

PROCEEDINGS OF THE MERCHANT MARINE COUNCIL UNITED STATES COAST GUARD

The printing of this publication has been approved by the Director of the Bureau of the Budget, March 11, 1952.

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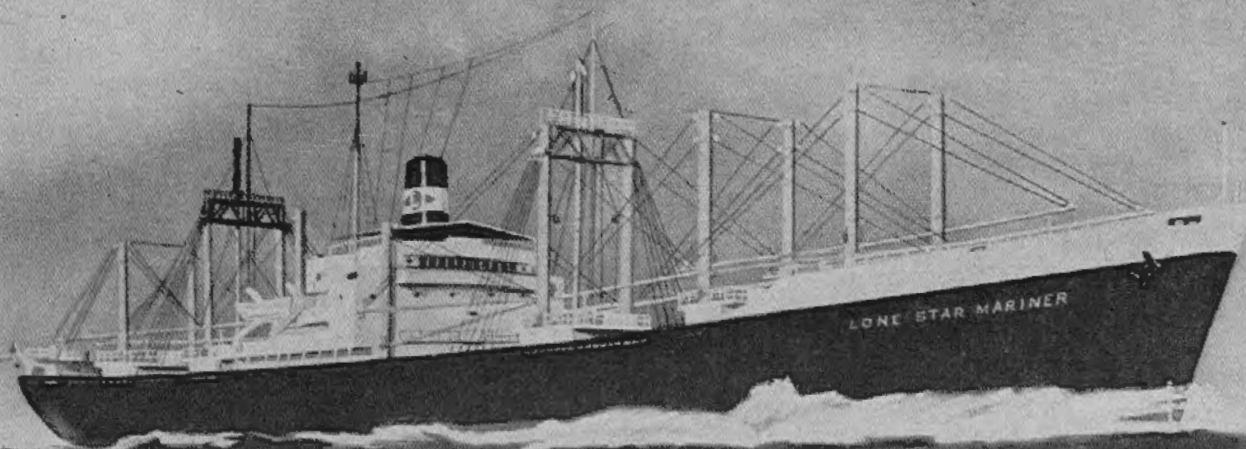
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FRONT COVER

The SS *Lone Star Mariner* built by the Ingalls Shipbuilding Corporation is shown on its first speed trial. The *Lone Star Mariner* was named after the Lone Star State (Texas). Particulars are: Length between perpendiculars, 528 feet; beam, 76 feet; load draft, 28 feet 10 inches; deadweight approximately 13,400 tons; normal shaft horsepower, 17,500.

NAVY RELEASES RADAR PLOTTER TO MERCHANT VESSELS

The United States Navy has released for merchant marine use a plastic maneuvering board that can be operated at the radar that is expected to help prevent collisions by reducing the time and work of evaluating radar information.

The maneuvering board was released in response to an appeal for its use by the United States Coast Guard.

Many ship collisions reported last year by the Coast Guard involved vessels equipped with radar. It has been pointed out by many sources that the majority of such collisions were caused by failure to interpret radar screens properly.

In many instances there is too much guessing about course changes when collisions are potential. In order to use the radar data intelligently a plot must be maintained on all pips as they appear on the radar screen.

The plastic, easily handled, maneuvering board will enable a navigator to maintain regular and continuous plottings of pips and to determine relative motion and true course and speed in a few seconds. Plots generally have been made on paperboards located in a chartroom and require the use of parallel rules, dividers, and logarithm tables.

The instrument is called Maneuvering Board Plastic Mark No. 1, Model O, and is manufactured by G. Felsenthal & Sons, Chicago, Ill.

The use of this plastic maneuvering board will not eliminate the necessity of a radar operator being grounded in the fundamentals of radar operation and the theory of evaluating radar information. Ship operators recognize the importance of schooling in radar and are encouraging their officers to attend the various radar schools now open to them.

RADAR AND RULES OF THE ROAD

By this time, 9 years after the end of World War II, navigators should have no illusions as to any mystical powers possessed by radar. It is now generally accepted that radar cannot avoid collision—it can only supply information which can help the navigator avoid collision.

Since 1950, when the radar became standard equipment aboard most merchant ships, there have been countless collisions involving ships so equipped. Lloyds of London's annual reports of ship casualties list 6,110 ships of over 500 gross tons involved in collisions since 1950. The number equipped with radar is not given but presumably it is a substantial number. Included in the foregoing statistics are several serious cases of collisions involving American Flag vessels where both ships were equipped with radar. These are as follows:

SS MARY LUCKENBACH USNS BENEVOLENCE

21 September 1950, San Francisco Bay
USNS BENEVOLENCE sunk, 23 persons lost

SS ESSO SUEZ SS ESSO GREENBORO

20 April 1951, Gulf of Mexico
Extensive damage to both vessels, 39 persons dead

SS HAWAIIAN RANCHER

SS FERNSTREAM (Norwegian)
11 December 1952, San Francisco Bay
SS FERNSTREAM sunk, no lives lost

USNS HAITI VICTORY

SS DUKE OF YORK (British)
6 May 1953, English Channel
SS DUKE OF YORK sunk, 7 persons lost

SS HAWAIIAN PILOT SS JACOB LUCKENBACH

14 July 1953, Pacific Coast
SS JACOB LUCKENBACH sunk, no lives lost

SS ATLANTIC DEALER SS ATLANTIC ENGINEER

30 December 1953, Delaware River
Extensive damage to both vessels, 9 persons dead

It is not to be construed that the value of radar to shipping as a whole is being minimized. To the contrary—for one thing this aid to navigation has practically eliminated strandings. It is in the collision type of accident that radar seems to serve, in some cases, as a contributing cause instead of a preventive measure. Official reports of collision investigations show that invariably the Rules

of the Road, specifically Rule 16, was ignored.

Rule 16. (a) Every vessel, or seaplane when taxiing on the water, shall, in fog, mist, falling snow, heavy rainstorms or any other condition similarly restricting visibility go at a moderate speed, having careful regard to the existing circumstances and conditions.

(b) A power-driven vessel hearing, apparently forward of her beam, the fog-signal of a vessel the position of which is not ascertained, shall, so far as the circumstances of the case admit, stop her engines, and then navigate with caution until danger of collision is over.

Sole reliance generally was placed on the radar and the navigator's skill in maneuvering his vessel, with the result that collision occurred.

Recently, the judge in a British Admiralty Court, having considered a collision case SS THORSHOVDI—SS ANNA SALEN involving two ships equipped with radar, held both vessels equally at fault and made this gratuitous observation: "It is a melancholy reflection that the collision probably would not have happened if the ships had not been fitted with radar." This case serves to illustrate the fact that such navigational aids

increase safety only if intelligently used.

There can be no place for second guesses when two ships are on a collision course at full speed in the fog. It is no time for the navigator to be speculating as to the meaning of the radar scope information; and while he is interpreting this information there can be only one way to navigate and that is "to navigate with caution" in accordance with Rule 16.

Some navigators appear to interpret this important rule as not requiring strict compliance until a fog whistle is actually heard. That is a gross misinterpretation of the rule. While radar does alert the navigator to the presence of another vessel forward of her beam, and does ascertain the position, one observation does not inform the navigator as to the other vessel's course or speed, although information as to course and speed might be readily apparent from just one visual observation. It is true that a plot developed from radar information will give the course and speed. Such a plot, however, requires at the minimum several pip observations. Since two ships each making 15 knots close at the rate of one thousand yards a minute, the prudent navigator will navigate with caution, in compliance with Rule 16, immedi-

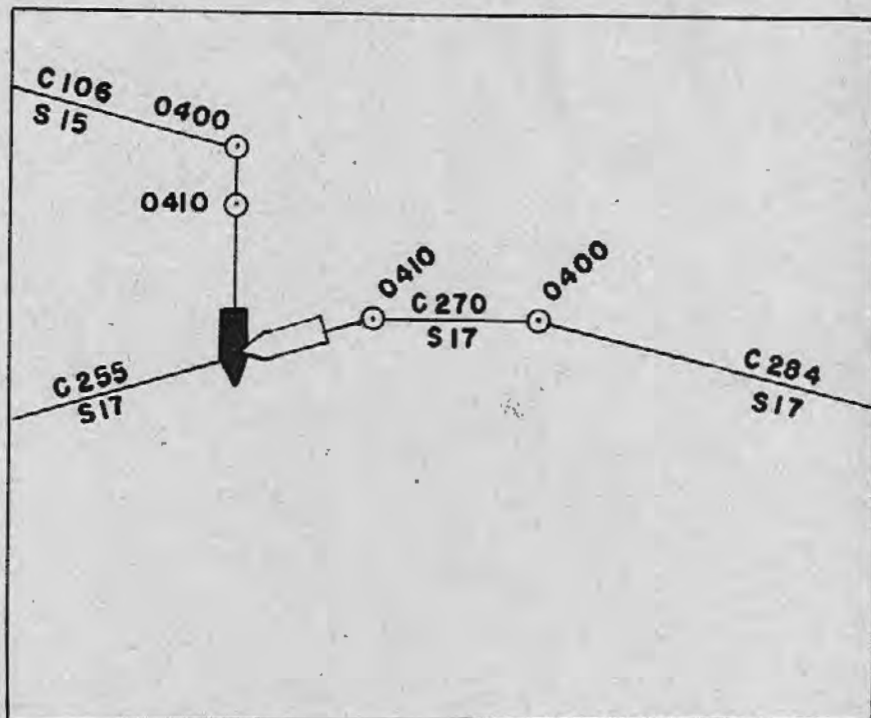


Figure 1

ately upon observing a radar pip.

