

SUMMARY OF DATA ON COASTAL SIGNALS

WITH PROPOSALS FOR THEIR UNIFICATION

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DEFINITION OF COASTAL SIGNALS.

Coastal signals are here assumed to comprise the following general classes of signals: — Pilot; Lifesaving; Danger; Warning; Distress and Assistance; Searchlight interference; Storm Warnings; Entrance Obstructed or Prohibited; Submarines or Divers Operating; Gun, Mine or Torpedo Practice or Experiment; Mine Sweeping or Hydrographic Sweeping for Obstructions; Non-Local Ice, Tidal, Current and Weather; Coast Semaphore; Fish nets; Distinguishing marks required by the “Regulations for Preventing Collisions at Sea” and the “Convention for Safety of Life at Sea”; “Urgent and Important” Signals of the International Code; and Steering Commands.

GUIDING PRINCIPLES.

In any proposals for the adoption of a uniform system of coastal signals for all of the maritime countries of the world, the following guiding principles are important: —

1. Night and fog signals should, as far as practicable, correspond with day signals (and vice versa) in *number, colour and arrangement.*
2. A uniform system of coastal signals should be adopted before proposing a uniform system of port signals, because the number of combinations of night signals using the colours red, white and green in one-lamp, two-lamp, and three-lamp hoists is definitely limited.
3. It has been proposed by the Bureau in its Circular Letter N° 28-H of 1925, and in “Special Publication N° 8” that certain two-lamp or three-lamp signals using the colours red and white be adopted for international storm warning signals. As this takes a certain number of signals, the coastal signals should be as few as practicable in order to leave a larger selection for port signals and other international purposes without conflict.

4. Where signals are in more or less general use, but nevertheless conflict with those already officially adopted by international agreement, they must necessarily be changed. For instance, the Visual and Sound Signals, included in the "Regulations for Preventing Collisions at Sea", as proposed by the International Marine Conference at Washington 1889, and adopted by all the maritime countries of the world, must be regarded as having the force of law, and any usages which have grown up that are in conflict with them will be here pointed out and other signals proposed for adoption in their stead. Also the International Conference on Safety of Life at Sea, at London, 1914, adopted certain visual and sound signals of the Morse Code which have upset the arrangement of the International Signal Code, and made additions to the "Regulations for Preventing of Collisions at Sea".
5. It must be clearly recognised that the so-called International Code Book of Signals, as gotten up by the British Board of Trade, as translated into many languages and as issued by many countries, is, nevertheless, not really official since it has never been formally adopted by any international conference or body, and, moreover, the various national editions are not uniform and their provisions conflict in several important particulars with international agreements which have been officially adopted and have the force of law. While it is recognised that this Code Book is an invaluable one and should eventually be adopted internationally, this should not be done until it has been thoroughly brought up-to-date and standardised, and all conflicting provisions eliminated.
6. The original International Code of Signals, first published by the British Board of Trade in April, 1857, employed 18 flags, representing 18 consonants of the alphabet. In 1889 the Code was revised and the vowels were added, together with the letters X and Z, thereby completing the alphabet and giving 26 letters in all. With the adoption of the International Morse Code, the Two-arm Semaphore and the Code of Distant Signals with cones, balls and drums (or balls, square flags, pennants and whefts, or by the Three-arm Coast Semaphore), certain complications have arisen which still further demand readjustment of the International Code of Signals to clarify their meaning and avoid greater confusion.
7. Where it is necessary to propose a new signal for adoption, unless there is some good reason to the contrary, one should be chosen which is now used by the maximum number of countries so as to obviate the making of changes by them in existing signals.
8. It should be clearly understood that the proposals herein made by the Bureau are meant to be considered hereafter by one or more competent Conferences especially convened to deal with the subjects of Coastal and other signals.

It will be well, therefore, to consider the application of the principles in their minutest details and ramifications.

GENERAL CONSIDERATIONS.

NUMBER OF NIGHT SIGNALS AVAILABLE.

The maximum number of vertical combinations of one-lamp night signals using the colours red, white and green, is three, *viz*, one *red*, one *white* and one *green*, and of two-lamp using only two colours in combination, is four, but it is necessary, in this case, to note that the four possible two-lamp combinations of red and white are all utilised for Night International Storm Warning Signals proposed by this Bureau in Circular Letter 28-H of 1925, and "Special Publication N° 8".

Moreover, the two-red and two-white combinations for storm-warning purposes also come out of the four possible red and green, and four possible white and green, combinations, respectively, and, as the two green combinations are common to both the red and green and the white and green combinations, there are really left a total of only five two-lamp combinations available for night signals, viz. *green-green* ; *white-green* ; *green-white* ; *red-green* ; and *green-red*. In railway systems on shore the one and two-lamp signals using *red*, *white* and *green* are generally used at night to regulate railway traffic. It is hereafter proposed that a similar use of them be made for night traffic signals for the ports of the world. It is considered that, using such signals at night for traffic in connection with tidal basins, canal locks, bridges and docks in the ports of the world, will not cause confusion, though such signals are used also for Storm Warnings and Coastal Signals, for then their location is such as not to produce confusion. In the proposed International Storm Warning Signals a *red* light by night as a cautionary signal for "Atmospheric Disturbance, direction of which is not determined", and the *green* light at night to indicate "No predictions received", as also the two-lamp Storm Warning Signals, are not considered liable to be confused with port signals, because the location of the signal station from which such Storm Warning Signals may be displayed will be definitely known to everyone, and will be in a high position on account of the need of visibility, whereas, when used for port traffic signals, they will be placed not far above the water level, and generally in the interior of the port. This same reasoning will permit the use of certain of the two-lamp signals for Coastal Signals, especially for "Coastal Fishing Nets and Fish Weirs and for High Sea Drift Nets, Seines and Trawls", either attended or unattended, as hereafter proposed. In general terms, however, high sea and coastal signals should be on the three-lamp system and port signals on the two-lamp system, care being taken in all cases, by their arrangement and position, to avoid confusion with buoyage, beacon and lighthouse signals, wreck-marking and other distinguishing marks set apart by international agreement.

As to the three-lamp combinations of three colours, red, white and green, there are twenty-one possible combinations, using only two colours in the same signal, but of these the signal *white-red-white* is the "Hurricane or "Violent Storm" signal of the Storm Warnings, and is not available, thus leaving a total of twenty combinations from which to select the proposed coastal signals, and those not needed for this purpose, to be considered as Port signals. It is important to note that Storm Warning

Signals are, in themselves, more of the character of Coastal Signals than Port Signals, but they serve both purposes, and as proposed by the Bureau, being two-lamp signals, can be given greater range at which they are distinguishable by placing them further apart as necessary.

Therefore (1) by taking care not to cause confusion with existing and proposed international distinguishing lights ; (2) by carefully considering all reservations which have already been made for international purposes ; (3) by supplementing international agreements with additional lights without altering the text of existing international regulations, and (4) by making day signals correspond with night signals in number, colour and arrangement, there will be available a sufficient number of the one, two and three-lamp group visual signals, using the colours *red*, *white* and *green*, to answer all purposes of Coastal and Port Signals, and other international purposes.

PROPOSAL N^o 1.

That the visual signal, *white*, *red*, *white* be set apart as the "Hurricane" (or "Storm of Great Violence") Storm Warning Signal, and be not available for selection as any other Port or Coastal Signals.

NECESSARY RESERVATIONS.

In the "Regulations for Preventing Collisions at Sea" as proposed by the International Marine Conference at Washington, in 1889, there are certain (a) visual and (b) sound signals which require examination as to whether or not the International Code of Signals and existing Coastal and Port Signals conflict with them.

(a) VISUAL SIGNALS OF THE REGULATIONS.

Article 3 of the Regulations is as follows :

"A steam vessel when towing another vessel shall, in addition to her side-lights, carry two bright white lights in a vertical line one over the other, not less than 6 feet apart, and when towing more than one vessel shall carry an additional bright white light 6 feet above or below such lights, if the length of the tow measuring from the stern of the towing vessel to the stern of the last vessel towed exceeds 600 feet."

As these lights of a towing vessel are required to show an unbroken light over an arc of the horizon of only twenty points of the compass and are visible at the same time as the side-lights, it is evident that the use of either two white lights, or three white lights, to show all around

the horizon, will not, under ordinary circumstances, conflict with the provisions of this article, and are therefore available for storm warning, coastal or port signals, because they are not at all liable to be confused with those of a vessel towing.

Article 4 lays down that :

(a) "A vessel which from any accident is not under command shall carry at the same height as the white light mentioned in Article 2 (a) where they can best be seen, and if a steam vessel, in lieu of that light, two red lights, in a vertical line one over the other, not less than six feet apart, and of such a character as to be visible all around the horizon at a distance of at least two miles; and shall by day carry in a vertical line one over the other, not less than 6 feet apart, where they can best be seen, two black balls or shapes, each 2 feet in diameter.

(b) "A vessel employed in laying or in picking up a telegraph cable shall carry in the same position as the white light mentioned in Article 2 (a), and if a steam-vessel, in lieu of that light, three lights in a vertical line one over the other, not less than 6 feet apart. The highest and lowest of these lights shall be red, and the middle light shall be white, and they shall be of such a character as to be visible all around the horizon, at a distance of at least two miles. By day, shall carry in a vertical line one over the other, not less than six feet apart, where they can best be seen, three shapes not less than two feet in diameter, of which the highest and the lowest shall be globular in shape and red in colour, and the middle one diamond in shape and white".

As these signals are displayed upon the high seas, it is not considered that their use on shore for storm-warning can cause confusion or doubt, especially if the matter is studied with a view to avoiding it, as hereafter indicated.

Articles 8 and 9 say :

ART. 8. — "Pilot vessels when engaged on their station on pilotage duty, shall not show the lights required for other vessels, but shall carry a white light at the masthead, visible all around the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed fifteen minutes".

ART. 9. — (a) "Vessels and boats when fishing with drift-nets shall exhibit two white lights from any part of the vessel where they can best be seen".

(c) "Vessels and boats when line-fishing with their lines out and attached to their lines, and when not at anchor or stationary, shall carry the same lights as vessels fishing with drift-nets".

(d) "Fishing vessels and fishing boats may at any time use a flare-up light in addition to the lights which they are by this article required to carry and show".

It will be noted from the tabulation of Coastal Signals that, doubtless to distinguish them from fishing vessels, in five European countries, a red light is displayed by pilot vessels, visible all round the horizon, some 8 feet under the masthead light, and also that some pilot vessels show as distinguishing lights an alternate *red* and *white* flare-up light visible just above the bulwarks. It would seem to be a good provision, if international agreement can be arrived at, that pilot vessels shall show a red light at the masthead, visible all around the horizon, under the

white light of Article 8, and alternate white and red flare-up lights, to indicate pilot vessels and to distinguish them from fishing vessels. This would leave the plain white flare light as a visual night signal to call a pilot as is now the general custom.

Article 11 in its final paragraph says :

“A vessel aground in or near a fairway shall carry the anchor light or lights, and the two red lights prescribed by Article 4 (a) “(for a vessel not under command as previously given).”

This display of two red lights may be on the coast or in a harbour, yet, as it is displayed in conjunction with the white anchor lights of a vessel, its proposed use as a storm-warning signal would not seem to conflict with the regulation above, especially as the signal station for displaying the storm warning signal of two red lights would be on shore in a definite, well-known and more elevated locality.

Article 31 prescribes for Distress Signals as follows :

“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, viz. :

In the day-time :

1. A gun fired at intervals of about a minute.
2. The International Code Signal of Distress indicated by N. C.
3. The distant signal, consisting of a square flag, having either above or below it a ball or anything resembling a ball.
4. Rockets or shells as prescribed below for use at night.
5. A continuous sounding with any fog-signal apparatus.

At night :

1. A gun 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, bursting in the air with a loud report and throwing stars of any colour or description, fired one at a time at short intervals.
4. A continuous sounding with any fog-signal apparatus”.

An examination of this Bureau's Tabulation of Coastal Signals will show that other signals have been gradually added to the above, and the use of the Distress Signals themselves extended to lighthouses, light-vessels and aircraft.

(b) SOUND SIGNALS OF THE REGULATIONS.

Article 28 provides that :

“The words “short blast” used in this Article shall mean a blast of about one second's duration.

When vessels are in sight of one another, a steam-vessel under way, in taking any course authorised or required by these rules, shall indicate that course by the following signals on her whistle or siren, *viz.* :

One short blast to mean : "I am directing my course to starboard" ;

Two short blasts to mean : "I am directing my course to port" ;

Three short blasts to mean : "My engines are going full speed astern".

