	Haul by the wind in succession, port tack.
J V Z	Haul by the wind together, starboard tack.
J W	Haul by the wind together, port tack.
J W A	Haul up in succession number of fifteens of degrees indicated by numeral.
J W B	Haul up together number of fifteens of degrees indicated by numeral.
J W C	Heave to, starboard tack.
J W D	Heave to, port tack.
J W E	Hold water. (Power boats: "Deaden headway.")
J W F	Make best of your way to ship-s.
J W G	Masts. Step.
J W H	Masts. Unstep.
J W I	Masts. Unstep, before coming alongside.
J W K	Oars. Boat the.
J W L	Oars. Get out.
J W M	Oars. Get, ready.
J W N	Oars. Get up.
J W O	Oars. Give way. (Power boats, go ahead.)
J W P	Oars. Give way easy. (Power boats, go slow.)
J W Q	Oars. Give way strong. (Power boats, go ahead fast.)

Signals.	Signal meanings.
BOAT DRILL SIGNALS—Continued.	
<i>Exercise under sail or ours—Continued.</i>	
JWR	Oars. Lay on. (Power boats, stop.)
JWS	Oars. Let fall.
JWT	Oars. Out, and give way.
JWU	Oars. Toss.
JWV	Pass. Ship flotillas or the one addressed, under the bows of this or designated ship.
JWX	Pass. Ship flotillas or the one addressed, under the stern of this or designated ship.
JWY	Position. Take.
JWZ	Position or station. Resume.
JX	Position-s. Take, in accordance with prescribed plan.
JXA	Pulling. Boat-s' crew-s, well. (Under Negative: "Pulling badly.")
JXB	Reef sails.
JXC	Reefs. Shake out.
JXD	Rowing. Pay attention to the.
JXE	Sails. Bend.
JXF	Sails. Unbend.
JXG	Sail. Make.
JXH	Sail. Shorten.
JXI	Sail. Take in.
JXK	Sail. Carrying too much.
JXL	Sails are badly set.
JXM	Sheets are too flat aft.
JXN	Sheets are not flat enough.
JXO	Stern all.
JXP	Stroke. Keep.
JXQ	Stroke. Take quicker.
JXR	Stroke. Take longer.
JXS	Tack in succession.
JXT	Tack together.
JXU	Wear in succession.
JXV	Wear together.
JXW	Wind. Keep close to the.
JXY	Wind. You are too close to the.
JXZ	.....

Signals.

Signal meanings.

BOAT DRILL SIGNALS—Continued.

Exercise with landing force.

J Y	Advance. (Attack.)
J Y A	Artillery boats: Go ahead in prescribed formation.
J Y B	Artillery boats: Cover the landing (or embarkation).
J Y C	Boats with guns: Leave the formation and form separately (as may have been prescribed).
J Y D	Boats without guns: Leave the formation and form separately (as may have been prescribed). (See signals JAO, JX.)
J Y E	Boats with guns: Return to their ships.
J Y F	Boats without guns: Return to their ships.
J Y G	Boats. All, Return to their ships.
J Y H	Boats. Send, for landing force (or force ashore).
J Y I	Embark.
J Y K	Embark the field guns.
J Y L	Embark the machine guns.
J Y M	.....
J Y N	Firing. Commence. (Under Negative: "Cease firing.")
J Y O	Firing. Commence, with boat guns. (Under Negative: "Cease firing.")
J Y P	Firing. Commence, with machine guns. (Under Negative: "Cease firing.")
J Y Q	Firing. Commence, with small arms. (Under Negative: "Cease firing.")
J Y R	Land. Advance and, when ship-s is (are) in position to cover the landing.
J Y S	Land.
J Y T	Land the field guns.
J Y U	Land the machine guns.
J Y V	Land without field guns.
J Y W	Land. Make the best of way to beach or landing and.
J Y X	Land. Advance and, when ship-s is (are) in position to cover the landing.
J Y Z	Ship flotilla-s: Keep clear of landing until called in by beachmaster.

Signals.	Signal meanings.
BOAT DRILL SIGNALS—Continued.	
<i>Exercise with landing force—Continued.</i>	
J Z	Ship flotilla-s: Keep clear of landing until preceding or indicated flotilla-s has disembarked.
J Z A	Ship flotilla-s: Keep clear of landing until preceding or indicated flotilla-s has embarked.
J Z B	Ship flotilla-s or the one addressed: Return to your ship-s or ship-s designated.
J Z C	Ship flotilla commander-s: Take charge.
J Z D	Division flotilla commander-s: Take charge.
J Z E	Landing force commander: Take charge.
J Z F	Senior officer: Take charge.
J Z G	Shell. Use.
J Z H	Shrapnel. Use.
J Z I	Stand in to the landing and disembark in natural order of ship flotillas or in the order indicated by ship calls.
J Z K	Stand in to the landing and disembark in inverted order of ship flotillas.
J Z L	Stand in to the landing and report to beachmaster.
J Z M	Stand in to the landing and embark the landing force in natural order of ship flotillas or in the order indicated by ship calls.
J Z N	Stand in to the landing and embark the landing force in inverted order of ship flotillas.
J Z O	.....
J Z P	.....
J Z Q	.....
J Z R	.....
J Z S	.....
J Z T	.....
J Z U	.....
J Z V	.....
J Z W	.....
J Z X	.....
J Z Y	.....