It is true that the situation will arise where a vessel equipped with radar is required to comply with Rule 16 long before a vessel not so equipped would be legally compelled to comply. This inequity, if it can be called such, is in the interest of safety. The prudent navigator will abide by this Rule. To date the Admiralty Courts have evidenced no indication that they intend to find a radar-equipped vessel less at fault for failure to comply with Rule 16. This judicial atmosphere, when considered with the fact that it took approximately 70 years to modify the International Rules of the Road, would indicate that it may be quite a few voyages before there is any modification of the Rules because of the advent of radar. Accordingly, it behooves the navigator to conform to the pre-

scribed Rules rather than to interpret them to his own satisfaction.

In connection with this, the following statement is quoted from the International Conference on Safety of Life at Sea, 1948:

The Conference, while recognizing that the recent advances in radar and electronic navigational aids are of great service to shipping, is of the opinion that the possession of any such device in no way relieves the master of a ship from his obligation strictly to observe the requirements laid down in the International Regulations for Preventing Collisions at Sea, and in particular, the obligations contained in Articles 15 and 16 of those Regulations.

The following report of a collision investigation concerns two vessels both equipped with radar. This case vividly illustrates the possible result

when Rule 16 is ignored:

Early one morning in 1951, a tanker was proceeding in ballast in the Gulf of Mexico bound for Arkansas, Texas.

At 0330 while on a course of 284 degrees true and making full speed of 17 knots, she entered a heavy fog bank. The watch officer, having called the master, turned on the radar and commenced manually blowing fog signals; but he did not reduce the speed of the vessel or ring the engine telegraph.

At 0335, the master assumed the conn, looked at the radar scope which was set on the 8-mile scale, put the engines on standby, but did not order any change in the speed.

At about 0400, the master observed a pip on the scope which he interpreted as another ship bearing approximately 2 points on the starboard bow at a distance of 6 miles. (See Figure 1)

He accordingly ordered a change of course from 284 to 270 degrees true in order to effect a starboard to starboard passing. It will be noted that this action was taken without any attempt to ascertain the course or speed of the other vessel. All the master knew was her bearing and distance off.

By 0410, visibility had decreased and the master again examined the radar scope. The pip this time was bearing approximately 4 points on the starboard bow at a distance of 3 miles. He again altered course to the left to 260° and then to 250°. He still did not know the course of the other vessel and his ship's speed remained at 17 knots, or 1,700 feet per minute.

Suddenly at 0412, with no warning fog signal, the watch officer sighted the red side light and white light of the other ship about 500 feet off the starboard bow, bearing 15° relative. The master immediately ordered hard left-rudder and rang up stop on the engine telegraph.

Less than a minute later the bow of the tanker slashed through the port side of the other ship at an angle of approximately 90 degrees. The ensuing fires which broke out on both vessels resulted in the loss of many lives and extensive damage. (See Figures 2 and 3.)

There were no witnesses alive to testify as to the course and speed of the other ship but it was determined that at 0200 she was on a course of 106° making 15 knots. There was evidence to indicate that, at about 0410, she commenced avoiding action by changing course to her starboard.

An analysis of the aforementioned report indicates that the two vessels were on a collision course from the time of the first sighting on the scope at 6 miles distance. It is quite pos-

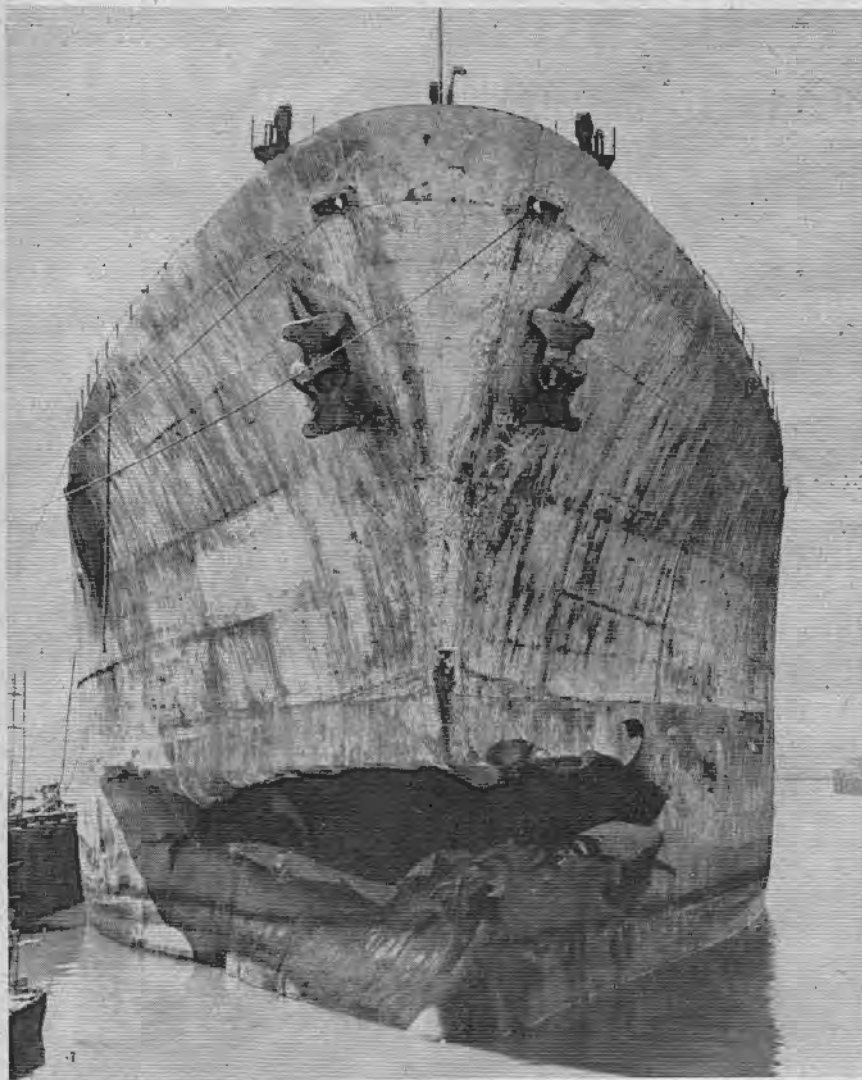


Figure 2



Figure 3

sible that the master of the tanker erroneously assumed the change in relative bearing at 0400 and 0410 indicated the bearing was opening when actually his 0400 change of course from 284° to 270° offset this apparent change in relative bearing.

In any event, here was a case where a radar-equipped vessel had knowledge of a vessel forward of the beam but did not comply with Rule 16, which resulted in a disaster.

For his failure to obey the Rules of the Road the master had his license revoked and was convicted in the U. S. District Court, District of New Jersey, on 9 February 1954 for violation of 18 U. S. C. 2196 and was sentenced to imprisonment for one year, sentence suspended on 6 months' probation.

There are several rules that could be drawn from this collision analysis, as follows:

1. When navigating in fog or low visibility, do not forget that one radar scope pip observation gives only the bearing and distance. You do not know the course, heading or speed of the target from one observation.

2. Do not fail to comply with Rule 16 in fog irrespective of available radar information.

3. Do not change your own ship's

course until you have determined the course of the target vessel.

4. Always assume the other vessel does not have radar and has no knowledge of your presence.

But perhaps they can best be summed up in one General Rule To AVOID COLLISION, USE YOUR RADAR IN CONJUNCTION WITH RATHER THAN IN LIEU OF RULES 15 AND 16 OF THE RULES OF THE ROAD.

SIDE LIGHTS ON THE RULES (1855)

By Thomas Gray

Both in safety and in doubt

Always keep a good lookout

In danger, with no room to turn,

Ease her!—Stop her!—Go astern!



If to your starboard Red appear,

It is your duty to keep clear;

To act as judgment says is proper—

To Port—or Starboard—Back—
or, Stop her!

But when upon your Port is seen

A Steamer's starboard light of
Green,

There's not so much for you to do,

For Green to port keeps clear of
you.



TRADITIONS OF THE SEA

The roll of American Seafarers who have performed their duties in an outstanding and meritorious manner in accordance with the highest traditions of the sea is long but never completed. One of the names which has a distinguished place on this roll is that of CAPTAIN RICHARD E. HOCKEN.

While serving as Master of the SS *Pipestone County*, his vessel experienced severe enemy action and as a result was torpedoed and sunk on 21 April 1942. Captain Hocken survived this torpedoing and returned to sea soon thereafter as Master of the SS *William Moultrie*.

On 25 July 1946, the President of the United States conferred the Merchant Marine Distinguished Service Medal on RICHARD E. HOCKEN, MASTER, in accordance with the following citation:

For distinguished service in the line of duty. His ship, SS *William Moultrie*, in a convoy which suffered heavy losses, fought through a week of continuous attacks by enemy bombers and submarines to deliver her cargo of war material to a North Russian port. In the course of the long running battle, the ship was directly attacked thirteen times and was credited with downing eight planes, and with scoring direct hits on twelve others. During the first attack on the convoy, the *Moultrie* distinguished herself by shooting down three torpedo planes and assisting in the destruction of six more. The following day her guns brought down four more of the attacking planes and damaged five. Later, after successfully repelling another attack by planes, four torpedoes were sighted headed for the stern of the *Moultrie*. The ship's guns fired upon them exploding one, and the other three were eluded by skillful seamanship.