It will be noted that (1) these sound signals are for vessels *in sight of one another* ; (2) that a short blast is the Morse Code signal to indicate the letter "E" ; (3) two blasts indicate the letter "I" of the Morse Code ; (4) three short blasts is the letter "S" of the Morse Code, of which letter the corresponding flag of the International Code is one of the day signals to call a pilot ; and (5) that therefore the three short blasts cannot be used to call a pilot by the Morse Code since it means that "My engines are going full speed astern". Some other day signal to call a pilot should therefore be used instead of the "S" flag and letter "S" of the Morse Code.

Article 15 of the Regulations gives the definition of a prolonged blast as "a blast from 4 to 6 seconds duration", and further says :

"In fog, mist, falling snow, or heavy rain-storms, whether by day or night, the signal described in this article shall be used as follows :

- (a) "A steam-vessel having way upon her shall sound, at intervals of not more than two minutes, a prolonged blast".
- (b) "A steam-vessel under way but stopped and having no way upon her, shall sound at intervals of not more than two minutes, two prolonged blasts, with an interval of about one second between them."
- (c) "A sailing-vessel under way shall sound, at intervals of not more than one minute, when on the starboard tack one blast, when on the port tack two blasts in succession, and when with the wind abaft the beam three blasts in succession."

It will be noted that the above sounds, if made by fog horn on board sailing vessels in thick weather, are not liable to be confused with the steam whistle sound signals for vessels in sight of one another as given in Article 28, and also that the word "blast" in the above paragraph evidently is intended to correspond with the dash of the Morse Code, the corresponding letters of which are "T" (or —) ; "M" (or — —) ; "O" (or — — —) of the Morse Code, and when they are sounded on a fog horn, cannot possibly be mistaken for those made by a steam vessel's whistle of the preceding Article 28, which are short blasts corresponding to dots of the Morse Code, *e.g.* the three blasts of the fog horn for "wind abaft the beam" cannot be mistaken for three short blasts of the steam whistle "My engines are going full speed astern".

(*) The "Regulations for Preventing Collisions at Sea", as adopted by other countries and translated into other languages, have not preserved the original paragraphs (f), (g), (h) and (i), which are here given as they appeared in the original draft proposed by the Washington Conference.

- *(f) "A vessel when towing shall, instead of the signals prescribed in subdivisions (a) and (b) of this article, at intervals of not more than two minutes, sound three blasts in succession, *viz.*, one prolonged blast followed by two short blasts. A vessel towed may give this signal and she shall not give any other."

The Morse signal for the letter "D" is a dash followed by two dots (---) but the prolonged blast of (f) differentiates it from the Morse letter "D" and there is thus no danger of confusion.

- *(g) "A steam vessel, wishing to indicate to another "The way is off my vessel, you may feel your way past me", may sound three blasts in succession, *viz.*; short, long, short, with intervals of about one second between them."

In the signals of paragraph (g) the "long blast" must be distinguished from a "prolonged blast" of paragraph (f). The *short, long, short* blast of paragraph (g) is the letter "R" of the Morse Code, and it is, therefore, obligatory to set aside both the Morse letter "R" and the International Code flag "R" to mean "The way is off my vessel, you may feel your way past me".

- *(h) "A vessel employed in laying or in picking up a telegraph cable shall, on hearing the fog signal of an approaching vessel, sound in answer three prolonged blasts in succession."

This signal is not likely to be confused with any other signal and therefore no complications arise.

- *(i) "A vessel under way which is unable to get out of the way of an approaching vessel through being not under command, or unable to manœuvre as required by these Rules, shall, on hearing the fog-signal of an approaching vessel, sound in answer "four short blasts in succession".

Four short blasts are the letter "H" of the Morse Code, and the flag "H" must, therefore, be set aside also for the signal "Not under command or unable to manœuvre".

In the International Code, the flag "H" with the Code flag over it, has been given the signifi-ance: "Stop, or heave to; I have something important to communicate". In the urgent and important signals of the Morse Code, subsequently adopted, the dot, dash, and two dots: (- - - -) has this meaning. The "H" flag should, therefore, be given only the meaning attached to it by the above paragraph (i), and not the meaning as given in the International Code.

(*) The "Regulations for Preventing Collisions at Sea", as adopted by other countries and translated into other languages, have not preserved the original paragraphs (f), (g), (h) and (i), which are here given as they appeared in the original draft proposed by the Washington Conference.

(c) PROPOSALS OF THE INTERNATIONAL CONFERENCE ON SAFETY OF LIFE
AT SEA, LONDON, 1914.

Among the provisions of the International Conference on Safety of Life at Sea, signed at London, January 20th 1914, were the following :

ARTICLE III.

MORSE CODE.

INTERNATIONAL SIGNALS.

"These signals may be made at night or in thick weather, either by long and short flashes of light, or by long and short sound signals (whistles, fog-horns and so forth) or, during the day, by hand flags or semaphore".

URGENT AND IMPORTANT SIGNALS.

Letter of Alphabet.

"You are standing into danger" - - - - -	or (U).
"I want assistance: remain by me" - - - - -	or (V).
"Have encountered ice" - - - - -	or (W).
"Your lights are out (or, burning badly)" - - - - -	or (P).
"The way is off my ship; you may feel your way past me" - - - - -	or (R).
"Stop (or heave to); I have something important to communicate" - - - - -	or (L).
"Am disabled; communicate with me" - - - - -	or (F).

(Note.: — Abreast the Morse Signals have been added, in parentheses, the corresponding letter of the alphabet for the purpose of identifying the dots and dashes when applied to the corresponding letters when using the flag code).

To summarise the restrictions imposed by the "Regulations for Preventing Collisions at Sea": —

1. Article 8, as regards night signals of pilot vessels, requires amendment to differentiate between distinguishing lights shown by fishing vessels, by pilot vessels, and by those calling a pilot. Further on it will be shown that day pilot signals and fog pilot signals also require differentiation.
2. Article 15 requires the letters "R" and "H" to be reserved for special purposes under the Regulations.
3. Article 28 requires the letters "E", "I", and "S" to be reserved under the Regulations for vessels in sight of one another.
4. Article 31 "Distress Signals" require additional signals, due to progress in aviation and the use of radio, to bring them up-to-date.
5. The adoption by the Conference in London of the "Urgent and Important Signals" of the Morse Code will necessitate the addition of single display by day of the International Code pennant "F", and of the flags "U", "V" and "W", and a considerable re-arrangement of the "Urgent and Important" Signals of the International Flag Code of one flag signal with the code flag over it.

TABULATION OF DAY AND NIGHT VISUAL COASTAL SIGNALS OF THE MARITIME COUNTRIES OF THE WORLD.

The writer has tabulated, and there are issued herewith, a series of charts showing the day and night visual coastal signals of all European and Mediterranean countries: Other charts for the remaining countries of the world are in preparation. The charts herewith issued have been gratuitously printed by the U. S. Hydrographic Office, Navy Department, Washington, D. C., and have been issued as a supplement to its Pilot Charts, so as to give the widest possible circulation amongst seafaring people whose interests are directly involved. These charts may be purchased from the Hydrographic Office, Washington, if extra copies are required.

Attention is specially invited to the fact that no attempt has been made in the tabulation, or in this Publication, to standardise or reproduce the signals which are used in the Kiel Canal, the Suez Canal, the Panama Canal, or other artificial bodies of water, which issue handbooks of instructions covering all the signals used for the purpose of their operation. These bodies of water are regarded as self-contained and not subject to international regulation in any way, except by treaties and covenants separately made.

NEED FOR CAREFUL REVISION
OF ALL INTERNATIONAL CODES OF SIGNALS.

It is the opinion of the Directing Committee that the International Signal Code Book, together with its vocabularies and component Signal Codes, needs systematic modernisation and the unification of all its codes, for which purpose an international conference should ultimately be called, but, in anticipation and justification of this, that agreements between Governments should be initiated to pave the way for revising such Coastal Signals as pilot, life-saving, danger, warning and distress, which are no longer up-to-date and that this be done according to the proposals here made.

I. PILOT SIGNALS.

It is essential that an unmistakable difference be made between the distinguishing flag of a pilot boat and the flag which is hoisted by a ship to *call* a pilot. This distinction is not clearly made in several recent

editions of the International Signal Code Books, which give the two classes of flags on the same plate without distinction, thereby promoting much confusion.

PROPOSAL N^o 2.

(a) *Distinguishing Marks for Pilot Vessels.* — It is here proposed that, when on station, all pilot vessels shall fly, at the masthead or other conspicuous place, a flag of large dimensions as compared with the size of the pilot boat, consisting of rectangular flag with the upper horizontal half white and the lower half red. This is the pilot distinguishing flag which has already been adopted by Great Britain, Norway and Denmark, and does not conflict with any International Code flag, or national colours.

Steam Pilot Vessels. — It is proposed that they shall have painted on each side of the funnel the letters "P T" underneath that the initial letter, name of the port which they serve, or its four letters from the Geographical Table of the International Code of Signals, and under that the number of the pilot vessel, such as N^o 1, N^o 2, N^o 3, etc. Also it should have painted on each bow the word ; "*Pilot*" in the language of the country, and on the bulwarks in large letters the full or abbreviated name of the port which it serves. At night, it is proposed that the steam pilot vessels shall display, at the masthead, a red light visible all around the horizon, under the white light of Article 8, and show, at intervals of not more than fifteen minutes alternating *red* and *white* flare-up light or lights, in order to leave the plain white flare for the already prescribed call for a pilot. (Note : This does not alter the existing international agreement, but adds to it.) In fog, rain, mist or falling snow, steam pilot vessels shall sound two short blasts followed by two long blasts (- - — —) on either a single or double whistle, which signal shall be regarded as the distinguishing sound for steam pilot vessels only. Where pilot vessels are cruising at nodal points, or off pilot stations where there are pilots for more than one port, this signal shall be followed, at short intervals, by the initial letter of the port made by sound signals of the Morse Code.

In addition, at night, a pilot vessel may flash, by Morse lamp, with corresponding long and short flashes, any of the above distinguishing sounds.

Sailing Pilot Vessels. — Sailing pilot vessels shall fly the large pilot flag, shall have painted on their mainsail the letters "P T" and under-

neath them the initial letter, name of the port they serve, or the four letters from the Geographical Table of the International Code of Signals, and below that the pilot boat's number. At night, the sailing pilot vessel shall carry a red light at the masthead, visible all around the horizon, under the white light of Article 8, and shall exhibit at intervals, of not more than fifteen minutes, alternating *red* and *white* flare-up lights. In fog, rain, mist or falling snow, sailing pilot vessels shall sound two short blasts, followed by two long blasts (- - — —) on a fog horn or other sound apparatus.

(Notes: — (1) “P T” in the International Code means: “Want a Pilot”.

(2) It will be noted that the distinguishing sound signal two dots and two dashes is the letter “Z” of the Morse Code reversed, which letter is here proposed as the flag signal, sound signal and special meaning for calling a pilot.

(3) A “nodal” point is one where various routes meet or come to a point to enter some narrow body of water or important port.

(b) *To call a pilot.* — The following signals have come to be used internationally to call a pilot:

- By day:* —
1. The National Flag, or Jack, with a white border, hoisted at the fore.
 2. The International Code Pilot Signal indicated by “P T”.
 3. The International Code Flag “S” with or without the Code pennant over it.
 4. The distant signal, consisting of a cone, point upwards, having above it two balls, or shapes resembling balls.

- By night:* —
1. A blue pyrotechnic light every fifteen minutes.
 2. A bright white light flashed or a white flare, at short intervals, just above the bulwarks, for about one minute at a time.

It will be noted that the “S” flag of the International Code is objectionable, as previously pointed out, because its corresponding Morse signal is three dots, and this has been set apart by the Regulations for the Prevention of Collisions at Sea as the signal for “My engines are going full speed astern”.

It will be further noted that a vessel calling a pilot can also hoist the International Signal meaning the name of the port for which a pilot is desired, and that no International Sound signal exists to call a pilot in thick weather.

In addition, at night, a pilot vessel may flash by morse lamp, with corresponding long and short flashes, any of the above distinguishing sounds. Therefore, the following is proposed:

PROPOSAL N^o 3.

That the "Z" flag of the International Code of Signals be substituted for the "S" flag in N^o 3, by day, as above, and that the Morse sound signal for "Z" (— — - -) be added to the above signals as N^o 5 by day and N^o 3 by night, and be further adopted as the International Signal to call a pilot in thick weather, which may, if it is desired, be followed by the initial letter of the port, by the Morse Code, for which a pilot is required.