Signals.	Signal meanings.
TARGET PRACTICE SIGNALS.	
(All signals relating to torpedo practice are grouped under TORPEDO.)	
MA	Alongside. Come.
MA B	Alongside. Come, for relief crews now or at time indicated.
MA C	Alongside. Come, with repair boat now or at time indicated.
MA D	Alongside. Come, as we pass near target.
MA E	Alongside. Come, as we pass near you.
MA F	Alongside. Send power boat, now or at time indicated.
MA G	Anchor near the rafts or at the range indicated by numeral.
MA H	Anchors. Require. (Number may follow.)
MA I	Anchors. How many, do you require?
MA J	Anchors. How many, have you?
MA K	Anchors. Have one, or the number indicated.
MA L	Anchors. Have one spare, or the number indicated.
MA N	Anchors. Ship designated will give you. (Number may follow.)
MA O	Batteries. Require. (Number may follow.)
MA P	Batteries. How many, do you require?
MA Q	Batteries. How many, have you?
MA R	Batteries. Have the number of, indicated.
MA S	Batteries. Have the number of spare, indicated.
MA T	Batteries. Ship designated will give you. (Number may follow.)
MA U	Block-s. Require. (Number may follow.)
MA V	Boat-s. Get, ready for hoisting in.
MA W	Bolt-s. Require. (Number may follow.)
MA X	Buoy-s is (are) adrift. (Number may follow.)
MA Y	Buoy-s. Pick up the, adrift.
MA Z	Buoy-s. Have picked up the, adrift or number indicated.
MB	Buoy-s is (are) in place.
MB A	Buoy-s. Replace the.
MB C	Buoy-s. Replace flag or lantern on the, indicated.
MB D	Cleats. Require.
MB E	Halliards. Require. (Number may follow.)
MB F	Hawsers. Require. (Number may follow.)

Signals.	Signal meanings.
TARGET PRACTICE SIGNALS—Continued.	
MBG	Hawsers. Size of, referred to is indicated by numeral in inches.
MBH	Hawsers. How many, do you require?
MBI	Hawsers. How many, have you?
MBJ	Hawsers. Have the number of, indicated.
MBK	Hawsers. Have the number of spare, indicated.
MBL	Hawsers. Ship designated will give you. (Number may follow.)
MBN	Hawser-s referred to is (are) wire.
MBO	Hits. The number of, indicated by numeral.
MBP	Hits. How many, on target (or on each target)?
MBQ	Hits. How many, by each caliber?
MBR	Hits. Actual, by calibers beginning with largest, indicated by numerals.
MBS	Hits. Constructive, additional to actual, by calibers beginning with the largest, indicated by numerals.
MBT	Hits. Total, actual and constructive, by calibers beginning with the largest, indicated by numerals.
MBU	Hits. Recount, on target-s indicated by numeral-s.
MBV	Hits on target No. 1, indicated by numeral. } By calibers if they can be distinguished, beginning with the largest.
MBW	
MBX	
MBY	
MBZ	
MC	
MCA	Hits. Examine edges of targets indicated by numeral for.
MCB	Hits. Count and paint out, on all or target screens indicated by numeral.
MCD	.....
MCE	.....
MCF	.....
MCG	Keep in rear of firing line.
MCH	Keep farther from the target-s.
MCI	Lantern-s. Put, on the or the indicated buoy-s.
MCJ	Lanterns. Put, on target rafts or those indicated by numeral.
MCK	Lashings. Require.
MCL	..... Univ Gaki Digitized by Microsoft ©

Signals.

Signal meanings.

TARGET PRACTICE SIGNALS—Continued.

MCN	Lie in the position designated during the firing.
MCO	Lie to the right of the target-s. (Distance in hundreds of yards may be indicated.)
MCP	Lie to the left of the target-s. (Distance in hundreds of yards may be indicated.)
MCQ	.....
MCR	Man overboard from target raft.
MCS	Masts. Require, (Number may follow.)
MCT	Masts. How many, do you require?
MCU	Masts. How many have you?
MCV	Masts. How many spare, have you?
MCW	Masts. Have number of, indicated.
MCX	Masts. Have number of spare, indicated.
MCY	Masts. Ship designated will give you. (Number may follow.)
MCZ	Masts. Erect, on target-s designated by numeral or otherwise.
MD	Masts. Erect, on target-s requiring them.
MDA	.....
MDB	.....
MDC	Moving picture outfit. Deliver, to ship designated.
MDE	Moving picture outfit. Have.
MDF	Moving picture outfit. Obtain, from ship designated.
MDG	Photographic outfit. Deliver, to ship designated.
MDH	Photographic outfit. Have.
MDI	Photographic outfit. Obtain, from ship designated.
MDJ	Raft-s is (are) adrift. (Number may follow.)
MDK	Raft-s is (are) afloat. (Number may follow.)
MDL	Raft-s is (are) aground. (Number may follow.)
MDN	Raft-s. Anchored, is (are) dragging out of position. (Number may follow.)
MDO	Raft-s. Replace the anchored, in position.
MDP	Raft-s. Anchored, will hold during present condition of sea.
MDQ	Raft-s or the one-s indicated by numeral require-s repairs.
MDR	Raft-s. How long will it take to repair?

Signals.

Signal meanings.

TARGET PRACTICE SIGNALS—Continued.