Captain Hocken, Master of a gallant ship and a gallant crew, exhibited qualities of leadership and high courage in keeping with the finest traditions of the United States Merchant Marine.



Side Lights on the Rules

In this, the 15th article in the Side Lights on the Rules series, we shall continue the comparison of the International Rules with the corresponding provisions in the local rules applicable to Inland Waters, Western Rivers, and the Great Lakes by turning to Rule 18, International Rules, dealing with power-driven vessels meeting end on.

Rule 18, International Rules, states:

Rule 18. (a) When two power-driven vessels are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other. This Rule only applies to cases where vessels are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two vessels which must, if both keep on their respective courses, pass clear of each other. The only cases to which it does apply are when each of two vessels is end on, or nearly end on, to the other; in other words, to cases in which, by day, each vessel sees the masts of the other in a line, or nearly in a line, with her own; and by night, to cases in which each vessel is in such a position as to see both the sidelights of the other. It does not apply, by day, to cases in which a vessel sees another ahead crossing her own course; or, by night, to cases where the red light of one vessel is opposed to the red light of the other or where the green light of one vessel is opposed to the green light of the other or where a red light without a green light or a green light without a red light is seen ahead, or where both green and red lights are seen anywhere but ahead.

(b) For the purposes of this Rule and Rules 19 to 29 inclusive, except Rule 20 (b), a seaplane on the water shall be deemed to be a vessel, and the expression "power-driven vessel" shall be construed accordingly.

The meaning of the rule is more complete when considered in relation to Rule 28 (a), International Rules, which provides that:

Rule 28. (a) When vessels are in sight of one another, a power-driven vessel underway, in taking any course authorized or required by these Rules, shall indicate that course by the following signals on her whistle, namely:

One short blast to mean "I am altering my course to starboard."

Two short blasts to mean "I am altering my course to port."

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

Under the quoted wording of Rule 18, International Rules, it is clear that when risk of collision exists in this situation, each vessel must turn to the right, at least enough to render safe

a port-to-port passing, and when the necessary change in course is made, Rule 28 requires the one-blast signal. It is equally clear, in the language of the rule, that the mandate to change course does not apply if the present course of the two vessels will carry them well clear of each other. If the course is not changed, no whistle signal is authorized or permitted, the one-blast signal being a mandatory rudder signal and the new danger signal not being authorized in this situation. Should one vessel be in doubt as to whether holding on will give sufficient clearance and accordingly execute a little right rudder and give the one-blast signal, the other

IT IS SUGGESTED THE READER REFER TO CG-169, "RULES TO PREVENT COLLISIONS OF VESSELS AND PILOT RULES FOR CERTAIN INLAND WATERS OF THE ATLANTIC AND PACIFIC COASTS AND OF THE COAST OF THE GULF OF MEXICO;" CG-172, "PILOT RULES FOR THE GREAT LAKES AND THEIR CONNECTING AND TRIBUTARY WATERS AND THE ST. MARYS RIVER;" AND CG-184, "PILOT RULES FOR THE WESTERN RIVERS AND THE RED RIVER OF THE NORTH;" WHICH CONTAIN THE LOCAL RULES TO PREVENT COLLISIONS BETWEEN VESSELS ON THE LOCAL WATERS OF THE UNITED STATES. REFERENCES TO RULES AND ARTICLES THROUGHOUT THIS SERIES MAY BE FOUND THEREIN.

vessel then finding the clearance even more ample without change of course on her part, may lawfully hold her course. But if she does, she cannot use her whistle, since to do so would indicate an action which she is not taking. The practical risk of this apparent ignoring of the other vessel's signal is obvious, and may be avoided by the very simple expedient of keeping within the law by changing course a degree or two to the right and blowing one blast. The point to remember here is that there is legal fault if you use your whistle without at least a slight change in course.

The definition of the meeting situation in the rules applicable to Inland Waters is similar. However, there is an important difference in what each vessel in the meeting situation is to do. The vessels must pass port to port when they are meeting end on or nearly so. But, here, one of the vessels must sound a short distinct blast as a signal of intention to pass to port,

which must be answered by the other vessel with a like signal. A course change may or may not be necessary. Still an exchange of signals is necessary to show intention. Moreover, should the vessels be sufficiently to starboard to pass each other safely, intention of a starboard to starboard passage, without change of course, is provided by the exchange of two short blasts in a like manner.

Article 18 (Rule I), Inland Rules, and Section 80.4, Pilot Rules for Inland Waters, state:

Art. 18. Rule I. When steam vessels are approaching each other head and head, that is, end on, or nearly so, it shall be the duty of each to pass on the port side of the other; and either vessel shall give, as a signal of her intention, one short and distinct blast of her whistle, which the other vessel shall answer promptly by a similar blast of her whistle, and thereupon such vessels shall pass on the port side of each other. But if the courses of such vessels are so far on the starboard of each other as not to be considered as meeting head and head, either vessel shall immediately give two short and distinct blasts of her whistle, which the other vessel shall answer promptly by two similar blasts of her whistle, and they shall pass on the starboard side of each other.

The foregoing only applies to cases where vessels are meeting end on, or nearly end on, in such a manner as to involve risk of collision; in other words, to cases in which, by day, each vessel sees the masts of the other in a line, or nearly in a line, with her own, and by night to cases in which each vessel is in such a position as to see both the sidelights of the other.

It does not apply by day to cases in which a vessel sees another ahead crossing her own course, or by night to cases where the red light of one vessel is opposed to the red light of the other, or where the green light of one vessel is opposed to the green light of the other, or where a red light without a green light or a green light without a red light, is seen ahead, or where both green and red lights are seen anywhere but ahead.

80.4 Vessels approaching each other head and head, end on.—When steam vessels are approaching each other head and head, that is, end on, or nearly so, it shall be the duty of each to pass on the port side of the other; and either vessel shall give, as a signal of her intention one short and distinct blast of her whistle, which the other vessel shall answer promptly by a similar blast of her whistle, and thereupon such vessels shall pass on the port side of each other. But if the courses of such vessels are so far on the starboard of each other as not to be considered as meeting head and head, either vessel shall immediately give two short and distinct blasts of her

whistle, which the other vessel shall answer promptly by two similar blasts of her whistle, and they shall pass on the starboard side of each other.

The foregoing only applies to cases where vessels are meeting end on or nearly end on, in such a manner as to involve risk of collision; in other words, to cases in which, by day, each vessel sees the masts of the other in a line, or nearly in a line, with her own, and by night to cases in which each vessel is in such a position as to see both the side lights of the other.

It does not apply by day to cases in which a vessel sees another ahead crossing her own course, or by night to cases where the red light of one vessel is opposed to the red light of the other, or where the green light of one vessel is opposed to the green light of the other, or where a red light without a green light or a green light without a red light is seen ahead, or where both green and red lights are seen anywhere but ahead. (Former Pilot Rule IV.)

These signals are required to be given when the vessels are in sight of each other and passing within one-half mile of each other, as provided in Article 18 (Rule IX), Inland Rules, and Section 80.3, Pilot Rules for Inland Waters:

Art. 18, Rule IX. The whistle signals provided in the rules under this article, for steam vessels meeting, passing, or overtaking, are never to be used except when steamers are in sight of each other, and the course and position of each can be determined in the day time by a sight of the vessel itself, or by night by seeing its signal lights. In fog, mist, falling snow or heavy rain storms, when vessels can not see each other, fog signals only must be given.

80.3 Vessels passing each other.—The signals for passing, by the blowing of the whistle, shall be given and answered by pilots, in compliance with the rules in this part, not only when meeting "head and head," or nearly so, but at all times when the steam vessels are in sight of each other, when passing or meeting at a distance within half a mile of each other, and whether passing to the starboard or port.

The whistle signals provided in the rules in this part for steam vessels meeting, passing, or overtaking are never to be used except when steam vessels are in sight of each other, and the course and position of each can be determined in the daytime by a sight of the vessel itself, or by night by seeing its signal lights. In fog, mist, falling snow, or heavy rainstorms, when vessels cannot see each other, fog signals only must be given. (Former Pilot Rule III.)

Section 80.2, Pilot Rules for Inland Waters, prohibits the giving of cross signals, that is, the answering of one short blast with two, or vice versa:

80.2 Cross signals.—Steam vessels are forbidden to use what has become technically known among pilots as "cross signals," that is, answering one whistle with two, and answering two whistles with one. (Former Pilot Rule II.)

Should either vessel fail to understand the course or intention of the other, the vessel in doubt is required by Article 18 (Rule III), Inland Rules, and Section 80.1, Pilot Rules for Inland Waters, to sound the danger signal of four or more short, rapid blasts:

Art. 18. Rule III.

If, when steam vessels are approaching each other, either vessel fails to understand the course or intention of the other, from any cause, the vessel so in doubt shall immediately signify the same by giving several short and rapid blasts, not less than four, of the steam whistle.

80.1 Danger signal.—If, when steam vessels are approaching each other, either vessel fails to understand the course or intention of the other, from any cause, the vessel so in doubt shall immediately signify the same by giving several short and rapid blasts, not less than four, of the steam whistle, the danger signal. (Former Pilot Rule I.)