(c) *Replies to Signal asking for a Pilot.* — When a pilot vessel displays the pilot flag at the masthead, it is an indication that there are pilots on board for service. The absence of the pilot flag indicates, in itself, that there are no pilots available for service. Sometimes a pilot station is on a lightship, or the station is on shore. In order to remove all doubt, when an incoming vessel makes a call by day for a pilot, the "Affirmative Pennant" ("C") of the International Code, either under the International Code Pennant, or as a single flag display, will be taken to mean, when hoisted by the pilot boat or station, "Pilot is coming in answer to signal". The use of the negative pennant ("D") of the International Code, either under the International Code pennant, or as a single flag display, will be taken to mean a reply to a call for a pilot, "No pilot is available"; "Unable to come out"; or, "Not coming out". At night the same letters will be flashed by Morse Code and in a fog will be made by sound signals.

In case of bad weather, where a port is provided with a mechanical pilot indicator to guide a ship in or out of the port, or where the weather is too rough to put a pilot on board an incoming ship, the pilot vessel may make the International signal N G S, "Follow me", and lead the way in, signalling to the incoming vessel by means of the code of signals (which follow under the heading of "Pilot Indicators"), but using two hand flags instead of two mechanical arms and discs. In any case, the vessel following must be careful to keep in the wake of the pilot vessel.

Attention is invited to the number of signals concerning pilots and pilotage in the International Code of Signals, but there are no signals which apply definitely to pilotage by mechanical semaphore or hand flags. This omission must be rectified in the standard International Code Book, which must come in time. Meanwhile the Sailing Directions or Coast Pilots provide notices of the existence at various ports of such mechani-

cal indicators to be used in case of the absence of pilots, and the following proposals are made for a standard code of such signals, as no international code exists.

(d) *Pilot Indicators.* — In bad weather when a pilot cannot board an incoming vessel, or where for any reason a pilot cannot be sent on board, directions are sometimes given to an incoming or outgoing vessel by a mechanical pilot indicator, as to how the ship should steer in the channel. This is usually done by a hand flag, Fenoux apparatus or a semaphore, the ship steering more to the right or left, or steadying on the course, according to the position of the flag or indicating arm. An excellent type of two arm indicator is advocated by Mr. A. DE ROUVILLE, Chief Engineer of Roads and Bridges, of the Control of Lights and Buoys of France, and is here proposed as the best type to adopt, together with a standard code.

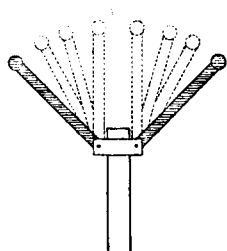
PROPOSAL N^o 4.

International Code for Mechanical Pilot Indicators. — This code may be made with hand flags to correspond with the positions of the arms and discs, or by numeral signal of the International Code to correspond with the number allotted to the signal.

When the apparatus is not in use the two arms should be down.

When about to commence signalling, both arms should be in a vertical position of "ready", or the International Code numeral 6 should be displayed.

When a vessel is approaching or is about to leave a port and makes signals for a pilot, the reply signal should be made by the display of Signal N^o 1, and, if necessary, repeated until the ship answers by half masting or dipping the pilot flag, which should remain so displayed until the pilotage signals cease.



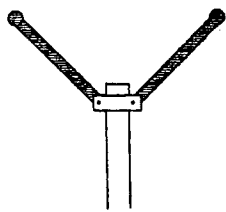
or N^o 1.

Both arms waved several times means, when made to an approaching vessel, or to a vessel in port about to proceed out of harbour :

"You are observed ; look out for further signals".

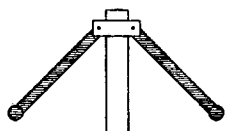
When a vessel has proceeded out using the signals of the pilot indicator, and is well clear of the port or has, on coming into port, arrived in the vicinity of the anchorage, both arms waved several times until answered by hauling down the pilot flag, means :

"We are going to cease signalling ; proceed further at your own discretion"



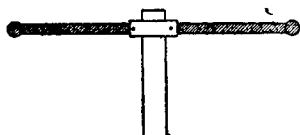
or N° 2.

Both arms at an angle of 45° above the horizontal means :
 "There is not enough water yet for entering the harbour ;
 keep at safe distance".



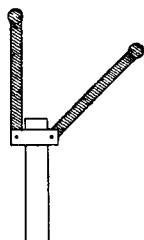
or N° 3.

Both arms down at 45° below horizontal, means :
 "Port is closed ; stand off or else anchor".



or N° 4.

Both arms horizontal means :
 To approaching vessels : "Steer for the entrance".

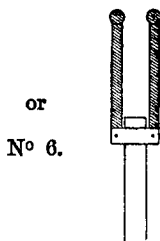


or N° 5.

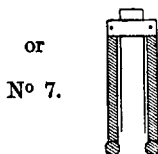
Either arm inclined from the vertical, with the other arm remaining vertical means :

"Steer for the side towards which the arm is inclined".

(Note : — The amount of inclination to indicate the approximate degrees of the helm to be used, viz. a greater or lesser inclination indicates : — "Keep more or keep less to the side indicated").



Both arms up, means :
 "Ready to commence signalling", or, "Steer as you go".



Both arms down, means :
 "Not in use", or
 "End of signalling".

II. LIFE SAVING, DANGER AND WARNING SIGNALS.

There are a number of visual life saving, danger and warning signals in the International Code Signal Book made by one-flag and two-flag hoists, by distant signals, by coastal and hand semaphore and by hand flags ; to these have been added by the International Conference on

Safety of Life at Sea certain additional sound and visual signals. Not only should the number of signals for such purposes be largely increased, but their scope should be enlarged to include signals for lighthouses, light-vessels and life saving stations to indicate that they themselves are in distress, or some vessel in the vicinity is in need of assistance, together with the appropriate answers which should be made when such signals are displayed. These signals should be thoroughly standardised and brought up-to-date, as there are wide divergences in the local signals now used by the various countries. The International Signal Book itself needs readjustment and standardisation and so brought up-to-date that all conflicting provisions are eliminated. This can only be done by an International conference.

PROPOSAL N^o 5.

That an International Conference be convened to adopt a revised and modernised International Code of Signals.

III. DISTRESS AND ASSISTANCE SIGNALS.

“The International Conference on Safety of Life at Sea” met in London on January 20th 1914, at which were represented thirteen States and three political sub-divisions, and agreed to prohibit signals of distress similar to those formulated in Article 31 of the “Regulations for Preventing Collisions at Sea”, but modified Article 31 by adding to the list of both day and night signals the International Radio Telegraph Distress Signal S O S. There has been tentatively adopted by various European countries, as shown in the Tabulation, but not yet adopted internationally, a system of international aircraft distress signals. These “Aircraft Distress Signals” are hereby proposed for International adoption as follows:

PROPOSAL N^o 6.

1. The international signal S O S by means of visual or radio signals or by radio telephony.
2. International Code Signal of Distress “N C”.
3. Distant signals, consisting of a square flag, having above or below it a ball, or anything resembling a ball.
4. A continuous sound with any sound apparatus.
5. A signal consisting of a succession of white pyrotechnical lights fired at short intervals.
6. A white flare from which, at intervals of three seconds, a white light is ejected into the air.

IV. SEARCHLIGHT INTERFERENCE SIGNALS.

As shown in the Tabulation, practically all European countries have adopted a system of Searchlight Interference Signals, which is here proposed, by International Code.

PROPOSAL N° 7.

It is proposed that the following Searchlight Interference Signals be adopted internationally :

Any vessel approaching a defended port while searchlights are being operated, and, finding that they interfere with their safe navigation, may use the following signals, either singly or combined, but both are recommended to be used :

- (a) By flashing lamp, four short flashes, followed by one long flash.
- (b) By whistle, siren or fog-horn, four short blasts followed by one long blast.
(- - - - -).

V. LOCAL STORM WARNING SIGNALS.

In Circular Letter N° 28-H of 1925, and in "Special Publication N° 8", the Directing Committee has proposed a system of Storm Warning Signals for international adoption which the International Meteorological Committee has drawn up, and which are here reproduced in Plates Nos I & II, taken from said Special Publication, in order to bring to notice the exact number of signals which it is proposed to set apart for indicating storms and disturbed atmospheric conditions. The Directing Committee strongly advocates the adoption of the two-lamp night storm warning signals in preference to three-lamp, but whether or not they will be internationally adopted remains to be seen. To further assist in crystalising opinion and in order to clear the way for further agreement concerning coastal and port signals, the Storm Warning Signal proposals of this Bureau are repeated.

PROPOSAL N° 8.

That the proposals of this Bureau as to Visual International Storm Warning Signals, as shown in Plates I, and II, be adopted, the two-lamp night signals being accepted as preferable to the three-lamp.

VI. NON-LOCAL STORM WARNING SIGNALS.

Signals to indicate atmospheric disturbances, or storms at other ports or in distant areas, or signals to supplement the meaning of the proposed

uniform Local Storm Warning Signals, may be such as are issued by the Authorities charged with the prescription of such signals. Non-Local Storm Warning Signals are of particular value in the Indian Ocean, China Sea and Western Pacific, as indicating the movement of the centre of a typhoon and may be of importance in other parts of the world. In general, radio has largely supplemented, and, in a measure, taken the place of non-local Warnings. Local Warnings, as affecting only a restricted area satisfying local necessities, can, and should be uniform throughout the world, but there is no necessity for standardising the non-local storm warning systems of signalling. Therefore the following proposal is made :

PROPOSAL N^o 9.

That Visual Non-local Storm Warning Signals, if not standardised and made uniform with those for local purposes, be given in the Sailing Directions and published by other means for the information of mariners.

VII. ENTRANCE OBSTRUCTED OR PROHIBITED.

The guiding principle that general use shall determine the acceptance of these signals, for which no objections exist, the following coastal (and port signals) are proposed :

PROPOSAL N^o 10.

By day, three coloured balls, and, by night, three coloured lights, hoisted in a vertical line, at the entrance to a port, or at the nearest coastal station, shall indicate :

By day, three red balls, By night, three red lights.	{	“Entrance to port obstructed or prohibited”.
By day, three green balls. By night, three green lights.	}	“Vessels are prohibited from leaving the port”.
By day, a green ball between two red balls. By night a green light between two red lights.	}	“Vessels are prohibited from either entering or leaving this port”.

Patrol vessels engaged in regulating port or coastal traffic shall display, at a yardarm or other conspicuous place, similar balls by day or lights by night, as distinguishing marks. Signals intended to exempt any vessel from the indicated prohibition shall, by day, in all cases be made either by the International Code of Signals, or by radio, but no additional signals shall be created or used for this purpose.

VIII. SUBMARINES OPERATING (DIVERS OPERATING).

PROPOSAL N° 11.

When one or more submarine vessels are operating submerged, or otherwise, an anchored vessel or escorting vessel shall fly a square red flag at the fore masthead, and each submarine shall itself carry, attached to its periscope or a flagstaff, a similar square red flag, so that, if it is operating partially submerged, it will give additional warning as to its whereabouts. This square red flag shall also be used by a vessel which is at anchor and has a diver doing submarine work over its side. If not at anchor, it shall fly the above flag at a yardarm, and in addition shall fly at the fore masthead the International flag "H" indicating a vessel not under control.

IX. GUN, MINE OR TORPEDO PRACTICE.

PROPOSAL N° 12.

Where experiments with explosives are being conducted either ashore or afloat, or when men-of-war or auxiliary vessels are engaged in artillery practice or are towing target for such practice, or where land batteries are about to fire or are firing with guns, small arms or torpedoes, or vessels are laying mines or firing torpedoes, the International Code Flag "B" shall be displayed by the auxiliary firing or towing vessel, or from the flagstaff of the land battery or station. This use of the flag shall be in addition to its use to indicate "taking in or discharging explosives;".

X. MINE SWEEPING OR HYDROGRAPHIC SWEEPING
FOR OBSTRUCTIONS.

PROPOSAL N° 13.

That, when two vessels are operating with a wire hawser between them to sweep for rocks or obstructions for hydrographic purposes, or for mines for exercise or for actual mine sweeping, each ship shall carry the International Code flag "H" at the fore masthead, with a red ball at the yardarm, or where it can best be seen, on that side on which it is dangerous for vessels to pass on account of the wire. Under no circumstances must a vessel pass between the two sweeping vessels.

XI. NON-LOCAL ICE SIGNALS.

Ice signals are used only in connection with ports and navigable waters of the northern hemisphere. While there are a number of ice signals in the International Signal Code books, it is thought that a system used by Germany for the Baltic Sea should be internationally adopted for similar bodies of water which are troubled with ice during the winter season.

The following definitions are taken from the British "South Indian Ocean Pilot", page 21 (4th Edition):

Field Ice : A large body of unnavigable flat ice, the extent or boundaries of which may or may not be seen from the masthead.

Floe Ice : Several pieces of field ice pressed or frozen together.

Land Ice : Field or floe ice which has not been detached from the shore since the winter.