M D S	Raft-s can be repaired soon or in the number of quarter hours indicated.
M D T	Raft-s. Repairs to, will require some days or number of days indicated.
M D U	Raft-s or the one-s indicated can be repaired with facilities at hand.
M D V	Raft-s will be ready at the hour indicated to-day or the day indicated. (Number may follow.)
M D W	Raft-s. Report condition of.
M D X	Raft-s is (are) in serviceable condition. (Number may follow.)
M D Y	Raft-s or the one-s indicated can be taken into port.
M D Z	Raft-s. Dismantle the, indicated by numeral now or at time indicated.
M E	Raft-s. Take, alongside of you and anchor.
M E A	Raft-s. Do not work on, until further orders.
M E B	Raft-s. When will you be ready to begin work on?
M E C	Raft-s. Will be able to begin work on, now or at time indicated.
M E D	Raft-s. At work on, now.
M E F	Raft-s. Report when it is too rough for work on.
M E G	Raft-s. It is too rough for work on.
M E H	Raft-s. Keep searchlight on, during the night.
M E I	Raft-s. Stand by, during the night.
M E J	Raft-s. Follow the, adrift and take it (them) in tow when practicable.
M E K	Raft-s. Have hold of, and preparing to take it (them) in tow. (Number may follow.)
M E L	Raft-s. Have the, in tow. (Number may follow.)
M E N	Raft-s. Take, in tow.
M E O	Raft-s. Make up tandem of, now or at time indicated.
M E P	Raft-s. Deliver, to vessel designated. (Number may follow.)
M E Q	Raft-s is (are) breaking up. (Number may follow.)
M E R	Raft-s has (have) broken up. (Number may follow.)
M E S	Raft-s has (have) sunk. (Number may follow.)
M E T	Raft-s. Get underway with.
M E U	Raft-s. Repair the, indicated by numeral-s.

Signals.	Signal meanings.
TARGET PRACTICE SIGNALS—Continued.	
MEV	Raft-s. Take the, to moorings.
MEW	Raft-s. Take the, in to sheltered anchorage.
MEX	Raft-s. Take the, to the position or the range indicated by numeral.
MEY	.....
MEZ	.....
MF	Range base ship of range No. 1.
MFA	Range base ship of range No. 2.
MFB	Range base ship of range No. 3.
MFC	Range base ship of range No. 4.
MFD	Range base ship of range No. 5.
MFE	.....
MFG	Relief crew. Require, for power boat.
MFH	Relief crew. Require, for repair boat.
MFI	Relief power boat. Require.
MFJ	Relief repair boat. Require.
MFK	Relief repair party. Require.
MFL	.....
MFN	Repairs are completed.
MFO	Repairs will take a short time or the number of hours indicated.
MFP	.....
MFQ	Return to ship.
MFR	Return to ship after taking down screens.
MFS	Return to ship leaving screens set.
MFT	Return to ship leaving screens furled.
MFU	Return to ship after shifting screens as indicated.
MFV	Return to ship for relief repair party.
MFW	Return to station.
MFX	.....
MFY	Run. Begin the.
MFZ	Run. Have begun the.
MG	Run. About to begin the.
MGA	Run. Have completed the.
MGB	Run. This is the last.
MGC	.....
MGD	Salvo. All shots of, fell a little short.

Signals.	Signal meanings.
TARGET PRACTICE SIGNALS—Continued.	
M G E	Salvo. All shots of, went a little over.
M G F	Salvo was well bunched and straddled. (Number of shots short and number of shots over may follow in the order given.)
M G H	Salvo was well bunched, the center a little short or short the number of hundreds of yards indicated.
M G I	Salvo was well bunched, the center a little over or over the number of hundreds of yards indicated.
M G J	Salvo fell short. (Outside limits may follow in hundreds of yards.)
M G K	Salvo went over. (Outside limits may follow in hundreds of yards.)
M G L	Salvo straddled, widely dispersed. (Number of shots short and number of shots over may follow in the order given.)
M G N	Salvo fell short, widely dispersed.
M G O	Salvo went over, widely dispersed.
M G P	Salvo fell to the right.
M G Q	Salvo fell to the left.
M G R	.....
M G S	.....
M G T	Screen-s. Bring, to ship from the target-s or the target-s indicated by numeral-s.
M G U	Screen-s. Deliver, to ship-s designated.
M G V	Screen-s. Furl, on target-s or target-s indicated by numeral-s.
M G W	Screen-s. Give (number may be indicated), to ship-s designated.
M G X	Screen-s. Ship designated will give you, (number may be indicated).
M G Y	Screen-s. How many turret, have you?
M G Z	Screen-s. Have the number of turret, indicated.
M H	Screen-s. How many broadside, have you?
M H A	Screen-s. Have the number of broadside, indicated.
M H B	Screen-s. How many torpedo-defense, have you?
M H C	Screen-s. Have the number of torpedo-defense, indicated.

Signals.

Signal meanings.

TARGET PRACTICE SIGNALS—Continued.