In the Western Rivers, the meeting situation is governed by still different requirements.

Two steam vessels meeting approximately end on are required to pass on the port side of each other—and to alter course to starboard sufficiently so that this can be done in safety—except when one vessel is ascending and the other descending a river. The maneuver requires an exchange of one-blast signals when the vessels are not less than one-half mile apart. Either vessel may blow the first signal. The other, however, is required to answer promptly. This mode of meeting is provided for in Rule Numbered 18 (a), Western Rivers Rules:

RULE NUMBERED 18. (a) When two steam vessels are meeting end on, or nearly end on, so as to involve risk of collision, except when one steam vessel is ascending and the other descending a river, it shall be the duty of each to pass on the port side of the other, and to alter course to starboard sufficiently so that this can be done in safety. This maneuver shall require an exchange of one-blast signals when the vessels are not less than one-half mile apart, and either vessel shall blow the first signal which the other shall promptly answer.

Under Rule Numbered 18 (b), Western Rivers Rules, a vessel descending a river has the option of choosing which side she shall pass an ascending vessel. The pilot of the ascending vessel is required to give the first signal for passing, but if the pilot of the descending vessel considers it dangerous to take the side indicated, he must sound the four or more short blast danger signal and follow that signal with the proper signal indicating the side on which he wishes to pass. Upon the giving of the danger signal, both vessels must stop their engines and back, if necessary, until signals for passing are given, an-

swered, and understood. One distinct blast of the whistle represents passage port to port. Two distinct blasts of the whistle represents passage starboard to starboard. The only time the pilot of the descending vessel may blow the first signal is when the ascending vessel has approached within one-half mile without blowing either the one- or two-blast signal. But even then, the pilot of the descending vessel must give the danger signal before giving the passing signal. In all instances, passing signals must be answered.

Rule Numbered 18 (b), Western Rivers Rules, states:

Rule Numbered 18 (b) When an ascending steam vessel is approaching a descending steam vessel on a river, the signals for passing shall be one distinct blast of the whistle by each vessel if passing port to port, and two distinct blasts of the whistle if passing starboard to starboard.

The pilot of the ascending steam vessel shall give the first signal for passing, which shall promptly be answered by the same signal by the pilot of the descending steam vessel, if safe to do so, and both shall be governed accordingly; but if the pilot of the descending steam vessel deems it dangerous to take the side indicated by the ascending steam vessel, he shall immediately signify that fact by sounding four or more short and rapid blasts, the danger signal, and it shall be the duty of the pilot of the ascending steam vessel to answer by a similar danger signal and the engines of both shall immediately be stopped and backed, if necessary, until signals for passing are given, answered, and understood. After sounding the danger signal by both vessels, the pilot of the descending steam vessel shall indicate by his whistle the side on which he desires to pass, and the pilot of the ascending steam vessel shall govern himself accordingly, the descending steam vessel being entitled to the right-of-way.

The pilot of the descending steam vessel shall not blow the first signal, except that if the other vessel has not whistled when the steam vessels, or the forward end of their tows, if being pushed ahead, are within one-half mile of each other, he shall blow the first danger signal, which shall be promptly answered by a danger signal by the ascending vessel; but whether answered or not, the pilot of the descending vessel shall indicate the side on which he desires to pass, and both vessels shall be governed accordingly.

The one- and two-blast signals are signals of intention, as in inland waters. Section 95.21, Pilot Rules for the Western Rivers, requires them to be given visually, as well as on the whistle:

95.21 Visual signal.—All whistle signals shall be further indicated by a visual signal consisting of an amber colored light so located as to be visible all around the horizon for a distance of not less than one mile. This light shall be so devised that it will operate simultaneously and in

conjunction with the whistle sounding mechanism, and remain ignited or visible during the same period as the sound signal: *Provided*, That the installation, use, or employment of the amber visual signal required by this section shall be optional in the case of (a) vessels operating upon the Gulf Intracoastal Waterway; (b) vessels operating on the Mississippi River below mile 237 AHP (Belmont Landing) as set forth in map No. 40, "Maps of the Mississippi River, Cairo, Illinois, to the Gulf of Mexico, Louisiana (1944 ed.)," published by the Mississippi River Commission; (c) newly constructed vessels while en route from point of construction to a point in waters where the aforementioned amber visual signal is not required; (d) motorboats of class A and class 1; and (e) motorboats of class 2 and class 3 not engaged in trade or commerce.

Section 95.09, Pilot Rules for the Western Rivers, in turn, prohibits their misuse:

95.09 Danger and cross signals.—(a) The alarm or danger signal shall consist of four or more short and rapid blasts. Steam vessels are forbidden to use what has become technically known among pilots as "cross signals," that is, answering one whistle with two, and answering two whistles with one. In all cases and under all circumstances, a pilot receiving either of the whistle signals provided in the rules in this part with which for any reason, he deems it injudicious to comply, instead of answering it with a cross signal, shall at once observe the provisions of this section.

(b) The pilot of any steam vessel shall sound the alarm or danger signal whenever required by the law, or any of the regulations hereinafter contained; that is to say, as follows:

(1) Whenever it is dangerous to take the side indicated by the passing signal of another vessel; or,

(2) Whenever any steam vessel does not understand or is in doubt regarding the signal of another steam vessel; or,

(3) Whenever, from any cause, one steam vessel is imperiled by another.

Finally, Section 95.19, Pilot Rules for the Western Rivers, reiterates that the one- and two-blast signals must be exchanged before the vessels have approached within a half of a mile of each other:

95.19 Passing signals. — The passing signals, by the blowing of the whistle, shall be given and answered by pilots, in all weathers, when approaching each other; and, wherever possible, the signals shall be given and answered before the steam vessels, or if towboats pushing tows, the heads of such tows, have arrived at a distance of half a mile of each other.

It might be mentioned, however, that in the event the two vessels should meet while approaching a bridge span or draw from opposite directions, the foregoing procedure is modified slightly by Section 95.13, Pilot Rules for the Western Rivers:

95.13 Approaching bridge span or draw—(a) When two steam vessels are

approaching a bridge span or draw from opposite directions and the passing signals have been given and understood, should the pilot of the descending steam vessel deem it dangerous for the steam vessels to pass each other between the piers of such span or draw, he shall sound the alarm or danger signal and it shall then be the duty of the pilot of the ascending steam vessel to answer with a similar alarm signal, and to slow or stop his engines below such span or draw until the descending steam vessel shall have passed.

(b) If the ascending steam vessel is already in the bridge span or draw, and the descending steam vessel sounds the danger or alarm signal, it shall be the duty of the ascending steam vessel, if practicable, to drop below the bridge span or draw, and wait until the other steam vessel shall have passed.

Similarly, if the two vessels should approach a narrow channel from opposite directions, Section 95.11, Pilot Rules for the Western Rivers, requires the ascending vessel to assist the descending vessel in a safe passage:

95.11 Narrow channels.—When two steam vessels are about to enter a narrow channel at the same time, the ascending steam vessel shall be stopped below such channel until the descending steam vessel shall have passed through it; but should two steam vessels unavoidably meet in such narrow channel, then it shall be the duty of the pilot of the ascending steam vessel to make the proper signals, and when answered, the ascending steam vessel shall lie as close as possible to the side of the channel and either stop the engines or move them so as to give the boat only steerageway; and the pilot of the descending steam vessel shall cause his steam vessel to be worked slowly until he has passed the ascending steam vessel.

In waters subject to Great Lakes Rules, meeting vessels are usually required to pass each other port to port unless they are so far to starboard of each other as not to be considered meeting end on, or nearly end on. In narrow channels where there is a current and in the Rivers Saint Mary, Saint Clair, Detroit, Niagara, and Saint Lawrence, however, the descending steam vessel has the right-of-way over an ascending steam vessel. Either vessel may blow the first signal, except in the case of a descending vessel in a narrow channel with a current or in one of the rivers listed above. In the latter instance, the pilot of the descending vessel must initiate the first signal to indicate the side on which he desires to pass. One distinct blast denotes a port-to-port passage. Two distinct blasts denote a starboard-to-starboard passage. As in Inland Waters and the Western Rivers, the signals are signals of intent, and must be given and answered before the vessels approach within one-half mile of each other.

Rules 17 and 24, Great Lakes Rules, describe the basic requirements for two steam vessels meeting approximately end on:

Rule 17. When two steam vessels are meeting end on, or nearly end on, so as to involve risk of collision each shall alter her course to starboard, so that each shall pass on the port side of the other.

Rule 24. That in all narrow channels where there is a current, and in the rivers Saint Mary, Saint Clair, Detroit, Niagara, and Saint Lawrence, when two steamers are meeting, the descending steamer shall have the right-of-way, and shall, before the vessels shall have arrived within the distance of one-half mile of each other, give the signal necessary to indicate which side she elects to take.