Hummucky Ice : Elevations in field or floe ice caused by two or more bodies of ice being pressed together.

Pack Ice : A large collection of pieces of ice, from broken-up floe or icebergs, which have more or less closed together again. The pack is said to be "open" when it presents "leads" or lanes, of water between the pieces of ice, forming more or less promising navigable channels; and "close" when it is not possible to navigate through the collected pieces of ice.

Drift Ice : Unattached pieces of floating ice easily navigable.

Brush or Sludge Ice : A collection of very small pieces of broken-up ice through which a vessel can easily force her way.

Pancake Ice : Ice newly frozen, of insufficient thickness to prevent navigation, sometimes separated into cakes suggestive of the name.

Bay Ice : Ice newly frozen, of sufficient thickness to prevent navigation.

Iceberg : Floating ice, formed on shore, usually of compressed snow, and detached from its parent glacier. In the Arctic the icebergs are comparatively small; in the Antarctic they have been known to be 20 miles in extent.

Floeberg : A thick piece of salt water ice presenting the appearance of a small iceberg.

Ice Blink : A peculiar white reflection in the atmosphere seen immediately over distant ice in large quantities, the ice itself not being visible.

A Lead or Lane : A navigable channel in a "pack" or other collection of ice.

Open Water : Free navigable water adjacent to an ice-encumbered channel or sea.

Ice Foot : The ice frozen to the shore which does not rise and fall with the tide.

PROPOSAL N^o 14.

An area in which ice occurs to such an extent as to interfere with navigation should be divided on special charts into squares of 20' to 30' of latitude and longitude, with two letters of identification attached to each square, such letters to be signalled by the International Code alphabet, in conjunction with the following proposed series of signals of the

International Code, giving the ice conditions in each square as far as known to the Signal Station.

(These signals are not yet in the International Code of Signals, but should be inserted in the next edition, meanwhile each locality may prescribe for temporary use such signals as they may desire corresponding to the following meanings):

“No information received as to ice conditions”.

“No ice; navigation unimpeded”.

“Navigation closed on account of ice”.

Drift Ice or Ice Floats:

“Difficult for low-powered vessels”.

Drift Ice and large Ice-floats:

“Unsafe for low-powered vessels”.

Fields of Drift Ice or Ice Floats:

“Impossible for low-powered steamers; difficult for high-powered”.

Caked or Frozen Ice or Ice Floats:

“Very difficult for high-powered steamers”.

Pack Ice and Drift Ice:

“Possible only for the highest powered steamers”.

Thick Ice:

“Navigation possible only by using ice-breakers”.

XII. NON LOCAL TIDE SIGNALS

PROPOSAL N^o 15.

It is proposed, for the purpose of indicating the depth of water at the entrance of such port as a signal station or a light vessel may serve, that the International Code of Signals under the headings “Depth” and “Tide” be used as far as practicable in conjunction with the numeral table of that Code to indicate the height of the tide and the state of the tide as to flood, ebb or stand, or else that a mechanical clock or dial, with arrow, illuminated at night (or tide staff with pointer) be used as a visual signal.

XIII. NON-LOCAL CURRENT SIGNALS.

PROPOSAL N^o 16.

It is proposed, for the purpose of indicating the direction and strength of the tidal current at the entrance of such port as the signal station or light ship may serve, that the International Code of Signals under the heading “Current” be used as far as practicable, in connection with

the number and compass tables of that Code to indicate the state and rate of drift of the tidal current, and that other elaborate methods be abolished in the interest of uniformity and simplicity.

XIV. COASTAL SEMAPHORE SIGNAL STATIONS.

There are three classes of coastal semaphore signal stations, but there are some stations which cover all the activities of all three classes and others which display, in addition, coastal signals of one kind or another, but they may all be classified in general as follows.

I. *Lloyds Signals Stations.* — Passing ships may show their designating numbers or letters by the International Code of Signals to these stations and be reported by Lloyds in the “Shipping Gazette and Lloyds List” and “Lloyds Weekly Shipping Index”. The International Code is the only one recognised, but they use the following additional signals:

Day Signals: (a) Two balls, placed horizontally, indicate that the station is temporarily closed, and that no communication can be held.

(b) Three balls in the shape of a triangle indicate that telegraphic communication is interrupted, but messages will be forwarded by other means as soon as possible.

Night Signals: Morse Code signals by flashing lamp are used at some stations only.

A series of continuous short flashes are used to call the attention of passing vessels.

A series of long-short flashes repeated as often as may be necessary, indicates that a vessel's signals have been seen and recognised.

If no answer is made by the Signal Station, the vessel will know that its message has not been understood.

Some stations indicate that a message has been received and understood by displaying a red flare light of thirty seconds' duration.

II. *International Signal Stations.* — At these stations signals by the International Flag Code, or by Semaphore, may be exchanged by passing vessels. Some of these stations also use the Morse flash lamp at night.

III. *Semaphore Telegram Stations.* — At these stations “Semaphore telegrams” may be sent by passing vessels, and are transmitted to any address by land wire under the Telegraphic Convention of St. Petersburg, (1875). The address of telegrams indicated for ships at sea should give the name or special number of the vessel, as well as her nationality, and the charges must be paid by the sender. The charges for telegrams sent by passing vessels must be paid by the receiver.

While radio has largely taken the place of semaphore telegrams, occasions may arise when ships may desire to send telegrams by this means. It is true also that radio has lessened the importance of coastal semaphore stations, and many of them throughout the world are being dismantled on account of the expense of maintenance. This is very much to be regretted since many smaller vessels not fully equipped with radio continue to require all forms of visual aids to navigation.

This Bureau recommends the publication of a book which shall be considered as Volume II of the "International Code of Signals", after the latter has been revised and brought up-to-date.

PROPOSAL N^o 17.

The International Hydrographic Bureau recommends the publication, at some future date, of a compilation of information to mariners to serve as Volume II, of a revised edition of the "International Code of Signals" and to contain a list for all coasts and ports of the world of the following data, now usually found scattered through light lists, buoy lists, sailing directions and on charts:—

Tabulations of time-signal station; time-zones; storm-warnings; signal stations; tide signals; port and coastal signals; life saving stations; submarine bells; radio sound signals; direction-finding (compass) and sound-ranging signals and stations; coastal semaphore and international signal stations; Lloyd's and Semaphore telegram signal stations. Tabulations of buoyage and buoy lighting, with the addresses of the buoyage authorities; tabulation of local and non-local storm-warning signal systems and stations; urgent and important international signals; conventional signs and abbreviations of charts, and all information to mariners, aids to navigation and regulations for safety of life at sea, now scattered through other publications, some of them requiring a standardisation through international agreement. (The exact position of all stations will be indicated, giving, where necessary, their exact latitude and longitude).

XV. DISTINGUISHING MARKS OF COASTAL FISHING NETS AND FISH WEIRS, AND HIGH SEA DRIFT NETS, SEINES AND TRAWLS.

As previously quoted, Article 9 of the "Regulations for Preventing Collisions at Sea" prescribes two white lights for vessels and boats when fishing with drift nets, and when line-fishing with their lines out and attached to their lines, with a further provision of a white flare-up light,

but there has been no international prescription for signal lights for coastal fishing nets and fish weirs obstructing navigable waters, or for drift nets, seines and trawls of considerable size which are not being continuously attended by fishing vessels. Fishing nets and fish weirs exist on nearly all coasts and in many seas. Their damage by passing vessels is a serious matter to the fishing interests, and at the same time they are a menace to navigation. Under modern conditions passing vessels run at higher speeds than formerly, and the range of visibility of such obstructions to navigation should be increased to meet these more modern conditions. There are, moreover, such wide variations in the day and night distinguishing marks and lights used by different countries, that the following proposals are made to supplement Article 9, and to sufficiently mark such fishing obstructions. The colours *white* and *green* in combination are selected as these distinguishing marks, because *white* is the colour prescribed by Article 9, and *green* is almost universally used in buoyage for wreckmarking purposes, and such appliances, being either anchored or attached to vessels unable to manœuvre, or not under control, partake somewhat of the nature of a wreck or inert semi-permanent obstruction.

PROPOSAL N^o 18.

The colours of day and night distinguishing marks for coastal fishing nets and fish weirs, and also for drift nets, seines and trawls on the high seas shall be *white* and *green*. Buoys and all supports carrying distinguishing marks used in connection with the said fishing appliances shall be painted in horizontal bands or stripes of alternate *white* and *green*. The corners or conspicuous supports marking the shore ends and seaward ends of coastal nets and fish weirs shall be marked with two shapes, placed vertically one over the other, one *green* and the other *white*, alternating in sequence *white* above *green* and *green* above *white*; and all floats supporting nets shall be painted alternately *white* and *green*. By night, all the said buoys and supports used in connection with day marks shall display a *green* and a *white* light in lieu of the *green* and *white* shapes and corresponding thereto. Vessels and boats, when fishing with drift nets, or when line-fishing with lines out, or when tending and attached to seines, nets, lines or trawls, and thereby unable to manœuvre, shall in addition to the two *white* lights required by Article 9, carry a light, *green* in colour, below the two *white* lights, at a distance equal to that between the two *white* lights, and, as prescribed by Article 9 (*d*) may, in addition to the above lights, use a flare-up light, preferably *white* or *green* in colour, but under no circumstances to be *red*, which

colour is reserved for pilot vessels. It shall be understood by the word "shape", to be displayed by day, to mean a ball, or shape of light-weight material, or a basket, bucket or lantern covered with bunting or cloth of *green* or *white* colour, or painted, the said colours to correspond with the colours of the light similarly displayed at night.

XVI. REQUIREMENTS OF THE "CONVENTION FOR SAFETY OF LIFE AT SEA".

The "Convention for Safety of Life at Sea", signed at London, January 20th, 1914, by representatives of thirteen Maritime States and three political sub-divisions thereof, made provision as follows:—

ARTICLE 14.

"The High Contracting Parties undertake to use all diligence to obtain from the Governments which are not parties to this Convention their agreement to the revision of the International Regulations for Preventing Collisions at Sea as indicated below:

(A) "The Regulations shall be completed or revised in regard to the following points:

- (1) The second white light.
- (2) The stern light.
- (3) A day signal for motor vessels.
- (4) A sound signal for a vessel towed.
- (5) The prohibition of signals similar to distress signals.

(B) "Articles 2, 10, 14, 15, 31 of the said Regulations shall be amended in accordance with the following provisions:

Article 2. The second white mast-head light to be compulsory.

Article 10. A permanent fixed stern light to compulsory.

Article 14. A special day signal to be compulsory for motor vessels.

Article 15. A special sound signal to be established for use by a vessel in tow, or if the tow is composed of several vessels, by the last vessel of the tow.

Article 31. Article 31 to be modified in the following manner:

"Add to the list of both day and night signals the international radio-telegraph distress signal".

The provisions of Article 31, as amended by the above Convention, have been previously discussed in III, "Distress and Assistance Signals" (See page). The remaining provisions are here embodied in the form of a proposal in which the amended articles of the "Regulations for Preventing Collisions at Sea" are quoted in full, the proposed changes being given in italics.

PROPOSAL N° 19.

"The Regulations for Preventing Collisions at Sea" shall be amended in accordance with Article 14 of the "Convention for Safety of Life at

Sea”, the additional words necessary to be in *italics*, and the words to be stricken out to be enclosed in brackets.

Article 2. A steam vessel when under way shall carry :

- (a) On or in front of the foremast, or if a vessel without a foremast then in the forepart of the vessel, at a height above the hull of not less than 20 feet, and if the breadth of the vessel exceeds 20 feet, then at a height above the hull not less than such breadth, so, however, that the light need not be carried at a greater height above the hull than 40 feet *two bright white lights not less than 8 feet (2.5 meters) apart*, so constructed as to show an unbroken light over an arc of the horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the vessel, *viz*, from right ahead to 2 points abaft the beam on either side, and of such a character as to be visible at a distance of at least 5 miles.

Article 10. (A vessel which is being overtaken by another shall show from her stern to such last-mentioned vessel a white light or a flare-up light).

All vessels are required to show a fixed white light carried in a lantern so constructed, fitted and screened that it shall throw an unbroken light over an arc of the horizon of 12 points of the compass, viz, for 6 points from right aft on each side of the vessel, so as to be visible at a distance of at least 1 mile. Such light shall be carried as nearly as practicable on the same level as the side lights.