MHD	Screen-s. How many battle-target, have you?
MHE	Screen-s. Have the number of battle-target, indicated.
MHF	Screen-s. Set, facing to starboard.
MHG	Screen-s. Set, facing to port.
MHI	Screen-s. Set, on target-s, or on target-s indicated by numeral-s.
MHJ	Screen-s. Set, flat on target-s or on target-s indicated by numeral-s.
MHK	Screen-s. Set broadside.
MHL	Screen-s. Set turret.
MHN	Screen-s. Set, for caliber indicated by numeral.
MHO	Screen-s. Set, for night practice on target-s or target-s indicated by numeral-s.
MHP	Screen-s. Set, for battle practice.
MHQ	Screen-s. Set, higher on target-s or target-s indicated by numeral-s.
MHR	Screen-s. Set, lower on target-s or target-s indicated by numeral-s.
MHS	Screen-s. Set, properly on target-s or target-s indicated by numeral-s.
MHT	Screen-s. Shift, on target-s or target-s indicated by numeral-s.
MHU	Screen-s. Take down, on target-s or target-s indicated by numeral-s.
MHV	.....
MHW	Send vessel designated to this ship or ship or place designated.
MHX	Shots. Report fall of.
MHY	Shrouds. Require. (Number may follow.)
MHZ	Shrouds. How many, do you require?
MI	Shrouds. How many have you?
MI A	Shrouds. Have the number of, indicated.
MIB	Spikes. Require.
MIC	Target-s. The, or target-s indicated by numeral-s require repairs.
MID	Target-s. How long to repair target-s or target-s indicated by numeral-s?

Signals.	Signal meanings.
TARGET PRACTICE SIGNALS—Continued.	
M I E	Target-s. Will require a short time or the number of hours indicated to repair.
M I F	Target-s. Repair the, or the target-s indicated by numeral-s.
M I G	Target-s. Mark the, or the target-s indicated by numeral-s.
M I H	Target-s. Set, or the target-s indicated by numeral-s parallel to the firing line.
M I J	Target-s. Visit the, or the target-s indicated by numeral-s.
M I K	Target-s. Keep clear of the, or line of fire.
M I L	Target-s. Illuminate the, or the target-s indicated by numeral-s.
M I N	Target-s. Subcaliber, Get out.
M I O	Target-s. Subcaliber, Take in.
M I P	.....
M I Q	Target-practice material. What, have you?
M I R	Target-practice material. Require more.
M I S	Target range is clear.
M I T	Target range will be clear in time for the run.
M I U	Target range is not clear. (Number of quarter hours before it will probably be clear may be indicated by numeral.)
M I V	Target range. Lay out the.
M I W	Target range. Pick up the.
M I X	.....
M I Y	Torpedo breached at about the number of hundreds of yards indicated from firing ship.
M I Z	Torpedo-es. Bring, alongside.
M J	Torpedo. Buoy the position where, sank.
M J A	Torpedo. Have buoyed the position where, sank.
M J B	Torpedo has come up.
M J C	Torpedo has come up but has been lost sight of.
M J D	Torpedo curved to the right.

Signals.

Signal meanings.

TARGET PRACTICE SIGNALS—Continued.

M J E	Torpedo curved to the left.
M J F	Torpedo is beyond you.
M J G	Torpedo is this side of you.
M J H	Torpedo is to the right of you (looking from here).
M J I	Torpedo is to the left of you (looking from here).
M J K	Torpedo. Follow the ship on range and then follow the.
M J L	Torpedo. Heading for the.
M J N	Torpedo. Keep in rear of firing line and then follow the.
M J O	Torpedo. Last, fired made a hit.
M J P	Torpedo. Last, fired made a half hit.
M J Q	Torpedo. Number of, hits is as indicated by numeral. (Firing ship may be designated.)
M J R	Torpedo. Number of half hits is as indicated by numeral. (Firing ship may be designated.)
M J S	Torpedo passed ahead of target. (Number of tens of yards may be indicated.)
M J T	Torpedo passed astern of target. (Number of tens of yards may be indicated.)
M J U	Torpedo is located.
M J V	Torpedo. The, or number indicated has (have) been lost.
M J W	Torpedo. Position of, is indicated by bubbles.
M J X	Torpedo. Position of, is not (or is no longer) indicated by bubbles.
M J Y	.....
M J Z	Torpedo. The, or number indicated has (have) been recovered.
M K	Torpedo-es. How many, have been recovered?
M K A	Torpedo did run.
M K B	Torpedo is making erratic run ahead of this or designated ship.
M K C	Torpedo is making erratic run astern of this or designated ship.
M K D	Torpedo is making erratic run on starboard beam of this or designated ship.
M K E	Torpedo is making erratic run on starboard bow of this or designated ship.

Signals.

Signal meanings.

TARGET PRACTICE SIGNALS—Continued.

M K F	Torpedo is making erratic run on starboard quarter of this or designated ship.
M K G	Torpedo is making erratic run on port beam of this or designated ship.
M K H	Torpedo is making erratic run on port bow of this or designated ship.
M K I	Torpedo is making erratic run on port quarter of this or designated ship.
M K J	Torpedo is northward of this or designated ship.
M K L	Torpedo is northeastward of this or designated ship.
M K N	Torpedo is eastward of this or designated ship.
M K O	Torpedo is southeastward of this or designated ship.
M K P	Torpedo is southward of this or designated ship.
M K Q	Torpedo is southwestward of this or designated ship.
M K R	Torpedo is westward of this or designated ship.
M K S	Torpedo is northwestward of this or designated ship.
M K T	Torpedo bears from this or designated ship as indicated by compass signal.
M K U	Torpedo. Search for, between ship and target or in direction indicated from you. (Distance may follow in hundreds of yards.)
M K V	Torpedo. Search for, between ship and target or in direction indicated from this ship. (Distance may follow in hundreds of yards.)
M K W	Torpedo has sunk.
M K X	Torpedo. Sweep for.
M K Y	Torpedo. Where is the?
M K Z	.....
M L	.....
M L A	Torpedo range. Keep clear of the.
M L B	Torpedo range. Lay out the.
M L C	Torpedo range. Pick up the.
M L D	Torpedo range. Take position on the, at about the number of hundreds of yards indicated from firing point.
M L E	Tow slowly.
M L F	Tow faster.
M L G	Tow at such speed as is safe.