These requirements are clarified and amplified in Section 90.5, Pilot Rules for the Great Lakes:

90.5 Vessels approaching each other "head and head."—When steam vessels are meeting end on, or nearly end on, it shall be the duty of each steam vessel to pass on the port side of the other; and the pilot of either steam vessel may be first in determining to pursue this course, and thereupon shall give, as a signal of this intention, one distinct blast of his whistle, which the pilot of the other steam vessel shall answer promptly by a similar blast of his whistle, and thereupon such steam vessels shall pass on the port side of each other. But if the courses of such steam vessels are so far on the starboard of each other as not to be considered by pilots as meeting end on, or nearly end on, the pilot so first deciding shall immediately give two distinct blasts of his whistle, which the pilot of the other steam vessel shall answer promptly by two similar blasts of his whistle, and they shall pass on the starboard side of each other: *Provided, however*, That in all narrow channels where there is a current, and in the rivers St. Mary, St. Clair, Detroit, Niagara, and St. Lawrence, when two steam vessels are meeting, the descending steam vessel shall have the right of way and shall, before the vessels shall have arrived within the distance of half a mile of each other, give the signal necessary to indicate which side she elects to take.

Misuse of the one- and two-blast signals is prohibited by Rule 26, Great Lakes Rules, and Sections 90.2 and 90.3, Pilot Rules for the Great Lakes:

Rule 26. If the pilot of a steam vessel to which a passing signal is sounded deems it unsafe to accept and assent to said signal, he shall not sound a cross signal; but in that case, and in every case where the pilot of one steamer fails to understand the course or intention of an approaching steamer, whether from signals being given or answered erroneously, or from other causes, the pilot of such steamer so receiving the first passing signal, or the pilot so in doubt, shall sound several short and rapid blasts of the whistle; and if the vessels shall have approached within half a mile of each other both shall reduce their speed to bare steerageway, and, if necessary, stop and reverse.

90.2 Danger signal.—If, when steamers are approaching each other, the pilot of either vessel fails to understand the course or intention of the other, whether from signals being given or answered erroneously or from other causes, the pilot so in doubt shall immediately signify the same by giving the danger signal of several short and rapid blasts of the whistle not less than five; and if both vessels shall have approached within half a mile of each other, both shall be immediately slowed to a speed barely sufficient for steerageway, and, if necessary, stopped and reversed, until the proper signals are given, answered, and understood, or until the vessels shall have passed each other.

90.3 Cross signals.—Steam vessels are forbidden to use what has become technically known among pilots as "cross signals"—that is, answering one whistle with two, and answering two whistles with one. In all cases, and under all circumstances, a pilot receiving either of the whistle signals provided in the rules in this part, which for any reason he deems injudicious to comply with, instead of answering it with a cross signal, shall at once sound the danger signal and observe the rule applying thereto (§ 90.2).

Section 90.4, Pilot Rules for the Great Lakes, on the other hand, requires the one- and two-blast signals to be given before the vessels approach within half a mile of each other:

90.4 Vessels passing each other.—The whistle signals indicating course shall be given and answered in accordance with the rules not only when an alteration of course is required, but at all times before vessels approach within half a mile of each other, from whatever direction, if their courses will bring them within that distance from each other.

As will be seen in the next issue, equally complex differences face power-driven vessels in the crossing situation.



Courtesy Maritime Reporter



nautical queries

DECK

Q. How often and under what conditions must a ship's register be renewed?

A. The register is good until the status of the vessel is changed, such as when lost, abandoned, or sold.

Q. How may a person protect himself if it becomes necessary to enter a compartment where a fire has just been extinguished with the aid of carbon dioxide?

A. Such an area should be entered only by persons protected by the use of a fresh air hose apparatus or oxygen breathing apparatus until the space can be thoroughly ventilated. The canister-type mask should not be used under such circumstances.

Q. Why should fuel-oil tank vents be covered with wire gauze?

A. Fuel-oil vents should be covered with wire gauze to prevent fire from entering fuel tanks. In other words, the gas being thrown off from the fuel-oil tank opening will burn externally if ignited but the flame will not enter through the screen into the tank.

Q. If the flame safety lamp goes out in a compartment while the person carrying the lamp is wearing a gas mask, what should he do?

A. Under such circumstances, this person should leave the compartment at once as a deficiency of oxygen is indicated.

Q. What amount of fuel should be used in each filling of the flame safety lamp?

A. Only that amount of fuel which will be absorbed by the cotton waste in the base of the lamp should be used in each filling of the flame safety lamp.

Q. How do you club-haul a ship?

A. Club-hauling is practiced when it is expected that a ship will refuse stays upon a lee shore. To execute it, bend a hawser from the lee quarter to a kedge-anchor, prepared for letting go from the lee bow; now place the hands to their stations for putting the ship about, and let hands stand by the anchor; then put the helm down, and should the ship make a stand before she brings the wind ahead, let go the anchor and haul the mainsail. When the wind is ahead, cut the hawser, and the ship will cast the way required. The after sails full, let go and haul.

ENGINE

Q. What does the term "flash point" mean?

A. The term "flash point" indicates the temperature in degrees Fahrenheit at which a certain liquid gives off an inflammable vapor when heated in an open-cup tester.

Q. Why is the high pressure cut-out switch installed on Freon-12 compressors?

A. The high pressure cut-out switch is installed to stop the compressor before dangerous pressures can be built up in the event that the condenser cooling water is shut off or the compressor is started with the discharge valve closed. This high pressure cut-out switch should be set to cut out at approximately 150 pounds per square inch gage.

Q. How is the gas content of a carbon dioxide fire extinguisher determined?

A. The gas content of such extinguishers may be determined by weighing the cylinder (15 pounds for a 2½-gallon extinguisher). If more than 10 percent under its required weight, the cylinder must be recharged.

Q. Describe the operation of the electric waterlight.

A. The electric waterlight hangs upside down in its bracket until it is thrown overboard. A weight in the bottom then turns it right side up and a gravity switch automatically completes the circuit, turning the light on.

Q. What protection should be afforded personnel entering an oil tank which may be filled with gas vapors?

A. Personnel entering such areas are afforded maximum protection when using a fresh air breathing apparatus and a lifeline with two men in attendance on deck.

Q. What is the purpose of fumigation?

A. The purpose of fumigation is to disinfect after infectious disease or to destroy vermin. Before starting to fumigate, however, a check should be made to see that all personnel have left the vessel.



LESSONS FROM CASUALTIES

BLUE CHRISTMAS

It was three days before Christmas. The seven men in the clean-up gang on the barge went busily about their task of preparing her for a "clean" cargo, scraping, shovelling, wiping, hoisting, and climbing, each man preoccupied with thoughts of the happy holiday which was just around the corner. At 9:42 a. m. the foreman left to go to the plant storeroom for additional cleaning rags. At 9:45 a. m. there was an ear-shattering blast! Large sections of steel, structural parts, electrical wires, cleaning gear, and men's bodies flew through the air. When the smoke had cleared, Christmas was forever gone for 6 men, and but a sorrowful memory for 5 widows and 6 children.

The 726-ton tank barge had arrived at the yard December 20th with a load of low pressure distillate, a highly volatile inflammable product with a flash point of less than 50° F. After unloading, orders were passed to clean out all tanks, 8 in number, and prepare for a cargo of menthol. The cleaning process consisted of removing all residue of the previous cargo by means of wiping down the tanks with rags, scooping up all accumulated sludge, scale, and product with metallic scoops, and hoisting such accumulation from the tanks by means

of wooden hand buckets. Upon removal from the cargo tanks, all residue was deposited in large steel boxes on deck for later removal from the barge by power crane. Before the clean-out gang boarded the barge, certain precautions were taken.

It seems that this load of low pressure distillate, which is often cut with light hydrocarbons and used as jet fuel, was the first such cargo to be handled at this yard, at least for several years. Nobody connected with the unloading or stripping-cleaning process seemed to know exactly what the product was or what precautions were required. The services of two industrial chemists were obtained. Without making any chemical analysis, the chemists decided that the product looked and smelled like kerosene or a mixture of kerosene and diesel oil and that the smell also somewhat resembled gasoline. Wisely, they decided to treat the product and take all precautions indicated as if it were gasoline. This information was passed on to the cleaning gang and they undertook normal precautions necessary for working with a dangerous product involving explosive hazards. Men working down in the tanks wore air line respirators of a type designed to guard against asphyxiation due to lack of oxygen or inhalation of toxic petroleum vapors.

These respirators consisted of close-fitting face masks supplied with air by means of rubber hoses through an air manifold on the deck of the barge and through one or more reducing valves. No smoking or open flames were permitted on or near the barge. Portable electric lights used in the tanks were installed by the yard electricians using explosion-proof lights, wiring, and receptacles, the lighting receptacle stand being installed temporarily on deck. All lighting equipment was grounded by a 3rd wire conductor to the shore.

Nevertheless, there were several weak points in the safety standards employed for working with explosive hazards. While yard standards called for the use of aluminum non-sparking scoops by the clean-up gang, at least one galvanized steel scoop was used. Some of the men were wearing ordinary working shoes which probably contained steel nails. The portable drop lights were not secured carefully in place while in use but the cords were merely draped over convenient angle irons where they could be easily dislodged. No attempts were made to gas free any of the compartments of the barge following the discharge of cargo and before sludge and scale cleaning operations were begun. Coast Guard regulations require compartments of any tank vessel or tank barge to be certified as safe by a qualified and certified gas chemist or other qualified and authorized person whenever riveting, welding, burning, or like fire-producing operations ("hot" work) are to be undertaken within or on the boundaries of such bulk liquid cargo spaces or spaces adjacent thereto. The regulations do not specifically require any such formal "gas free" certification to be made prior to any activity in or near cargo which involves no "hot" work. Such a requirement, while desirable from the over-all standpoint of safety, would be awkward and impractical, overburdensome almost to the point of frustration, and almost impossible to enforce due to the many thousands of such situations occurring daily throughout the country. In the above case gas freeing of the cargo compartments was not required and, in any event, the circumstances obtaining at the time of the explosion would necessarily be preliminary to the attainment of a gas free condition. The cleaning out and removal of sludge and residue at the bottom of cargo tanks is a part of the process of gas freeing.