Article 14. A steam vessel proceeding under sail only; but having her funnel up, or a motor vessel with or without a funnel, proceeding under sail only shall carry in day-time, forward where it can best be seen, one black ball or shape 2 feet in diameter. *The absence of the black ball shall be taken to indicate that the vessel is also under power, and is to be considered as a steam vessel.*

Article 15. (f) A vessel when towing shall, instead of the signals prescribed in subdivisions (a) and (c) of this article, at intervals of not more than two minutes, sound three blasts in succession, *viz.* one prolonged blast, followed by two short blasts. A vessel towed shall similarly sound five blasts in succession, *viz.* one prolonged blast followed by four short blasts, or, if the tow is composed of several vessels, by the last vessel of the tow only.

(Four short blasts are the same as in paragraph (i) to denote “A vessel under way, which is unable to get out of the way of an approaching vessel”, etc. but, being preceded by the long blast, cannot be mistaken for that signal).

By Article 2 of the “Convention for Safety of Life at Sea” the ships to which the Regulations apply are those “which are mechanically propelled, which carry more than 12 passengers”, and which “go more than 200 miles from the nearest coast”.

XVII. INTERNATIONAL CODE OF SIGNALS.

It will be noted that, in all of the editions of the International Code of Signals issued by the various countries of the world, the same meaning has been given to the single flags and pennants of the Code when hoisted with the Code flag over them. As has been previously stated (1) these meanings were assigned to many of them when only 18 flags were

used; (2) since that time other meanings have been assigned to the 8 additional flags which have been adopted; (3) the adoption of the Morse Code, Distant Signals, Two-Arm Semaphore (mechanical and hand flags) and Three-Arm Semaphore, has compromised and confused the meaning of certain of the flags which have come by custom to be used as international distinguishing flags when not having a code pennant above or below them; (4) the Regulations for Preventing Collisions at Sea and the "Urgent and Important Signals" adopted by the "Convention for the Safety of Life at Sea" have changed some of these meanings; and (5) it will be shown that there are wide variations in the use of the single flags by various Governments, some of which are confusing if not actually dangerous. To illustrate this last point, the following unauthorised meanings have grown up in China in the use of the one-flag signals as port signals, whereas the International Signal Code itself practically provides two-flag hoists to convey the same meanings. This objectionable use of the one-flag hoists is as follows:—

<i>International Code Flag.</i>	<i>Signification.</i>	<i>At what ports used.</i>
Y	Ash-boat wanted.....	Tientsin, Shanghai, Canton, Pakhoi.
N	Berthing Officer wanted.....	Newchang, Woosung, Shanghai, Hankow, Wuhu, Swatow, Canton.
O	Coolies wanted	Taku, Chefoo, Wuhu, Chinkiang, Shanghai, Pagoda Anchorage, Amoy, Swatow, Canton, Kiunghai, Pakhoi.
E	Coolie Emigrants ready for counting....	Amoy, Swatow, Hoikow.
L	Customs Officer wanted	All ports.
G	Doctor wanted	All ports.
T	Tug-boat wanted	Shanghai, for Shanghai Transportation Company.
U	Tug-boat wanted	Shanghai and Tientsin for Tug & Lighter Company.
X	Tug-boat wanted	Tientsin for Messrs Butterfield & Swire.
R	Water-boat wanted	Newchang, Chefoo, Woosung, Shanghai, Pagoda Anchorage, Amoy, Swatow, Pakhoi, Hoikow.
I	Water-boat wanted	Shanghai (for French Company). Amoy.
K	Water-boat wanted	Amoy.

In proposing meanings for the single flags or pennants of the International Code Flag displays without the Code flag, it is obligatory that

their corresponding sound signal should also be given. The following are the reasons for the proposals which are made:—

Flag "A" has come to be used for indicating that a vessel is on full-speed trials, not that she cannot get out of the way of other ships, but that she requires deep water to run at full speed. A further use is proposed to indicate that large ships cannot get out of the middle of the channel to comply with the rules of the road on account of their deep draught, and that ships of lesser draught must give way.

Flag "B" for explosives, is intended to indicate all forms of target practice.

"C" and *"D"* flags have generally come to be used as the "Affirmative" and "Negative" pennants, without the Code flag.

The meanings of *F, L, P, R, U, V, and W* flags are those assigned by the "Convention for the Safety of Life at Sea", for their corresponding Morse characters.

"H" and *"R"* flags have been given their meaning by Article 15 of the "Regulations for Preventing Collisions at Sea", through their corresponding Morse characters.

The use of the flags *I, L, and Q* for Quarantine purposes has grown up by general custom; but no similar meaning is attached to the corresponding sound signals, which have therefore been omitted only for quarantine purposes.

"Z" is proposed to be used to call a pilot by flag or Morse signal.

PROPOSAL N^o 20.

MEANINGS OF SINGLE DISPLAYS OF INTERNATIONAL SIGNALS.

The following single flag displays of the International Code of Signals to be used without the Code Flag, together with their corresponding Morse code significations are herewith proposed for international use:—

<i>Sound or Flash.</i>	<i>Single Flag</i>	<i>Meaning.</i>
(--)	A	(To be used when claiming right of way when on soundings). "I am on full-speed trial", or "I must remain in channel on account of deep draught."
(- - - -)	B	(To be used to indicate danger from explosives). "I am taking in (or discharging) explosives" or "I am towing targets, or engaged in firing practice" (On shore indicate: "Danger: Target practice going on.")
(- - - -)	C	(In reply to a signal.) "Yes" or Affirmative.
(- - -)	D	(In reply to a signal) "No" or Negative.
(- - - -)	F	(To be used when disabled.) "Am disabled; communicate with me."
(- - - -)	H	(To be used in connection with international "Preventing of Collisions" agreements, Art. 15, para. i). "Vessel not under command, or control."

(None used)	I	(To be used only in entering port or at anchor). "I have not a clean bill of health."
(None used)	L	(To be used only in entering port or at anchor). "I have (or have had) a dangerous infectious disease on board."
(- - - -)	L	(To be used under way at sea only, in accordance with the "Convention for Safety of Life at Sea"). "Stop (or heave to) I have something important to communicate."
(- - - -)	P	(To be used only when at anchor). "I am about to sail; all persons to report on board."
(- - - -)	P	(To be used underway at sea only, in accordance with the the "Convention for Safety of Life at Sea".) "Your lights are out or burning badly."
(None used)	Q	(To be used only on entering port or at anchor). "I have a clean bill of health but have not been granted "pratique"."
(- - -)	R	(To be used in accordance with "Regulations for Preventing Collisions at Sea", Art. 15.) "The way is off my ship; you may feel your way past me."
(- - -)	U	(To be used as a warning signal). "You are standing into danger."
(- - - -)	V	(To be used only at sea.) "I want assistance; remain by me".
(- - - -)	W	(To be used when ship is stopped or at anchor, with boats out). "All boats are to return to the ship."
(- - - -)	W	(To be used underway at sea, in accordance with the "Convention for Safety of Life at Sea".) "Have encountered ice."
(- - - -)	Z	(To be used to call a pilot.) "I want a pilot."

XVIII. REVISION OF THE INTERNATIONAL CODE OF SIGNALS.

The necessary re-arrangement of the single-flag displays of the International Code to correspond with the Morse Signals and with other International Agreements has been given above. It is equally obligatory to re-arrange the "Urgent and Important" Signals of single flags and pennants of the International Code when hoisted with the Code flag above. This re-arrangement is here brought forward as a proposal, but it must be noted that any meaning attached by it to a single flag or pennant representing any of the 26 letters of the alphabet must necessarily have precisely the same meaning if displayed or sent by hand

flags, semaphore, flashing light, sound, shapes or "Distant Signals" under the International Code. This applies equally to any combination of letters in using the International Code, but using the codes separately as such, each code retains any secondary meanings its letters may have.

PROPOSAL N^o 21.

MEANINGS AND USES OF SINGLE DISPLAYS OF INTERNATIONAL CODE SIGNALS.

(WITH CODE PENNANT ABOVE WHEN FLAGS AND PENNANTS ARE USED).

*Letter of Alphabet
by any International Code
of Signals.*

*Use or meaning as established by custom or by
International Convention or Agreement.*

A	(To be used when claiming right of way when on soundings.) "I am on full speed trial"; or "I must remain in channel on account of deep draught".
B	(To be used to indicate danger from explosives). "I am taking in (or discharging) explosives"; or "I am towing targets, or engaged in firing practice." (On shore indicates: "Danger: Target practice going on.")
C	(In reply to a signal). "Yes" or Affirmative.
D	(In reply to a signal.) "No" or Negative.
E	(To be used with alphabetical spelling signal.) Alphabetical Signal N ^o 1.
F	(To be used with alphabetical spelling signal.) Alphabetical Signal N ^o 2.
F	(To be used as a disabled signal at sea in accordance with the "Convention for Safety of Life at Sea".) "Am disabled; communicate with me."
G	(To be used with alphabetical spelling signal.) Alphabetical Signal N ^o 3.
H	(To be used in connection with "Regulations for Preventing Collisions at Sea", Article 15, para. i). "Vessel not under command or control."
I	(To be used only in entering port or at anchor). "I have not a clean bill of health."
J	(To be used under way to prevent collision.) "I have headway."
K	(To be used under way to prevent collision.) "I have sternway."

- L (To be used only in entering port or at anchor.)
"I have (or have had) a dangerous infectious disease on board."
- L (To be used only under way at sea, in accordance with the "Convention for Safety of Life at Sea.")
"Stop (or heave to); I have something important to communicate".
- M (To be used for numeral signals.)
Numeral Signal No 1.
- N (To be used for numeral signals.)
Numeral Signal No 2.
- O (To be used for numeral signals.)
Numeral Signal No 3.
- P (To be used only when at anchor.)
"I am about to sail; all persons to report on board."
- P (To be used only when under way at sea in accordance with the "Convention for Safety of Life at Sea.")
"Your lights are out or burning badly."
- Q (To be used only on entering port or at anchor.)
"I have a clean bill of health but have not been granted "pratique."
- R (To be used in accordance with the "Regulations for Preventing Collisions at Sea", Art. 15 (g).
"The way is off my ship; you may feel your way past me."
- S (To be used in accordance with the "Regulations for Preventing Collisions at Sea", Art. 28.)
"My engines are going full speed astern."
- T (To be used to prevent collision.)
"Do not overtake me."
- U (To be used as a warning signal in accordance with the "Convention for Safety of Life at Sea.")
"You are standing into danger."
- V (To be used in accordance with the "Convention for Safety of Life at Sea.")
"I want assistance; remain by me."
- W (To be used when ship is stopped or at anchor with boats out.)
"All boats are to return to the ship."
- W (To be used under way at sea in accordance with "Convention for Safety of Life at Sea.")
"Have encountered ice."
- X (To be used to prevent collision.)
"I will pass ahead of you."
- Y (To be used to prevent collision.)
"I will pass astern of you."
- Z (To be used to call a pilot.)
"I want a pilot."

XIX. STEERING COMMANDS BY PILOTS.

The tabulation for Coastal Signals of the European and Mediterranean countries shows a rather general agreement in the use, by pilots, of the terms "Starboard" and "Port" to designate the direction in which the ship's head (or the rudder) should go, rather than the direction in which the helm should be put, as was formerly almost universally the custom. The United States Navy, some years ago, adopted the official designations of "Right" and "Left" to indicate the direction the ship's head should go. As the prevailing custom in Europe is to use the words "Starboard" and "Port" the Directing Committee makes the following proposal:—

PROPOSAL N^o 22.

When a pilot boards a ship to take over his duties, it shall be understood between the Captain of the ship and the pilot that the use of the words "Starboard" and "Port", or their equivalent in any language, shall indicate the direction to which it is desired the ship's head should go, and that further, the hand and arm may be used to reinforce the order by being waved in the direction indicated by the word, and the arm to be held in a vertical position to mean "Steady as you go!" It should be understood, however, that the use of the arm is not obligatory, but only permissible.

XX. RECOMMENDATION OF THE "CONVENTION FOR THE SAFETY OF LIFE AT SEA".

The International Conference on "Safety of Life at Sea", which met in London, in January, 1914, made the following recommendation, but no further action has been taken:—

"The attention of the Governments which have adopted the Regulations for the Preventing of Collisions at Sea should be drawn to the necessity for revising these regulations, and in particular as regard:

1. The lights of sailing ships;
2. The signals intended to indicate the course of a ship in fog;
3. Regulations relating to warships navigating without lights;
4. Navigation in the neighbourhood of warships;
5. Regulations relating to submarines;
6. The adaptation of lights and sound signals to the dimensions and speed of modern ships.

XXI. SIGNALS AVAILABLE FOR PORT SIGNALS, ETC.

In order to determine how many night signals remain available for Port Signals and for other International Proposals, such as distress signals for light vessels and life-saving, the following is a summary of the signals which have been herein proposed or indicated as set apart by international agreement.