Signals.

Signal meanings.

TARGET PRACTICE SIGNALS—Continued.

MLH	Tow to the right.
MLI	Tow to the left.
MLJ	Tow on opposite course.
MLK	Tow closer to the ship.
MLN	Tow farther from the ship.
MLO	Tow. Stop.
MLP	.....
MLQ	Towline. Use length of, indicated in fathoms.
MLR	Towline. Lengthen the. (Additional number of fathoms may follow.)
MLS	Towline. Shorten the. (Subtractive number of fathoms may follow.)
MLT	Towline has parted.
MLU	Towline is foul.
MLV	Towline can be cleared soon or in the number of hours indicated by numeral or at the time indicated.
MLW	Towline has been cleared.
MLX	Towline has had to be cut to clear it.
MLY	Towline has been spliced.
MLZ	Towline-s. Rectify length of.
MN	.....
MNA	Umpire-s. Ship: Come (go) on board now or at the time indicated.
MNB	Umpire-s. Target: Come (go) on board now or at the time indicated.
MNC	Umpire-s. Do not come (go) on board until time indicated or further notice.
MND	Umpire-s will remain on board during the night or until further notice.
MNE	Umpire-s: Return to your ship-s.
MNF	Umpire-s. Send boat-s for.
MNG	.....
MNH	.....
MNI	.....
MNJ	.....

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS.

MNK	Accident or breakdown. Report nature or extent.
MNL	.....
MNO	Afloat. Am (are).
MNP	Afloat. All boats or number indicated are.
MNQ	Afloat. Get all boats.
MNR	.....
MNS	Aground. Am (are).
MNT	Aground. All boats or number indicated are.
MNU	Aground. The lighter (or vessel) is.
MNV	.....
MNW	.....
MNX	Ahead. Keep farther.
MNY	Assist the boat-s or vessel-s requiring aid.
MNZ	.....
MO	Anchor.
MOA	Anchor upon reaching proper depth.
MOB	Anchor ahead.
MOC	Anchor astern.
MOD	Anchor on starboard beam.
MOE	Anchor on starboard bow.
MOF	Anchor on starboard quarter.
MOG	Anchor on port beam.
MOH	Anchor on port bow.
MOI	Anchor on port quarter.
MOJ	Anchor by the stern.
MOK	Anchor farther inshore.
MOL	Anchor farther offshore.
MON	Anchor. Weigh, now or at time indicated.
MOP	Anchor until morning.
MOQ	Anchor. Drag for.
MOR	.....
MOS	.....
	Anchors. (See Target Practice Signals.)
MOT	Anchorage. Examine the, carefully.
MOU	Anchorage can be had only close inshore.
MOV	Anchorage can be had only well offshore.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MOW	Anchorage is safe.
MOX	.....
MOY	Approach is obstructed.
MOZ	.....
MP	Approached. The shore may be, without risk.
MPA	.....
MPB	.....
MPC	Assistance. Need.
MPD	Assistance. Need immediate.
MPE	Assistance will be sent.
MPF	.....
MPG	.....
MPH	Awnings. Spread boat.
MPI	Awnings. Furl boat.
MPJ	Bar. Examine the, and report.
MPK	Bar is safe.
MPL	.....
MPN	.....
MPO	Beachmaster requires assistance.
MPQ	Beachmaster. Boats: Report to, for instructions.
MPR	Beachmaster: Keep (or get) boats afloat.
MPS	Beachmaster: Prepare boats for embarkation.
MPT	.....
MPU	Boat or number indicated is (are) disabled temporarily.
MPV	Boat or number indicated is (are) disabled totally.
MPW	Boats or number indicated is (are) leaking.
MPX	Boat or number indicated is (are) repaired.
MPY	Boat or number indicated is (are) in sinking condition.
MPZ	Boat or number indicated is (are) stove.
MQ	Boat or number indicated is (are) sunk.
MQA	Boat-s. Do not risk, in surf.
MQB	Boat-s. Will not risk, in surf.
MQC	Boat-s. Trim, for safe towing.
MQD	Boat. Surf, Have.
MQE	Boat. Surf, is damaged.
MQF	Boat. Surf, can be repaired with available facilities.
MQG	Boat. Surf, is repaired.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