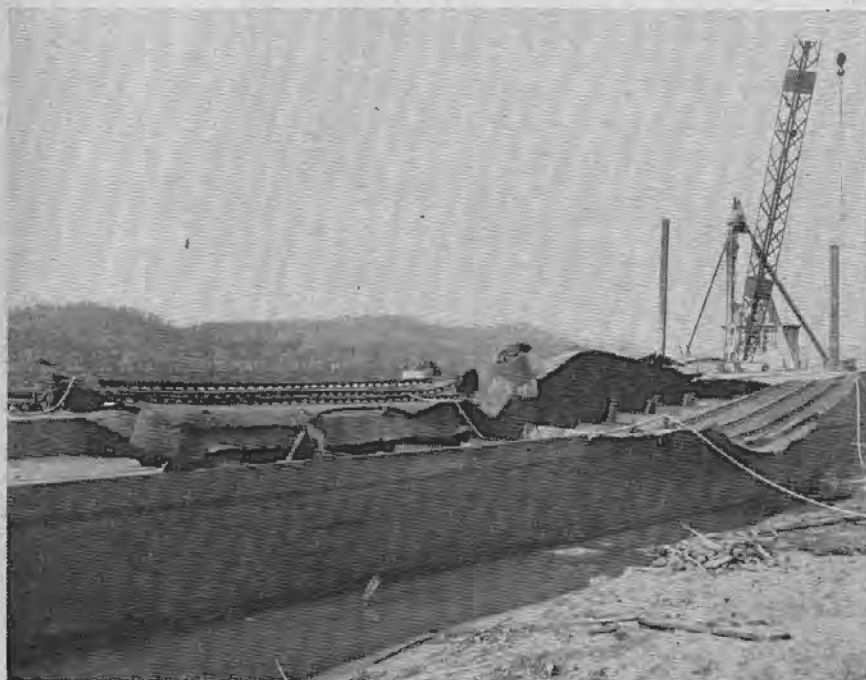


Figure 4

Cleaning operations were begun the morning of December 21 and continued on the following morning. Number 3 tanks, port and starboard, and Number 4 tanks, port and starboard had been completed. Work was underway on tanks Number 1 and 2, starboard. Two men were in Number 2 starboard wearing the air respirator masks and engaged in scooping sludge into the wooden buckets. A third man stood at the edge of the cargo hatch to tend the air lines to the masks and to hoist the wooden sludge buckets as they were filled. Two men were preparing to enter Number 1 starboard with the sixth member of the gang standing by to tend their lines. The foreman of the gang departed to go for additional rags. All hatches were open. Four compartments were completed. No compressed air was flowing except to the respirator masks in use. No pumps or motors were running aboard the barge. All seemed normal.

At 9:45 a. m. without warning, the barge trembled and there were two devastating explosions almost simultaneously. All six men of the cleaning gang were killed so it was impossible to ascertain any of the last minute details of exactly what each man was doing, moving, or touching, when ignition occurred. Bodies of the two men cleaning in Number 2 starboard were found in that tank. One body was found on the main deck near Number 1 hatch, pinned beneath one of the heavy steel sludge boxes. Three bodies were later recovered from the river by dragging. Examination of the barge and analysis of the evidence indicated that the first explosion occurred in Number 1 starboard. A second explosion or group of explosions immediately occurred in Number 1 port, Number 2 port and starboard, and Number 4 port. The deck of the barge was buckled upward as much as 4 feet in places (see fig. 4). A large section of deck plating and deck beams approximately 30 feet by 10 feet was blown from Number 3 starboard compartment approximately 200 feet up on the shore, striking a locomotive crane and concrete mixing truck with considerable damage (see fig. 5). A similar section from the deck over Number 2 port was blown several hundred feet out into the river. It was of small comfort to the families of the workmen to know that the explosion was so violent and destructive that the deceased undoubtedly died almost instantly.

The setting for the explosion was clear. Steel cargo tanks enclosing an air-vapor mixture from a highly volatile petroleum product provided the loaded gun and the ammunition. Po-



Figure 5

tential sources of ignition existing in or near the movements of the cleaning gang provided the primer for the explosion of the ammunition. But who pulled the trigger? The death of all eye-witnesses of the actual triggering rendered doubly difficult a true solution of the above question. Only the conclusion that ignition was provided by one of several logical circumstances could be made. The Marine Board of Investigation on this tragic casualty scrutinized 4 reasonable factors which could well have triggered the detonation. These were:

(a) The dropping and breaking of a portable electric light globe from a suspended position from which it could be easily dislodged.

(b) Ignition by flash fire of inflammable vapors from the tank barge which could have drifted down to the proximity of the steam boiler on a derrick barge which was moored to the bow on the downwind end of the tank barge.

(c) Friction sparks generated in the striking of the galvanized steel scoop against the barge.

(d) Friction sparks generated by metal in the shoes of the workmen striking the barge.

It was impossible to narrow the possibilities down to one potential source as more likely than the others. Since the cleaning was being performed by a group of experienced workmen all of whom had been employed by the company for several years, it is highly unlikely that the casualty was caused by any precipitate, careless or foolish act by one of them. More likely, the explosion was triggered by one of the

above-stated factors which had probably existed time and again on various cleaning jobs at that yard and which had become tolerated due to habit and usage. Unfortunately the slow dulling process in the awareness of explosive hazards had not been accompanied by any dulling of the explosive hazards themselves.

FLUKE ACCIDENT

Ever since the days of Jonah's memorable adventure, mariners have been blaming countless unexplainable misfortunes on whales. Captain Ahab, after losing his leg in the gaping maw of Moby Dick, spent his life in relentless pursuit of the great white marauder. Even in modern times, large ships have reported lost or damaged propellers caused by striking whales. Fishermen have blamed large mysterious rents in expensive nets on the depredations of whales. One fishing vessel, operating recently off the coast of Lower California, had good reason to remember its encounter with a whale. Neither the vessel nor the whale has been seen since.

Sailing from a port in southern California, the 42-foot fisherman cruised southward for the fishing grounds off Guadalupe Island, Mexico. The low-speed, heavy-duty diesel chugged along nicely at a steady speed of 8 knots, the crew of 3 men busy in preparation for the strenuous task of boating a load of mackerel. On the second night out, the master suggested that his two crew members turn in early for a good rest to be ready for fishing early the next morning. They went below to their quar-

ters, through the galley and down a short companionway. Putting the vessel on automatic steering, the master climbed to the top of the pilot-house to try and take a radio direction finder bearing on another vessel known to be located just south of Guadalupe Island.

Just as he picked up the radio microphone to call the other vessel, his own vessel suddenly took a mighty heave, the forward end rose about 2 feet, and the vessel capsized to port. The Master had only 2 or 3 seconds in which he shouted a name into the mike, and then he was thrown into the drink.

Luckily there was a pleasure cruiser only about a half mile distant and, even more luckily, the operator of the cruiser was alert. He related later how he had noticed the fishing vessel's port side light, masthead light, and starboard side light disappear, in that order, from sight. Taking alarm, he immediately headed in the direction in which he had seen the lights doused, and began to search for survivors. Within minutes, the master had been pulled from the water, drenched and shivering but alive and safe. There was no sign of the fishing vessel, nor, sadly enough, of the two crew members who had turned in below and must now be presumed to have gone to a watery grave. On the following morning a Coast Guard seaplane from the San Diego air station made an offshore landing and removed the master for hospitalization ashore, where he made a rapid recovery.

The fishing vessel was equipped with an automatic electric bilge alarm which was in good working order and adjusted to sound an alarm when water in the bilges reached a depth of 3 inches. The alarm did not sound before the casualty. There had been no unusual sound from or near the vessel before, during, or immediately after the casualty. No smoke, flame, explosion, or flash was detected, nor was there any jar or impact. The only possible logical explanation for the disastrous upheaval was that a large whale had surfaced directly under or almost under the vessel, resulting in its destruction. Whether the perfect aim of the whale was by accident or by design could only be left to surmise as the whale apparently took one look at the havoc it had created and departed immediately for parts unknown, presumably with a backache. Many whales had been seen in the vicinity of Guadalupe Island and near-misses had occurred.

It is difficult to draw any moral or "lesson" from such a disaster as this. Until the day arrives when whales can be trained to observe the Rules of the Road, blow whistle signals, or

at least carry a radar reflector, the only advice of value to seamen on small vessels is to be especially alert on fishing grounds known to be frequented by whales. Steering by hand in such areas would give at least half a chance to make a quick turn to avoid a sudden-rising whale, whereas operation on automatic pilot in such an event might delay the turn until too late. Better to veer sharply away and try to convince your friends later about the size of the one that got away, than to suffer the consequences of being whaled. You may not live to tell such a whale of a tale.