In the discussion as to the total number of such signals as are available using the colours *red*, *white* and *green*, but with only two colours in any one signal and with numbers limited to one, two or three lamp displays, no mention was made of the possible increase of such numbers available as many be obtained by placing the lights horizontally instead of vertically, or displaying them in triangular form. The following are the signals as herein set apart, and to be displayed in vertical line where more than one light is used:—

- (1) By the "Regulations for Preventing Collisions at sea": W (Pilot); WW (Towing or Fishing); WWW (Towing); RR (Not under Control); RWR (Laying Cable).
- (2) By International Agreement:
G and GG (Wreck-marking).
- (3) By proposed Storm-warning Signals, using the two-lamp night signals: R; G; RR; WW; RW; WR; and WRW.
- (4) By other proposals of the International Hydrographic Bureau:
R (Pilot); RRR, GGG, and RGR (Entrance Prohibited); GW and WG (Fishing Nets); and WGG (Fishing Vessels).

This leaves for port signals, etc., using 2 lamps only, RG and GR, but the other two-lamp signals may be displayed horizontally, and also leaves the following three-lamp or three-character signals:— RRG; RRW; RGG; RWW; GRR; GRG; GGR; GGW; GWG; GWW; WRR; WGG; WGW; and WWR.

GENERAL REMARKS.

Out of some three hundred and fifty International Organisations of all kinds and purposes, the International Hydrographic Bureau shares with the International Commission of Aerial Navigation (which was founded in July, 1922, with ten States Members) the distinction of being the only two technical organisations which are under the direction of the League of Nations, this being accounted for by the fact that they were both organised subsequent to the signing of the Covenant of the League of Nations, and thereby automatically came under its direction, as will

all future organisations composed of States as members and not of individuals or groups of individuals. This Bureau derives no international authority on this account and the subject is mentioned merely to call attention to the crying need for some general direction or supervision of so called international conferences which tend to make international agreements which may, in ignorance, conflict with existing ones, and which conferences have not the technical information which other international organisations might provide on request for the adequate study and proper discussion of the agenda of the said conferences. The League of Nations is Custodian of practically all treaties, and it would be advantageous if it were custodian as well of all really international agreements.

The International Hydrographic Bureau, under its statutes, has as its object, among other things, to co-ordinate the hydrographic work of the Hydrographic Services of its States Members "with a view to rendering navigation easier and safer in all the seas of the world"; to endeavour to obtain uniformity, as far as it is possible, in hydrographic documents; and to study documents published by the Hydrographic Offices. Being the only International Organisation in the world which has a Permanent Committee sitting continuously (other than the Secretariat of the League of Nations, with which its activities are automatically associated), this Bureau feels that, in tabulating and publishing all data which renders "navigation easier and safer in all the seas of the world", it is carrying out not only one of the purposes for which all of the Hydrographic Offices exist, but the spirit in which such Offices seek to be of service to all the seafaring interests. According to its statutes also "the Bureau shall give a considered opinion on all questions dealing with its work which are referred to it by conferences or by scientific institutions".

This Bureau co-operates with organisations which affect the seafaring interests, and will lend its advice and assistance to any movements which may tend to bring about greater uniformity in the aids to navigation and in safety of life at sea.








LOCAL STORM WARNING SIGNALS.

The following proposals of the International Meteorological Committee for local storm signals are given in black, and the amendments proposed by the Directing Committee of the International Hydrographic Bureau are given in *Red*. This is taken from Plates I & II of "*Special Publication N° 8*" of the International Hydrographic Bureau, Monaco.

PROPOSED INTERNATIONAL STORM WARNING SIGNALS.

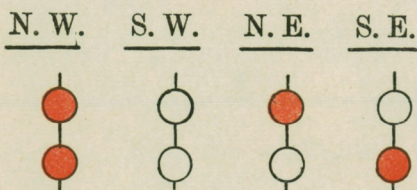
PROPOSAL I. — The system of Local Day Storm Signals adopted and recommended at the Ninth Meeting of the International Meteorological Committee in Berlin, in 1910, for use by day, and consisting of two black cones : —

- 
 Single cone, point upward : —
Gale commencing with wind in the N. W. quadrant.
- 
 Single cone, point downward : —
Gale commencing with wind in the S. W. quadrant.
- 
 Two cones, one above the other, both points upward : —
Gale commencing with wind in the N. E. quadrant.
- 
 Two cones, one above the other, both points downward : —
Gale commencing with wind in the S. E. quadrant
- 
 Two cones, base to base : —
Hurricane (or Storm of great violence).

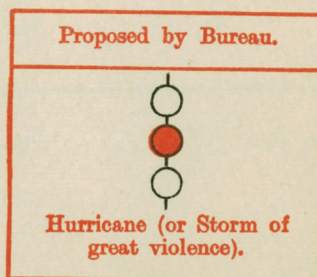
The distance between two cones hoisted in vertical line should be the same as the length of the slant side of the cones.

PROPOSAL II. — The system of the International Night Storm Signals, which were adopted and recommended at the Tenth Meeting of the International Meteorological Committee, at Rome, in 1913, for use by night :

For a gale commencing with the wind in the following quadrants : —



The lights should be not less than two meters apart or 4 metres covering the whole signal.



PROPOSAL III. "CAUTIONARY" SIGNAL

By day : — Black ball

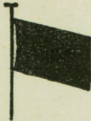


By night : — Red light.

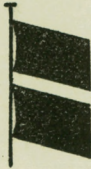


“ Atmospheric distur-
bance, direction of
which is not determi-
ned.”

PROPOSAL IV. "CHANGE OF DIRECTION OF WIND" SIGNAL.



One black flag indicates that the wind may be expected to veer to the right (clockwise) during the gale, storm or hurricane.



Two black flags indicate that the wind may be expected to back or haul to the left (anti-clockwise) during the gale, storm or hurricane.

PROPOSAL V. "NO PREDICTIONS RECEIVED" SIGNAL.

By day : — Green flag.



By night : — Green light.



The use of the green flag by day, or a single green lamp by night, indicates that signals cannot be hoisted on account of telegraphic information being interrupted or for some other cause.

NOTE :— Where Storm Signals are flashed by a night signal apparatus the following should be the method :—

- | | |
|--------------------------|---------|
| One cone, point down, | — — |
| Two cones, points down, | — — — — |
| One cone, point up, | — — |
| Two cones points up, | — — — — |
| Two cones, base to base, | — — — — |

PROPOSALS FOR UNIFORMITY IN COASTAL SIGNALS.

Black type is used for the tabulation of the following :

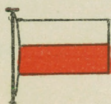
1. The requirement of the "Regulations for Preventing Collisions at Sea", as having, more or less, the authority of law.
2. Signals tabulated on the "Coastal Signals of the Maritime Countries of the World", as issued by the International Hydrographic Bureau, and as thus shown to be in more or less general use.
3. Signals and signal systems as given in the "International Code of Signals" of the various countries of the world, but, where there are many differences, the Board of Trade edition is accepted as the standard.
4. The agreements of the "International Conference on Safety of Life at Sea" signed in London, on January 20th, 1914, as amending the "International Code of Signals" by the adoption of Morse characters for "Safety Signals", "Urgent and Important Signals", "General Signals", "Nationality Signals" and "Instructions".

The proposals of the Directing Committee of the International Hydrographic Bureau are given in *red ink* where it is considered important to make additions to existing signals; to reconcile conflicting agreements; to satisfy more modern requirements; and to secure simplicity through international uniformity.

PILOT SIGNALS.

(a) DISTINGUISHING MARKS FOR PILOT VESSELS.

International



Pilot flag

When on station all pilot vessels shall fly by day, at the masthead or other conspicuous place, a flag of large dimensions as compared with the size of the pilot boat, consisting of a rectangular flag, with the upper horizontal half *white*, and the lower half *red*.

Steam Pilot Vessels shall have painted on each side of the funnel the letters "P T"; underneath that the initial letter or name of the port which they serve, or the four letters assigned to it in the geographical table of the "International Code of Signals," and under that the number of the pilot vessel. Steam pilot vessels shall also have painted on each bow the word "*Pilot*" in the language of the country, and on the bulwarks in large letters the full or abbreviated name of the port which it serves. At night, they shall display a *red* light at the masthead, visible all round the horizon, under the *white* light prescribed by Art. 8 of the "Regulations for Preventing Collisions at Sea", and show, at intervals of not



less than fifteen minutes, alternate red and white flare-up light or lights.

In fog, rain, mist or falling snow, steam pilot vessels shall sound two short blasts, followed by two long blasts (— — — —) on either a single or double whistle, as the distinguishing sound for steam pilot vessels.

Where pilot vessels are cruising at nodal points, or off pilot stations where there are pilots for more than one port, this signal shall be followed at short intervals by the initial letter of the port by sound signal by the Morse Code.

In addition, at night, a pilot vessel may flash by Morse lamp, with corresponding long and short flashes, any of the above distinguishing sounds.

Sailing Pilot Vessels shall, by day, fly the large pilot flag, have painted on their mainsails the letters "P T", beneath that the initial letter or name of the port they serve or the four letters assigned to it in the geographical table of the "International Code of Signals", and below that the pilot boat number. At night the sailing pilot vessels shall carry the same lights as prescribed above for steam pilot vessels, and in fog, rain, mist or falling snow, shall sound two short blasts, followed by two long blasts (— — — —) on a fog horn or other sound apparatus.

(b) TO CALL A PILOT.

The following signals shall be used to call a pilot :

By day :



1. The International flag or Jack, with a white border.



2. The International Code pilot signal, indicated by "P T".



3. The International Code flag "Z", with or without the code pennant over it.



4. The distant signal, consisting of a cone, point upwards, having above it two balls, or shapes resembling balls.

By night :



1. A pyrotechnic blue light every fifteen minutes.



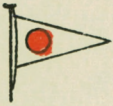
2. A bright white light flashed, or a white flare, at short intervals, just above the bulwarks, for about one minute at a time.

In fog, rain, mist or falling snow, the sound signal for calling a pilot shall be the letter "Z" of the Morse Code, two long blasts, followed by two short blasts, (— — — —) which may, if desired, be followed by the initial letter of the port, by the Morse Code, for which a pilot is desired.

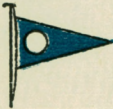
In addition, at night, a pilot vessel may flash by Morse lamp, with corresponding long and short flashes, any of the above distinguishing sounds.

(c) REPLIES TO SIGNAL ASKING FOR A PILOT.

The display of a pilot flag by a pilot vessel or a pilot station, by day, indicates that pilots are available for service, and its absence indicates that no pilots are available for service.

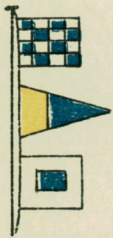


To acknowledge the signal for a pilot, and to indicate that one is coming out, the affirmative pennant of the International Code, "C", shall be hoisted.



The negative pennant, "D", will indicate: "No pilot is available", "Unable to come out", or "Not coming out".

At night, "C" or "D", as above, will be flashed by the Morse Code, or, in foggy weather, will be made by sound signals.



In case of bad weather, when unable to put a pilot on board an in-coming ship, or in leaving port not able to take one off when outside, the pilot boat may make the International Signal "NGS" "Follow me", and lead the way in or out of the channel, using the signals prescribed for mechanical pilot indicator. The vessel following must carefully keep in the wake of the pilot vessel.

(d) MECHANICAL PILOT INDICATOR AND CODE.

This Code may be made with hand flags to correspond with the positions of the arms and discs, or by numeral signal of the International Code to correspond with the number allotted to the signal.

When the apparatus is not in use the two arms should be down.

When about to commence signalling both arms should be in a vertical position of "ready", or the International Code numeral 6 should be displayed.

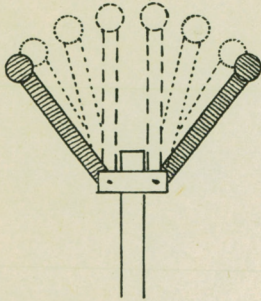
When a vessel is approaching, or is about to leave a port and makes signals for a pilot, the reply signal should be made by the display of signal No. 1, and, if necessary, repeated until the ship answers by half-masting or dipping the pilot flag, which should remain so displayed until the pilotage signals cease.

Both arms waved several times means, when made to an approaching vessel, or to a vessel in port about to proceed out of harbour :—

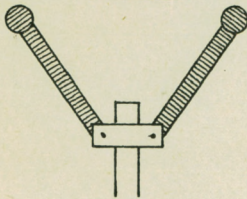
“You are observed; look out for further signals”.

When a vessel has proceeded out, using the signals of the pilot indicator, and is well clear of the port or has, on coming into port, arrived in the vicinity of the anchorage, both arms waved several times until answered by hauling down the pilot flag, means :—

“We are going to cease signalling: proceed further at your own discretion”.