M Q H	..... Boat drill. (<i>See</i> signals JA-JZY.)
M Q I	Bring off landing party.
M Q J	Bring off liberty party.
M Q K	Bring off mail.
M Q L	Bring off officers.
M Q N	Bring off working party.
M Q O	.....
M Q P	Buoy-s has (have) dragged or been misplaced.
M Q R	Buoy the obstructions.
M Q S	Buoys. Plant marker.
M Q T	Buoy the position before leaving it.
M Q U	Buoys. Remove the.
M Q V	Buoys have been removed.
M Q W	Buoys. Replace the.
M Q X	Buoys have been replaced.
M Q Y	.....
M Q Z	Channel. The, is buoyed.
M R	Channel. The, is clear.
M R A	Channel. The, is deep.
M R B	Channel. The, is narrow.
M R C	Channel. The, is straight.
M R D	Channel. Drag (or sweep) the, for obstructions.
M R E	Channel. Keep near left bank of the, (looking down-stream).
M R F	Channel. Keep near right bank of the, (looking down-stream).
M R G	Channel. Keep in the middle of the.
M R H	Channel. Mark the, by anchoring in the fairway.
M R I	Channel. Mark the, by anchoring or placing boats or marks on either side.
M R J	.....
M R K	Coal. Require. (Number of pounds may follow; or see signal M Y U .)
M R L	Coal. Have sufficient.
M R N	Coal and water. Require.
M R O	Coal and water. Have sufficient.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MRP	Coal. Will send you.
MRQ	Coal and water. Will send you.
MRS	Colors. Hoist the.
	Compass signals. (<i>See signals JDP-JSY.</i>)
MRT	Compass. Have a boat.
	Course. (<i>See signals JVQ-JVS.</i>)
MRU	Damage. Report.
MRV	Damaged. Am (are).
MRW	Damaged. Am (are), seriously.
MRX	.....
MR Y	Day. First, of this month or month indicated.
MR Z	Day. Second, of this month or month indicated.
MS	Day. Third, of this month or month indicated.
MS A	Day. Fourth, of this month or month indicated.
MS B	Day. Fifth, of this month or month indicated.
MS C	Day. Sixth, of this month or month indicated.
MS D	Day. Seventh, of this month or month indicated.
MS E	Day. Eighth, of this month or month indicated.
MS F	Day. Ninth, of this month or month indicated.
MS G	Day. Tenth, of this month or month indicated.
MS H	Day. Eleventh, of this month or month indicated.
MS I	Day. Twelfth, of this month or month indicated.
MS J	Day. Thirteenth, of this month or month indicated.
MS K	Day. Fourteenth, of this month or month indicated.
MS L	Day. Fifteenth, of this month or month indicated.
MS N	Day. Sixteenth, of this month or month indicated.
MS O	Day. Seventeenth, of this month or month indicated.
MS P	Day. Eighteenth, of this month or month indicated.
MS Q	Day. Nineteenth, of this month or month indicated.
MS R	Day. Twentieth, of this month or month indicated.
MS T	Day. Twenty-first, of this month or month indicated.
MS U	Day. Twenty-second, of this month or month indicated.
MS V	Day. Twenty-third, of this month or month indicated.
MS W	Day. Twenty-fourth, of this month or month indicated.
MS X	Day. Twenty-fifth, of this month or month indicated.
MS Y	Day. Twenty-sixth, of this month or month indicated.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MSZ	Day. Twenty-seventh, of this month or month indicated.
MT	Day. Twenty-eighth, of this month or month indicated.
MTA	Day. Twenty-ninth, of this month or month indicated.
MTB	Day. Thirtieth, of this month or month indicated.
MT C	Day. Thirty-first, of this month or month indicated.
MT D	Depth. Correction of, to plane of mean low tide is as indicated in feet by numeral.
MT E	Depth is as indicated in feet.
MT F	Depth. Least, is as indicated in feet.
MT G	Depths reported are reduced to plane of mean low tide.
MT H	.....
MT I	Discretion. Act at.
MT J	Disorder. Require more petty officers to suppress.
MT K	Disorder. Require more men to suppress.
MT L	Disorder. Suppress all.
MT N	Disorder. Can suppress, without further assistance.
MT O	Disorder. There is some.
MT P	Disorder. There is great.
MT Q	.....
MT R	Disorderly. Arrest, men.
MT S	Disorderly. Arrest all, persons.
MT U	Disorderly. Send, men off to their ships.
MT V	Dispatch. Use the greatest.
MT W	Disregard movements of senior officer. Distance. (See signals JUL-JUQ.)
MT X	Distance. Decrease your, from the ship.
MT Y	Distance. Increase your, from the ship.
MT Z	.....
MU	Engine is disabled.
MUA	Engine can be repaired without assistance.
MUB	Engine is repaired.
MUC	.....
MUD	Evolutions. (See signals JSZ-JTZ.) Follow this or indicated boat without further orders. Formation and Order. (See signals JA-JAZ.)
MUE	Gasoline. Require. (Number of gallons may follow.)
MUF	Gasoline. Have sufficient.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MUG	Gasoline. Will send. Guide. (<i>See</i> signals JV-JVC.)
MUH	Hail. Come within. Hawsers. (<i>See</i> Target-practice signals.)
MUI	Instructions. Will send. Interval. (<i>See</i> signals JUR-JUZ.)
MUJ	Landing float has sunk.
MUK	Landing float has been repaired. Landing force exercises. (<i>See</i> signals JY-JZY.)
MUL	Month of January.
MUN	Month of February.
MUO	Month of March.
MUP	Month of April.
MUQ	Month of May.
MUR	Month of June.
MUS	Month of July.
MUT	Month of August.
MUV	Month of September.
MUW	Month of October.
MUX	Month of November.
MUY	Month of December.
MUZ	Oars. Exercise under. (<i>See</i> signals JVE-JXZ.) Oil. Require fuel, for boilers. (Number of gallons may follow; or see signal MYU .)
MV	Oil. Will send fuel, for boilers.
MVA	Oil for oil engines. Require. (Number of gallons may follow; or see signal MYU .)
MVB	Oil for oil engines. Will send.
MVC	Oil. Require lubricating. (Number of gallons may follow.)
MVD	Oil. Will send lubricating.
MVE	Propeller is clear.
MVF	Propeller is foul.
MVG	Propeller-s is (are) lost. (All or number indicated.)
MVH	Propeller has lost blades. (Number may follow.)
MVI	Radio set is out of commission.
MVJ	Radio set is repaired.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MVK	Radio receiving set is out of commission.
MVL	Radio sending set is out of commission.
MVN	.....
MVO	Ready. Am (are).
MVP	Ready. When will you be?
MVQ	Ready. Will be, soon or at time indicated.
MVR	Ready. Ship flotilla is.
MVS	Ready. Division flotilla is.
MVT	Ready. Fleet flotilla is.
MVU	.....
MVW	Repairs. Need assistance in making.
MVX	Repairs. Can make, with own force.
MVY	Repairs are progressing well.
MVZ	Repairs will be completed soon or at time indicated. Return. (See signals JVD-JYF and MFQ-MFW.)
MW	Safe. Am (are).
MWA	Safe. Boat-s is (are). Sails. Exercises under. (See signals JVD-JXZ.)
MWB	Sand. Get a supply of.
MWC	Shelter. Seek.
MWD	Sheltered. Am (are).
MWE	Sheltered. Boats are.
MWF	Shore. The, may be approached without risk.
MWG	Signal. Able to make out last.
MWH	Signal is received but not understood.
MWI	Signal. Repeat last.
MWJ	Signal is understood.
MWK	.....
MWL	Signaling. Cease.
MWN	Signals. Give attention to.
MWO	Signals. You have misunderstood.
MWP	Signals. Repeat. (Under Negative: "Discontinue repeating signals.")
MWQ	Signals. Boat, Use.
MWR	Signals. Flag-hoist, Use.
MWS	Signals. Radio, Use.
MWT	Signals. Semaphore, Use.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MWU	Signals. Semaphore or wigwag, Use.
MWV	Signals. Sound, Use.
MWX	Signals. Wigwag, Use.
MWY	.....
MWZ	.....
MX	Sound frequently or at intervals indicated in minutes by numeral.
MXA	Sound regularly and report any material change in depth.
MXB	Sound. Go ahead and, reporting as you proceed.
MXC	Sound and report depth.
MXD	Sound in the direction indicated.
MXE	.....
MXF	Sounding. Have taken; depth reached is indicated in feet by numeral. (Numeral under Negative: "No bottom at indicated depth.")
	Speed. (See signals JU-JUK.)
MXG	Steam. Get up, on steamers. (Other power boats, Prepare.)
MXH	.....
MXI	Steer more to starboard.
MXJ	Steer more to port.
MXK	.....
MXL	Surf. There is too much, to land. Target practice (gun and torpedo). See signals MA-MNJ.)
MXN	.....
MXO	.....
MXP	.....
MXQ	.....
MXR	.....
MXS	.....
MXT	.....
MXU	Time. One a. m., Minutes by numeral following.
MXV	Time. One p. m., Minutes by numeral following.
MXW	Time. Two a. m., Minutes by numeral following.
MXY	Time. Two p. m., Minutes by numeral following.
MXZ	Time. Three a. m., Minutes by numeral following.