TOWING DISABLED VESSELS

The Commandant, U. S. Coast Guard, in replying to a District Commander's recent query regarding Coast Guard policy concerning the towage of disabled vessels, stated in substance as follows:

"In the promotion of maritime safety on and over the high seas and waters subject to the jurisdiction of the United States, it is the Coast Guard's policy to render all practicable assistance to those who follow the sea whenever the Coast Guard can reasonably do so. However, in those cases where there is obviously no distress or emergency, the Coast Guard does not desire to compete with private enterprise which stands in a position to render prompt and efficient service—provided such action would not unduly jeopardize life or property.

"It is desired that the District, upon receipt of information that a vessel or person is in distress or potential distress, send a Coast Guard vessel or aircraft, as appropriate, to the scene when available to render assistance appropriate to the situation. Types of assistance that are considered appropriate include but are not limited to the following:

"a. Technical assistance furnished on the spot.

"b. Miscellaneous supplies furnished for the purpose of affecting a temporary repair on the spot.

"c. Towage to the nearest port in which emergency repairs can be made.

"Towing to the nearest port does not imply that the port must have complete facilities to perform permanent repair work. Nor does it imply that the Coast Guard should tow the vessel to the repair yard itself. Normally, in a port where commercial towage is available, the Coast Guard will have discharged its responsibility when the distressed vessel is brought to a safe anchorage.

"Although the Coast Guard will not compete or interfere with private towing activities or other commercial

enterprise, the Coast Guard cannot rely upon private enterprise to render assistance in low-order cases and itself act only when extreme jeopardy exists. Even though reliable information is received that a tug or other private assistance is proceeding to the scene, there is no assurance that it will complete the mission until such assistance is known to be on the scene and to have the situation in hand. Until then it is incumbent upon the Coast Guard to have its units proceed toward the scene. When information received after the initial report is of such nature that it is evident that distress did not exist or no longer exists, those units ordered to the scene can be recalled.

"If, upon arrival at the scene, the Coast Guard finds private enterprise is already there and is rendering assistance or is willing to render assistance, it shall not interfere with the private activity, unless upon appeal from the person in charge of the craft requiring assistance it is determined that the demands made upon him are unreasonable.

"If it becomes apparent that private enterprise cannot cope with the situation and that action by the Coast Guard is necessary to prevent loss of life or property, such action shall be taken.

"If a Coast Guard unit is rendering assistance, and private assistance arrives on the scene, the Coast Guard will turn the case over to the private operator if:

- (1) He desires to accept it.
- (2) His demands on the vessel requiring assistance are reasonable.
- (3) The character of assistance he can render is adequate.

"If there is a doubt of the capability of the private operator to render adequate service, the Coast Guard unit will stand by until it is apparent that no further assistance is required. Actual refusal to release the distressed vessel to a private operator whose facilities are deemed inadequate will only be done after careful consideration.

"The difficulties in distinguishing the genuine distress case requiring Coast Guard assistance from the non-genuine when the information at hand is incomplete are appreciated. Also appreciated is the problem of combating unwarranted requests for Coast Guard assistance. Publicity may be given to this problem through available public information media as a means of educating the vessel operators and owners as to the Coast Guard's responsibility and policy. Also, cooperation of the operators of fishing boats may possibly be obtained through associations."

APPENDIX

AMENDMENTS TO REGULATIONS

[EDITOR'S NOTE.—The material contained herein has been condensed due to space limitations. Copies of the Federal Register containing the material referred to may be obtained from the Superintendent of Documents, Washington 25, D. C.]

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

Subchapter A—General

[CGFR 54-56]

PART 1—GENERAL PROVISIONS

SUBPART 1.05—RULE MAKING

HEARINGS BY MERCHANT MARINE COUNCIL

The amendment to 33 CFR 1.05-15 reduces the number of required hearings conducted by the Merchant Marine Council to one a year, which will be held in the month of March. The need for two regularly scheduled public hearings a year now seems to be unnecessary.

By virtue of the authority vested in me as Commandant, United States Coast Guard, the following amendment to § 1.05-15 is prescribed which shall become effective on and after the date of publication of this document in the FEDERAL REGISTER:

§ 1.05-15 *Hearings by Merchant Marine Council.* (a) The Merchant Marine Council conducts public hearings concerning proposed rules and regulations authorized by the navigation and vessel inspection laws and matters relating to type approvals of equipment, when meeting in a regular session in March, and at other times in special sessions when called by the Commandant, United States Coast Guard. Comments on the proposed regulations and other matters may be presented orally or in writing at the hearing or in writing before the hearing as specified in the notice of proposed rule making.

(b) Changes in regulations of an emergent nature will be considered by the Committee of the Council and hearings may or may not be held depending upon circumstances.

[F. R. Doc. 54-10260; Filed, Dec. 27, 1954; 8:51 a. m.]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

Subchapter N—Explosives or Other Dangerous Articles or Substances and Combustible Liquids on Board Vessels

[CGFR 54-52]

PART 146—TRANSPORTATION OR STORAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OR SUBSTANCES AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS

[Federal Register of Tuesday, December 14, 1954]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

[CGFR 54-46]

MISCELLANEOUS AMENDMENTS TO CHAPTER

A notice regarding proposed changes in the navigation and vessel inspection rules and regulations was published in the FEDERAL REGISTER dated August 20, 1954 (19 F. R. 5315-5319), as Items I to XXVII, inclusive, on the Agenda to be considered by the Merchant Marine Council, and a public hearing was held on September 21, 1954, at Washington, D. C.

Item III—Fog Gongs.

Item VIII—Marine Engineering Regulations and Material Specifications.

Item IX—Radio Apparatus in Lifeboats for Passenger Vessels.

Item X—Seagoing Barges.

Item XI—Unicellular Plastic Ring Life Buoys.

Item XII—Buoyant Cushions for Use on Uninspected Vessels.

Item XIII—Buoyant Vests for Use on Uninspected Motorboats.

Item XIV—Specification for Doors, Watertight, Sliding (and Door Controls).

Item XV—Public Nautical School Ships.

[Federal Register of Saturday, December 18, 1954]

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

Subchapter N—Explosives or Other Dangerous Articles or Substances and Combustible Liquids on Board Vessels

[CGFR 54-57]

PART 146—TRANSPORTATION OR STORAGE OF EXPLOSIVES OR OTHER DANGEROUS ARTICLES OR SUBSTANCES AND COMBUSTIBLE LIQUIDS ON BOARD VESSELS

PASSENGER-CARRYING VESSELS TRANSPORTING MILITARY SUPPLIES OR STORES OF A DANGEROUS NATURE

[Federal Register of Tuesday, December 28, 1954]

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 8-54

16 November 1954

Subj: Officers' Competency Certificates Convention, 1936, and R. S. 4438a, as amended (46 U. S. C. 224a); compliance with.

1. *Purpose.* The purpose of this circular is to invite attention to regulations published in the Federal Register dated 19 October 1954 (19 F. R. 6718), which amended the regulations published in the Federal Register dated 19 December 1953 (18 F. R. 8582), regarding compliance with the Officers' Competency Certificates Convention, 1936. The amended regulations have been designated 46 CFR 157.18-1 to 157.18-15, inclusive, the same as the previous regulations, and became effective on and after 19 October 1954.

2. *Circular canceled.* Navigation and Vessel Inspection Circular No. 12-53 is hereby canceled.

3. *Discussion.* The regulations published in the Federal Register dated 19 December 1953 (18 F. R. 8582), which became effective on and after 18 January 1954, provided that every master or person in charge of a vessel subject to the Officers' Competency Certificates Convention, 1936, or R. S. 4438a, as amended (46 U. S. C. 224a), shall file with the collector of customs a complete list of officers employed aboard the vessel upon application for final clearance for a foreign port or for an application for a permit to touch and trade. The application of these regulations to vessels of other countries which have ratified the Officers' Competency Certificates Convention, 1936, is no longer necessary because such countries have adequate measures to enforce the Convention insofar as vessels registered in their territories are concerned. Therefore, in accordance with the amended regulations published in the Federal Register dated 19 October 1954 (19 F. R. 6718), the Coast Guard will no longer require the master or person in charge of a foreign vessel subject to the Officers' Competency Certificates Convention, 1936, to file with the collector of customs a complete list of officers em-

ployed aboard the vessel. These regulations apply to all vessels however propelled, navigating on the high seas which are registered, enrolled and licensed, or licensed under the laws of the United States, whether permanently, temporarily or provisionally, including yachts enrolled and licensed, or licensed with the exception of (a) ships of war; (b) Government vessels, or vessels in the service of a public authority, which are not engaged in trade; (c) wooden ships of primitive build as dhows and junks; (d) unrigged vessels; or (e) all vessels of less than 200 gross tons.

4. *List of countries.* The Department of State has informed the Coast Guard that the following countries have ratified the Officers' Competency Certificates Convention, 1936:

Belgium	France
Brazil	Italy
Bulgaria	Mexico
Denmark	New Zealand
Egypt	Norway
Estonia	United States
Finland	

5. *Detention of vessel.* The Coast Guard District Commander, or the collector of customs, by written order served upon the master or person in charge of a vessel, may detain any United States vessel which he has reason to believe is not in compliance with the requirements of R. S. 4438a, as amended (46 U. S. C. 224a), until he is satisfied that all officers employed aboard such vessel, who are required to be licensed by the Coast Guard, are in possession of the required licenses.

6. *Right of appeal.* Whenever a vessel of the United States is detained, the master may appeal, within 5 days, to the Commandant, U. S.