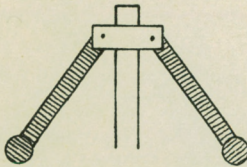
or N° 1.



or N° 2.

Both arms at an angle of 45° above the horizontal, means :—

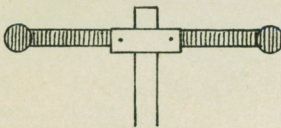
“There is not enough water yet for entering the harbour; keep at safe distance”.



or N° 3.

Both arms down at 45° below horizontal, means :—

“Port is closed; stand off, or else anchor”.



or N° 4.

Both arms horizontal, means :—

To approaching vessels :—

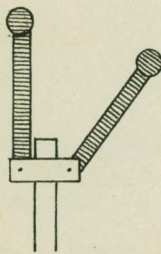
“Steer for the entrance”.

Either arm inclined from the vertical, with the other arm remaining vertical, means :—

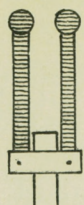
“Steer for the side towards which the arm is inclined”.

(Note. — The amount of inclination to indicate the approximate degrees of the helm to be used, viz. a greater or lesser inclination indicates :—

“Keep more or keep less to the side indicated”.

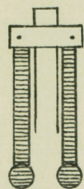


or N° 5.



or N^o 6.

Both arms up, means :—
 “Ready to commence signalling”, or
 “Steer as you go”.



or N^o 7.

Both arms down, means :—
 “Not in use”, or “End of signal-
 ling”.

LIFE SAVING, DANGER AND WARNING SIGNALS.

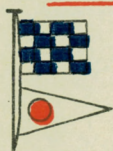
The International Code of Signals to be used in conjunction with the “Regulations for Preventing Collisions at Sea”, (1889), and the Urgent and Important Signals of the “Convention for the Safety of Life at Sea”, (1914), are given here.

DISTRESS AND ASSISTANCE SIGNALS.

Article 31 of “Regulations for Preventing Collisions at Sea”, (1889), shall be used, as supplemented by the “Convention for the Safety of Life at Sea”, (1914), as follows :—

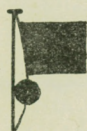
“When a vessel is in distress and requires assistance from other vessels or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, viz :

“In the day-time :



1. A gun fired at intervals of about a minute.

2. The International Code Signal of Distress indicated by N. C.



3. The distant signal, consisting of a square flag, having either above or below it a ball or anything resembling a ball.

4. Rockets or shells as prescribed below for use at night.
5. A continuous sounding with any fog-signal apparatus.
6. The International Signal SOS by means of visual or radio signals, or by radio telephony.

“At Night :

1. A gun 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, bursting in the air with a loud report and throwing stars of any colour or description, fired one at a time at short intervals.
4. A continuous sounding with any fog-signals apparatus.
5. The International signal SOS by means of flashing light or radio signals, or by radio telephony

AIRCRAFT DISTRESS SIGNALS.

The following Aircraft Distress Signals, as here proposed, are those adopted by most European countries :

1. The International signal SOS by means of visual or radio signals or by radio telephony.
2. The International Code Signal of Distress “N C”.
3. Distant signals consisting of a square flag, having above or below it a ball, or anything resembling a ball.
4. A continuous sound with any sound apparatus.
5. A signal consisting of a succession of white pyrotechnical lights fired at short intervals.
6. A white flare from which, at intervals of three seconds, a white light is ejected into the air

SEARCHLIGHT INTERFERENCE SIGNALS.

The following signals are here proposed as used by practically all European countries :

Any vessel approaching a defended port while searchlights are being operated, and, finding that they interfere with its safe navigation, may use the following signals, either singly or combined, but both are recommended to be used :

(a) By flashing lamp, four short flashes, followed by one long flash.







(b) By whistle, siren or fog horn, four short blasts followed by one long blast. (— — — — —).

NON-LOCAL STORM WARNING SIGNALS.

Signals to indicate atmospheric disturbance, or storms at other ports or in some distant area, or signals to supplement the proposed uniform Local Storm Warning Signals shall be such as issued by the Authorities charged with the prescription of such signals.

ENTRANCE OBSTRUCTED OR PROHIBITED.

By day, three coloured balls, and, by night, three coloured lights, hoisted in a vertical line, at the entrance to a port, or at the nearest coastal station, shall indicate .—

		By day, three red balls, By night, three red lights,	} “ Entrance to port obstructed or pro- hibited ”.
		By day, three green balls, By night, three green lights,	} “ Vessels are pro- hibited from leaving the port ”.
		By day, a green ball between two red balls, By night, a green light be- tween two red lights,	} “ Vessels are pro- hibited from either entering or leaving this port ”.

Patrol vessels engaged in regulating port or coastal traffic shall display, at a yardarm or other conspicuous place, similar balls by day or lights by night, as distinguishing marks. Signals intended to exempt any vessel from the indicated prohibition shall, by day, in all cases be made either by the International Code of Signals, or by radio, but no additional signals shall be created or used for this purpose.

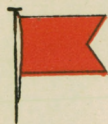
SUBMARINES OPERATING (DIVERS OPERATING).

When one or more submarine vessels are operating submerged or otherwise, an anchored vessel, or escorting vessel, shall fly a square red flag at the fore masthead, and each submarine shall itself carry, attached to its periscope or a flagstaff, a similar square red flag, so that, if it is operating partially submerged, it will give additional warning as to its whereabouts. This square red flag shall also be used by a vessel which is at anchor and has a diver doing submarine work over its side. If not at anchor, it shall fly the above flag at a yardarm, and, in addition, shall fly at the fore masthead the International flag “H”, indicating a vessel not under control.



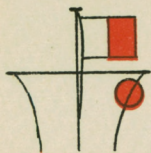
GUN, MINE OR TORPEDO PRACTICE.

Where experiments with explosives are being conducted either ashore or afloat, or when men-of-war or auxiliary vessels, *etc.*, are engaged in artillery practice, or are towing targets for such practice, or where land batteries are about to fire, or firing with guns, small arms or torpedoes, or vessels are laying mines or firing torpedoes, the International Code flag "B" shall be displayed by the auxiliary firing or towing vessel, or from the flagstaff of the land battery or station. This use of the flag shall be in addition to its use to indicate "taking in or discharging explosives".



MINE SWEEPING OR HYDROGRAPHIC SURVEYING FOR OBSTRUCTION.

When two vessels are operating with a wire hawser between them to sweep for rocks or obstructions for hydrographic purposes, or for mines for exercise, or for actual mine sweeping, each ship shall carry the International flag "H" at the fore masthead, with a red ball at the yardarm, or where it can best be seen on that side on which it is dangerous for vessels to pass on account of the wire. Under no circumstances must a vessel pass between the two sweeping vessels.



NON-LOCAL ICE SIGNALS.

The following definitions are taken from the British "South Indian Ocean Pilot", page 21, (4th edition) :—

FIELD ICE :— A large body of unnavigable ice, the extent or boundaries of which may or may not be seen from the masthead.

FLOE ICE :— Several pieces of field ice pressed or frozen together.

LAND ICE :— Field or floe ice which has not been detached from the shore since the winter.

HUMMOCKY ICE :— Elevations in field or floe ice caused by two or more bodies of ice being pressed together.

PACK ICE :— A large collection of pieces of ice, from broken-up floe or icebergs, which have, more or less, closed together again.

The pack is said to be "open" when it presents leads, or lanes, of water between the pieces of ice, forming more or less promising navigable channels; and "close" when it is not possible to navigate through the collected pieces of ice.

DRIFT ICE :— Unattached pieces of floating ice easily navigable.

BRASH or SLUDGE ICE :— A collection of very small pieces of broken-up ice through which a vessel can easily force her way.

PANCAKE ICE :— Ice newly frozen, of insufficient thickness to prevent navigation, sometimes separated into cakes suggestive of the name.

BAY ICE :— Ice newly frozen, of sufficient thickness to prevent navigation.

ICEBERG :— Floating ice, formed on shore, usually of compressed snow, and detached from its parent glacier. In the Arctic the icebergs are comparatively small; in the Antarctic they have been known to be 20 miles in extent.

FLOEBERG :— A thick piece of salt water ice presenting the appearance of a small iceberg.

ICE BLINK :— A peculiar white reflection in the atmosphere seen immediately over distant ice in large quantities, the ice itself not being visible.

A LEAD or LANE :— A navigable channel in a "pack" or other collection of ice.

OPEN WATER :— Free navigable water adjacent to an ice-encumbered channel or sea.

ICE FOOT :— The ice frozen to the shore which does not rise and fall with the tide.

PROPOSED NON-LOCAL ICE SIGNALS.

An area in which ice occurs to such an extent as to interfere with navigation should be divided on special charts into squares of 20' to 30' of latitude and longitude, with two letters of identification attached to each square, such letters to be signalled by the International Code alphabet, in conjunction with the following proposed series of signals of the International Code, giving the ice condition in each square as far as known to the Signal Station. (These signals are not yet in the International Signals, but should be inserted in the next edition; meanwhile each locality may prescribe for temporary use such signals as they may desire corresponding to the following meanings):

"No information received as to ice conditions".

"No ice; navigation unimpeded".

"Navigation closed on account of ice".

Drift ice or ice floes:

"Difficult for low-powered vessels".

Drift ice and large ice floes:

"Unsafe for low-powered vessels".

Fields of drift ice or ice floes :

“Impossible for low-powered steamers ; difficult for high powered”.

Caked or frozen drift ice and ice floes :

“Very difficult for high powered steamers”.

Pack ice and drift ice :

“Possible only for highest powered steamers”.

Thick ice :

“Navigation possible only by using ice breakers”.

NON-LOCAL TIDE SIGNALS.

It is proposed, for the purpose of indicating the depth of water at the entrance of such port as a signal station or a light vessel may serve, that the International Code of Signals, under the headings “Depth” and “Tide”, be used, in conjunction with the numeral table of that Code, to indicate the height of the tide and the state of the tide as to flood, ebb and stand, or else that a mechanical clock or dial, with arrow, illuminated at night, (or a tide staff with pointer) be used as a visual signal.

NON-LOCAL CURRENT SIGNALS.

It is proposed for the purpose of indicating the direction and strength of the tidal current at the entrance of such port as the signal station or light ship may serve, that the International Code of Signals, under the heading “Current”, be used, as far as practicable, in connection with the number and compass tables of that Code, to indicate the state and rate of drift of the tidal current, and that other elaborate methods be abolished in the interest of uniformity and simplicity.

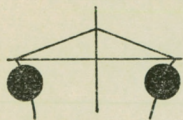
COASTAL SEMAPHORE SIGNAL STATIONS.

There are three classes of coastal semaphore signal stations, but there are some stations which cover all the activities of all three classes, and others which display, in addition, coastal signals of one kind or another, but they may all be classified in general as follows :

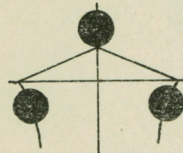
I. LLOYD'S SIGNAL STATIONS. Passing ships may show their designating numbers or letters by the International Code of Signals to these stations and be reported by Lloyds in the “*Shipping Gazette and Lloyds List*” and “*Lloyds Weekly Shipping Index*”.

The International Code is the only one recognised, but they use the following additional signals :

Day Signals :



(a) Two balls, placed horizontally, indicate that the station is temporarily closed, and that no communication can be held.



(b) Three balls in the shape of a triangle indicate that telegraphic communication is interrupted, but messages will be forwarded by other means as soon as possible.

Night Signals :

Morse Code signals by flashing lamp are used at some stations only.

A series of continuous short flashes are used to call the attention of passing vessels.

A series of long-short flashes repeated as often as may be necessary, indicates that a vessel's signals have been seen and recognised.

If no answer is made by the Signal Station, the vessel will know that its message has not been understood.

Some stations indicate that a message has been received and understood by displaying a red flare light of thirty seconds' duration.

II. INTERNATIONAL SIGNAL STATIONS. At these stations signals by the International Flag Code, or by semaphore, may be exchanged by passing vessels. Some of these stations also use the Morse flash lamp at night.

III. SEMAPHORE TELEGRAM STATIONS. At these stations "Semaphore telegrams" may be sent by passing vessels, and are transmitted to any address by land wire under the Telegraphic Convention of St.-Petersburg (1875). The address of telegrams indicated for ships at sea should give the name or special number of the vessel, as well as her nationality, and the charges must be paid by the sender. The charges for telegrams sent by passing vessels must be paid by the receiver.

DISTINGUISHING MARKS OF COASTAL FISHING NETS AND FISH WEIRS, AND HIGH SEA DRIFT NETS, SEINES AND TRAWLS.