Signals.

Signal meanings.

MISCELLANEOUS SIGNALS—Continued.

MY	Time. Three p. m., Minutes by numeral following.
MYA	Time. Four a. m., Minutes by numeral following.
MYB	Time. Four p. m., Minutes by numeral following.
MYC	Time. Five a. m., Minutes by numeral following.
MYD	Time. Five p. m., Minutes by numeral following.
MYE	Time. Six a. m., Minutes by numeral following.
MYF	Time. Six p. m., Minutes by numeral following.
MYG	Time. Seven a. m., Minutes by numeral following.
MYH	Time. Seven p. m., Minutes by numeral following.
MYI	Time. Eight a. m., Minutes by numeral following.
MYJ	Time. Eight p. m., Minutes by numeral following.
MYK	Time. Nine a. m., Minutes by numeral following.
MYL	Time. Nine p. m., Minutes by numeral following.
MYN	Time. Ten a. m., Minutes by numeral following.
MYO	Time. Ten p. m., Minutes by numeral following.
MYP	Time. Eleven a. m., Minutes by numeral following.
MYQ	Time. Eleven p. m., Minutes by numeral following.
MYR	Time. Twelve meridian, Minutes by numeral following.
MYS	Time. Twelve midnight, Minutes by numeral following.
MYT	.....
MYU	Tons. The amount of article referred to is indicated in, by numeral.
MYV	Tow. Boats in: Use oars to assist towing boats.
MYW	Tow. Power boats: Take boats of respective ships in.
MYX	Tow. Power boats, boats to respective ships.
MYZ	Tow. Tugs or vessels detailed for towing. Take in, the column-s or boats.
MZ	Tow-s. Tugs or vessels towing: Cast off.
MZA	Tow-s. Stand by to cast off.
MZB	Tow-s. Power boats: Cast off.
MZC	Tow-s. Power boats: Pick up. (See also TARGET PRACTICE SIGNALS.)
MZD	.....
MZE	Towing. Boats: Make fast to respective power boats ready for.
MZF	Towing boats of each ship flotilla: Tow together at head of ship flotilla column.