Coast Guard, Washington, D. C., who may, after investigation, affirm, set aside, or modify the order of detention.

7. *Nature of evidence of compliance.* The master of any vessel of the United States subject to R. S. 4438a, as amended (46 U. S. C. 224a), shall, upon application for final clearance for a foreign port or upon application for a permit to touch and trade, file with the collector of customs a record on Form CG-710A listing the names of the master, chief engineer, and all deck and engineer officers in charge of watches, together with the serial number and description of the license held by each such officer. However, if the master of a vessel is required, under any other statute or regulation, to file with the collector of customs a list of his entire crew on Form CG-710A, this list will be considered as acceptable evidence of compliance with R. S. 4438a, as amended, provided a notation as to the serial number and description of the license held by the master, chief engineer, and each deck and engineer officer in charge of a watch is placed thereon.

8. *Action required.*

a. Effective immediately, the master of any vessel of the United States subject to the provisions of R. S. 4438a, as amended (46 U. S. C. 224a), shall file with the collector of customs the list referred to in paragraph 7 above as a condition to obtaining final clearance for a foreign port or a permit to touch and trade.

b. If a breach of the Officers' Competency Certificates Convention by any foreign vessel, which is registered in the territory of another member country which has ratified this convention, is found, the Coast Guard or the collector of customs will communicate with the consul of the member country in accordance with paragraph 3 of Article 5 of this Convention.

H. C. SHEPHEARD,
Rear Admiral, USCG,
Chief, Office of Merchant Marine
Safety
By direction of the Commandant.

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 7-54

1 November 1954.

Subj: Routing instructions; compliance with.

1. *Purpose.* The purpose of this circular is to revise and consolidate previous circulars relating to routing instructions for the Mediterranean and North East European coastal

areas, and to direct attention to a new Naval publication concerning dangerous areas in the Pacific.

2. *Directives superseded.* The information contained herein supersede the instructions contained in Navigation and Vessel Inspection Circular No. 76-46 and 74 which were previously canceled by Navigation and Vessel Inspection Circular No. 0-52.

3. *Discussion.* In Navigation and Vessel Inspection Circular No. 76-46 shipping commissioners were instructed when signing on the crew of a vessel bound for the Mediterranean or North East European coast to advise the master of the necessity for obtaining the latest edition of Mediterranean Routing Instructions (MEDRI) or North East European Coastal Routing Instructions (NECRI) and to call to the master's attention the contents of Navigation and Vessel Inspection Circular No. 74 regarding the penalties for failure to comply with routing instructions. Routing instructions for these areas are now contained in a single publication entitled "NEMEDRI" and attention of masters is directed to this publication in each weekly Notice to Mariners. The view has been expressed by the Chief of Naval Operations that sufficient publicity has been given to the existence of NEMEDRI through this means and that it is no longer necessary for Coast Guard field activities to bring it to the attention of masters. It was also pointed out by the Chief of Naval Operations that the Hydrographic Office is now distributing a new publication, H. O. Pub. 10, Danger Areas in the Pacific (DAPAC), which is similar in scope to NEMEDRI.

4. *Compliance with routing instructions.* Failure of any licensed master, officer, or certificated seaman to comply with routing instructions issued by proper authority shall be deemed misconduct within the meaning of R. S. 4450, as amended (46 U. S. C. 239), subjecting his license or merchant mariner's document, as the case may be, to suspension or revocation in addition to any other penalties provided by law.

5. *Action.* The action previously taken by shipping commissioners in connection with this matter will be discontinued immediately and the responsibility for being aware of the existence of NEMEDRI and DAPAC, as well as the penalties for failure to comply with routing instructions, will be that of the master of the vessel involved.

H. C. SHEPHEARD
Rear Admiral, USCG,
Chief, Office of Merchant
Marine Safety
By direction of the Commandant.



Courtesy Maritime Reporter

EQUIPMENT APPROVED BY THE COMMANDANT

[EDITOR'S NOTE.—Due to space limitations, it is not possible to publish the specification numbers, approval numbers and other descriptive data regarding approvals and termination of approvals as published in the Federal Register. Copies of the Federal Registers may be obtained from the Superintendent of Documents, Washington 25, D. C.]

United States Coast Guard

[CGFR 54-48]

APPROVAL OF EQUIPMENT

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order No. 120, dated July 31, 1950 (15 F. R. 6521), and in compliance with the authorities cited with each item of equipment:

LIFE PRESERVERS, CORK, ADULT AND CHILD (JACKET TYPE) (MODELS 32 AND 36)

BUOYANT CUSHIONS, KAPOK, STANDARD

NOTE: Approved for use on motorboats of Classes A, 1, or 2 not carrying passengers for hire.

BUOYANT CUSHIONS, NON-STANDARD

NOTE: Approved for use on motorboats of Classes A, 1, or 2 not carrying passengers for hire.

SIGNALS, DISTRESS, FLOATING ORANGE SMOKE

DAVITS, LIFEBOAT

LIFEBOATS

TELEPHONE SYSTEMS, SOUND POWERED

VALVES, SAFETY (POWER BOILERS)

FIRE EXTINGUISHERS, PORTABLE, HAND VAPORIZING LIQUID TYPE

FIRE EXTINGUISHERS, PORTABLE, HAND, SODA-ACID TYPE

FIRE EXTINGUISHERS, PORTABLE, HAND, WATER, CARTRIDGE-OPERATED TYPE

FIRE EXTINGUISHERS, PORTABLE, HAND, DRY-CHEMICAL TYPE

VALVES, SAFETY (STEAM HEATING BOILERS)

FLAME ARRESTERS, BACKFIRE (FOR CARBURETORS)

APPLIANCES, LIQUEFIED PETROLEUM GAS CONSUMING

INCOMBUSTIBLE MATERIALS

[CGFR 54-49]

TERMINATIONS OF APPROVALS OF EQUIPMENT

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Order No. 120, dated July 31, 1950 (15 F. R. 6521), and in compliance with the authorities cited below,

the following approvals of equipment are terminated because (1) the manufacturer is no longer in business; or (2) the manufacturer does not desire to retain the approval; or (3) the item is no longer being manufactured; or (4) the item of equipment no longer complies with present Coast Guard requirements; or (5) the approval has expired. Except for those approvals which have expired, all other terminations of approvals made by this document shall be made effective upon the thirty-first day after the date of publication of this document in the FEDERAL REGISTER. Notwithstanding this termination of approval of any item of equipment as listed in this document, such equipment in service may be continued in use so long as such equipment is in good and serviceable condition.

BUOYANT CUSHIONS, KAPOK, STANDARD

Termination of Approval No. 160.007/28/0, standard kapok buoyant cushion, U. S. C. G. Specification Subpart 160.007,

WINCHES, LIFEBOAT

SIGNALS, DISTRESS, HAND RED FLARE

SIGNALS, DISTRESS, FLOATING ORANGE SMOKE

LIFEBOATS

FIRE EXTINGUISHERS, PORTABLE, HAND, VAPORIZING LIQUID TYPE

VALVES, RELIEF (FOR HOT WATER HEATING BOILERS)

[Federal Register of Wednesday, December 8, 1954]

ACCEPTABLE COVERED STEEL ARC WELDING ELECTRODES

The following are additions to the list of electrodes which are acceptable to the United States Coast Guard for use in welded fabrications.

Distributor's and/or manufacturer's	Brand	AWS class	Operating positions and electrode sizes (inch)				
			$\frac{1}{16}$ and below	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$
Hollup Division, National Cylinder Gas Co., 4700 West 19th St., Chicago 50, Ill.	Sureweld CE	E6013	1	1	2	2	3
Smith Corp., A. O., Milwaukee 1, Wis.	SW-11	E6012	1	1	2	2	3
Babcock & Wilcox Co., The, 161 East 42d St., New York 17, N. Y.	B&W 13 ¹	E6013	1	1	2	2	3
Do.	B&W 20	E6020	2	2	2	2	3
Do.	R&W Croloy 1A (1 Cr.- $\frac{1}{4}$ Mo.)	E7015	1	2			
Do.	B&W 720 ² ($\frac{1}{2}$ Mo.)	E7020	2	2		2	3
Do.	B&W 75HT ($\frac{1}{2}$ Cr.- $\frac{1}{4}$ Mo.) ²	E7020		2		2	
Do.	B&W Croloy 2A (2 Cr.- $\frac{1}{4}$ Mo.) ²	E9015	1				
Do.	B&W Croloy 19-9 ³	E308-15	1	2			
Do.	B&W Croloy 25-20 ³	E310-15	1	2			
Do.	B&W Croloy 19-9 CD ³	E347-15	1	2			
Do.	B&W Croloy 234A (2 $\frac{1}{4}$ Cr.-1 Mo.)	E9015	1				

¹ Acceptable for use with direct current only.

² Acceptable only with alternating current.

³ Acceptable for this and smaller sizes only.

THE SEA IS A WOMAN

The sea is a woman, charming and
deep.

Haunting a million of men though
they sleep—

A sweetheart whose bosom is pulsing
and warm,

A vixen who taunts them in tempest
and storm!

A motherlike being, she gives from
her heart

The catch for a crew, and fish for the
mart;

And often she dances beneath a great
moon

While a sailor is singing a voyager's
tune . . .

I know she's a woman—she has to be,
For so many men are in love with the
sea!

Frank H. Keith