The colours of day and night distinguishing marks for coastal fishing nets and fish weirs, and also for drift nets, seines and trawls on the high seas shall be *white* and *green*. Buoys and all supports carrying distinguishing marks used in connection with the said fishing appliances shall be painted in horizontal bands or

stripes of alternate *white* and *green*. The corners or conspicuous supports marking the shore ends and seawards end of coastal nets and fish weirs shall be marked with two shapes, placed vertically one over the other, one *green* and the other *white*, alternating in sequence *white* above *green* and *green* above *white*; and all floats supporting nets shall be painted alternately *white* and *green*. By night, all the said buoys and supports used in connection with day marks shall display a *green* and a *white* light in lieu of the *green* and *white* shapes and corresponding thereto. Vessels and boats, when fishing with drift nets, or when line-fishing with lines out, or when tending and attached to seines, nets, lines or trawls, and thereby unable to manœuvre, shall in addition to the two *white* lights required by Article 9, carry a light, *green* in colour, below the two *white* lights, at a distance equal to that between the two *white* lights, and, as prescribed by Article 9 (d) may, in addition to the above lights, use a flare-up light, preferably *white* or *green* in colour, but under no circumstances to be *red*, which colour is reserved for pilot vessels. It shall be understood by the word "shape", to be displayed by day, to mean, a ball, or shape of light weight material, or a basket, bucket or lantern covered with bunting or cloth of *green* or *white* colour, or painted the said colours to correspond with the colours of the light similarly displayed at night.

REQUIREMENTS OF THE
"CONVENTION FOR SAFETY OF LIFE AT SEA"

Article 14.

"The High Contracting Parties undertake to use all diligence to obtain from the Governments which are not parties to this Convention their agreement to the revision of the International "Regulations for Preventing Collisions at Sea" as indicated below :—

"(A). The Regulations shall be completed or revised in regard to the following points :

- (1) The second white light.
- (2) The stern light.
- (3) A day signal for motor vessels.
- (4) A sound signal for a vessel towed.
- (5) The prohibition of signals similar to distress signals.

"(B) Articles 2, 10, 14, 15, 31 of the said Regulations shall be amended in accordance with the following provisions :

Article 2. The second white mast-head light to be compulsory.

Article 10. A permanent fixed stern light to be compulsory.

Article 14. A special day signal to be compulsory for motor vessels.

Article 15. A special sound signal to be established for use by a vessel in tow, or if the tow is composed of several vessels, by the last vessel of the tow.

Article 31. Article 31 to be modified in the following manner.

“Add to the lists of both day and night signals the international radio-telegraph distress signal”.

“The Regulations for Preventing Collisions at Sea” shall be amended in accordance with Article 14 of the “Convention for Safety of Life at Sea”, the additional words necessary to be in red, and the words to be stricken out to be enclosed in brackets.

Article 2. A steam vessel when under way shall carry :

(a) On or in front of the foremast, or if a vessel without a foremast then in the fore part of the vessel, at a height above the hull of not less than 20 feet, and if the breadth of the vessel exceeds 20 feet, then at a height above the hull not less than such breadth, so, however, that the light need not be carried at a greater height above the hull than 40 feet, **two bright white lights not less than 8 feet (2.4 mètres) apart** so constructed as to show an unbroken light over an arc of the horizon of 20 points on each side of the vessel, *viz.* from right ahead to 2 points abaft the beam on either side, and of such a character as to be visible at a distance of at least 5 miles.

Article 10. (A vessel which is being overtaken by another shall show from her stern to such last-mentioned vessel a white light or a flare-up light).

All vessels are required to show a fixed white light carried in a lantern, so constructed, fitted and screened that it shall throw an unbroken light over an arc of the horizon of 12 points of the compass, *viz.* for 6 points from right aft on each side of the vessel, so as to be visible at a distance of at least 1 mile. Such light shall be carried as nearly as practicable on the same level as the side lights.

Article 14. A steam vessel proceeding under sail only, but having her funnel up, **or a motor vessel with or without a funnel, proceeding under sail only**, shall carry in daytime, forward, where it can best be seen, one black ball

or shape 2 feet in diameter. The absence of the black ball shall be taken to indicate that the vessel is also under power, and is to be considered as a steam vessel.

Article 15 (f) A vessel when towing shall, instead of the signals prescribed in subdivisions (a) and (c) of this article, at intervals of not more than two minutes, sound three blasts in succession, viz. one prolonged blast, followed by two short blasts. A vessel towed shall similarly sound five blasts in succession, viz. one prolonged blast followed by four short blasts, or, if the tow is composed of several vessels, by the last vessel of the tow only.

(Four short blasts are the same as in para. (i) to denote "A vessel under way, which is unable to get out of the way of an approaching vessel", etc., but, being preceded by the long blast, cannot be mistaken for that signal).

By Article 2 of the "Convention for Safety of Life at Sea" the ships to which the Regulations apply are those "which are mechanically propelled, which carry more than 12 passengers", and which "go more than 200 miles from the nearest coast".

MEANINGS OF SINGLE DISPLAYS OF INTERNATIONAL SIGNALS.

The following single flag displays of the International Code of Signals to be used without the Code Flag, together with their corresponding Morse code signification, are herewith proposed for international use :

<u>Sound or Flash</u>	<u>Single Flag</u>	<u>Meaning</u>
(— —)	A	(To be used when claiming right of way when on soundings). "I am on full-speed trial", or "I must remain in channel on account of deep draught".
(— — — —)	B	(To be used to indicate danger from explosives). "I am taking in (or discharging) explosives", or "I am towing targets, or engaged in firing practice". (On shore indicates : "Danger ! Target practice going on").

PLATE XVII.

- (— — — —) C (In reply to a signal).
“Yes” or Affirmative.
- (— — —) D (In reply to a signal).
“No” or Negative.
- (— — — —) F (To be used when disabled).
“Am disabled ; communicate with me”.
- (To be used in accordance with “Regulations for Preventing Collisions at Sea”, Art. 15, para. i).
- (— — — —) H “Vessel not under command, or control”.
- (To be used only in entering port or at anchor).
- (None used). I “I have not a clean bill of health”.
- (To be used only in entering port or at anchor).
- (None used). L “I have (or have had) a dangerous infectious disease on board”.
- (To be used under way at sea only, in accordance with the “Convention for Safety of Life at Sea”).
- (— — — —) L “Stop, (or heave to), I have something important to communicate”.
- (To be used only when at anchor).
- (— — — —) P “I am about to sail ; all persons to report on board”.
- (To be used under way at sea only, in accordance with the “Convention for Safety of Life at Sea”).
- (— — — —) P “Your lights are out, or burning badly”.
- (To be used only on entering port or at anchor).
- (None used). Q “I have a clean bill of health but have not been granted ‘pratique’”.
- (To be used in accordance with “Regulations for Preventing Collisions at Sea” Art. 15).
- (— — —) R “The way is off my ship ; you may feel your way past me”.

PLATE XVIII.

- (— — —) U (To be used as a warning signal).
 “You are standing into danger”.
- (— — — —) V (To be used only at sea).
 “I want assistance ; remain by me”.
- (— — — —) W (To be used when ship is stopped or at anchor).
 “All boats are to return to the ship”.
- (— — — —) W (To be used under way at sea, in accordance with the “Convention for Safety of Life at Sea”).
 “Have encountered ice”.
- (— — — —) Z (To be used to call a pilot).
 “I want a pilot”.

MEANINGS AND USES OF SINGLE DISPLAYS OF INTERNATIONAL CODE OF SIGNALS (WITH CODE PENNANT ABOVE WHEN FLAGS AND PENNANTS ARE USED).

Letter of Alphabet by any International Code of Signals.

Use or meaning as established by custom or by International Convention or Agreement.

- A (To be used when claiming right of way when on soundings).
 “I am on full speed trial” ;
 “I must remain in channel on account of deep draught”.
- B (To be used to indicate danger from explosives).
 “I am taking in (or discharging) explosives”, or
 “I am towing targets, or engaged in firing practice”.
 (On shore indicates :
 “Danger ! Target practice going on”).
- C (In reply to a signal).
 (“Yes” or Affirmative.
- D (In reply to a signal).
 “No” or Negative.

PLATE XIX.

- E (To be used with alphabetical spelling signal).
Alphabetical Signal No. 1.
- F (To be used with alphabetical spelling signal).
Alphabetical Signal No. 2.
- F (To be used as a disabled signal at sea in accordance with the "Convention for Safety of Life at Sea").
"Am disabled ; communicate with me".
- G (To be used with alphabetical spelling signal).
Alphabetical Signal No. 3.
- H (To be used in connection with "Regulations for Preventing Collisions at Sea", Article 15, par 2.).
"Vessel not under command or control.
- I (To be used only in entering port or at anchor).
"I have not a clean bill of health".
- J (To be used under way to prevent collision).
"I have headway".
- K (To be used under way to prevent collision).
"I have sternway".
- L (To be used only in entering port or at anchor).
"I have (or have had) a dangerous infectious disease on board".
- L (To be used only under way at sea, in accordance with the "Convention for Safety of Life at Sea").
"Stop (or heave to) ; I have something important to communicate".
- M (To be used for numeral signals).
Numeral Signal No. 1.

- N (To be used for numeral signals).
Numeral Signal No. 2.
- O (To be used for Numeral Signals).
Numeral Signal No. 3.
- P (To be used only when at anchor).
"I am about to sail; all persons to report on board".
- P (To be used only when under way at sea in accordance with the "Convention for Safety of Life at Sea").
"Your lights are out, or burning badly".
- Q (To be used only on entering port or at anchor).
"I have a clean bill of health but have not been granted "pratique".
- R (To be used in accordance with the "Regulations for Preventing Collisions at Sea", Art. 15 (g)).
"The way is off my ship; you may feel your way past me".
- S (To be used in accordance with the "Regulations for Preventing Collisions at Sea", Art. 28).
"My engines are going full speed astern".
- T (To be used to prevent collision).
"Do not overtake me".
- U (To be used as a warning signal in accordance with the "Convention for Safety of Life at Sea").
"You are standing into danger".
- V (To be used in accordance with the "Convention for Safety of Life at Sea").
"I want assistance; remain by me".
- W (To be used when ship is stopped or at anchor with boats out).
"All boats are to return to the ship".

	(To be used under way at sea in accordance with the "Convention for Safety of Life at Sea").
W	"Have encountered ice".
	(To be used to prevent collision).
X	"I will pass ahead of you".
	(To be used to prevent collision).
Y	"I will pass astern of you".
	(To be used to call a pilot).
Z	"I want a pilot".

STEERING COMMANDS.

When a pilot boards a ship to take over his duties, it shall be understood between the captain of the ship and the pilot that the use of the words "Starboard" and "Port" or their equivalent in any language shall indicate the direction in which it is desired the ship's head should go, and, that further, the hand and arm may be used to reinforce the order by being waved in the direction indicated by the word, and the arm be held in a vertical position to mean "Steady as you go". It should be understood, however, that the use of the arm is not obligatory, but only permissible.

RECOMMENDATION OF THE "CONVENTION FOR THE SAFETY OF LIFE AT SEA".

The International Conference on "Safety of Life at Sea" which met in London, in January, 1914, made the following recommendations, but no further action has been taken:—

"The attention of the Governments which have adopted the Regulations for the preventing of Collisions at Sea should be drawn to the necessity of revising these regulations, and in particular as regards:—

1. The lights of sailing ships;
2. The signals intended to indicate the course of a ship in fog;
3. Regulations relating to warships navigating without lights;
4. Navigation in the neighbourhood of warships;
5. Regulations relating to submarines;
6. The adaptation of lights and sound signals to the dimensions and speed of modern ships.

SIGNALS AVAILABLE FOR PORT SIGNALS, ETC.

The following are the signals as herein set apart, and to be displayed in vertical line where more than one light is used.

- (1) By the "Regulations for Preventing Collisions at Sea":—
W (Pilot); *WW* (Towing or Fishing); *WWW* (Towing); *RR* (Not under Control); *RWR* (Laying Cable).
- (2) By International Agreement:
G and *GG* (Wreck-marking).
- (3) By proposed Storm-warning Signals, using the two-lamp night signals:
R; *G*; *RR*; *WW*; *RW*; *WR*; and *WRW*.
- (4) By other proposals of the International Hydrographic Bureau: *R* (Pilot); *RRR*, *GGG* and *RGR* (Entrance prohibited); *GW* and *WG* (Fishing nets), and *WWG* (Fishing Vessels).

This leaves, for port signals, *etc.*, using 2 lamps only, *RG* and *GR*, but the other two-lamp signals may be displayed horizontally, and also leaves the following three-lamp or three-character signals: *RRG*; *RRW*; *RGG*; *RWW*; *GRR*; *GRG*; *GGR*; *GGW*; *GWG*; *GWW*; *WRR*; *WGG*; *WGW*; and *WWR*.