Signals.	Signal meanings.
MISCELLANEOUS SIGNALS—Continued.	
M Z G	Towing boats of each ship flotilla: Tow separate parts of ship flotilla.
M Z H	.....
M Z I	.....
M Z J	Wait at landing until recalled.
M Z K	Wait at landing until time indicated unless duty is completed sooner.
M Z L	Wait for high tide.
M Z N	Wait for low tide.
M Z O	Wait for slack tide
M Z P	Wait for turn of tide.
M Z Q	Wait for orders or instructions
M Z R	.....
M Z S	Waiting. Am (are), for orders.
M Z T	.....
M Z U	Water. Require, for drinking and cooking. (Number of gallons may follow.)
M Z V	Water. Require, for boilers. (Number of gallons may follow; or see signal M Y U .)
M Z W	Water. Will send you.
M Z X	.....
M Z Y	.....

Signal	Signal meaning	Signal
X 6	Forward boats of each ship hoists: Tow separate boats	X 6
X 7	of the hoists	X 7
X 8	of the hoists	X 8
X 9	of the hoists	X 9
X 10	of the hoists	X 10
X 11	of the hoists	X 11
X 12	of the hoists	X 12
X 13	of the hoists	X 13
X 14	of the hoists	X 14
X 15	of the hoists	X 15
X 16	of the hoists	X 16
X 17	of the hoists	X 17
X 18	of the hoists	X 18
X 19	of the hoists	X 19
X 20	of the hoists	X 20
X 21	of the hoists	X 21
X 22	of the hoists	X 22
X 23	of the hoists	X 23
X 24	of the hoists	X 24
X 25	of the hoists	X 25
X 26	of the hoists	X 26
X 27	of the hoists	X 27
X 28	of the hoists	X 28
X 29	of the hoists	X 29
X 30	of the hoists	X 30
X 31	of the hoists	X 31
X 32	of the hoists	X 32
X 33	of the hoists	X 33
X 34	of the hoists	X 34
X 35	of the hoists	X 35
X 36	of the hoists	X 36
X 37	of the hoists	X 37
X 38	of the hoists	X 38
X 39	of the hoists	X 39
X 40	of the hoists	X 40
X 41	of the hoists	X 41
X 42	of the hoists	X 42
X 43	of the hoists	X 43
X 44	of the hoists	X 44
X 45	of the hoists	X 45
X 46	of the hoists	X 46
X 47	of the hoists	X 47
X 48	of the hoists	X 48
X 49	of the hoists	X 49
X 50	of the hoists	X 50
X 51	of the hoists	X 51
X 52	of the hoists	X 52
X 53	of the hoists	X 53
X 54	of the hoists	X 54
X 55	of the hoists	X 55
X 56	of the hoists	X 56
X 57	of the hoists	X 57
X 58	of the hoists	X 58
X 59	of the hoists	X 59
X 60	of the hoists	X 60
X 61	of the hoists	X 61
X 62	of the hoists	X 62
X 63	of the hoists	X 63
X 64	of the hoists	X 64
X 65	of the hoists	X 65
X 66	of the hoists	X 66
X 67	of the hoists	X 67
X 68	of the hoists	X 68
X 69	of the hoists	X 69
X 70	of the hoists	X 70
X 71	of the hoists	X 71
X 72	of the hoists	X 72
X 73	of the hoists	X 73
X 74	of the hoists	X 74
X 75	of the hoists	X 75
X 76	of the hoists	X 76
X 77	of the hoists	X 77
X 78	of the hoists	X 78
X 79	of the hoists	X 79
X 80	of the hoists	X 80
X 81	of the hoists	X 81
X 82	of the hoists	X 82
X 83	of the hoists	X 83
X 84	of the hoists	X 84
X 85	of the hoists	X 85
X 86	of the hoists	X 86
X 87	of the hoists	X 87
X 88	of the hoists	X 88
X 89	of the hoists	X 89
X 90	of the hoists	X 90
X 91	of the hoists	X 91
X 92	of the hoists	X 92
X 93	of the hoists	X 93
X 94	of the hoists	X 94
X 95	of the hoists	X 95
X 96	of the hoists	X 96
X 97	of the hoists	X 97
X 98	of the hoists	X 98
X 99	of the hoists	X 99
X 100	of the hoists	X 100

RETURN TO **CIRCULATION DEPARTMENT**
HOME USE **202 Main Library**

LOAN PERIOD 1	2	3
4	5	

LOAN NO. 0018001 3118

BERKELEY, CA 94720
UNIVERSITY OF CALIFORNIA, BERKELEY

1-month loans may be renewed by calling 642-3495
6-month loans may be recharged by bringing books to Circulation Desk

Renewals and recharges may be made 2 days prior to due date

DUE AS STAMPED BELOW

APR 9 1979

APR 20 1979

TA U6353

U. C. BERKELEY LIBRARIES



C057636331

383511 VII 3
U.S. A5
1917

UNIVERSITY OF CALIFORNIA LIBRARY

