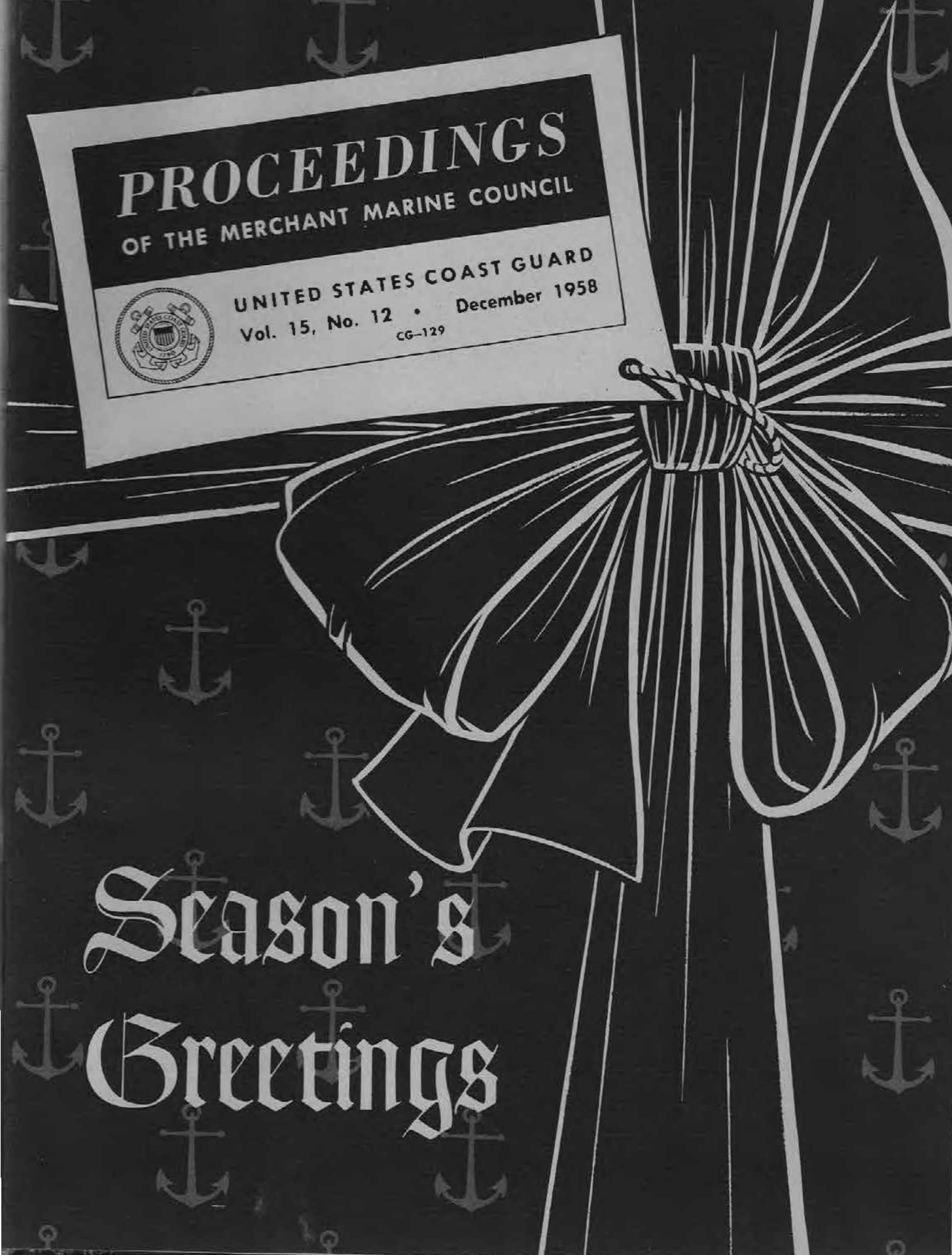

PROCEEDINGS
OF THE MERCHANT MARINE COUNCIL
UNITED STATES COAST GUARD
Vol. 15, No. 12 • December 1958
CG-129
Season's
Greetings

PROCEEDINGS

OF THE

MERCHANT MARINE COUNCIL

Published monthly at Coast Guard Headquarters, Washington 25, D. C., under the auspices of the Merchant Marine Council, in the interest of safety at sea. Special permission for republication, either in whole or in part, with the exception of copyrighted articles or pictures, is not required provided credit is given to the Proceedings of the Merchant Marine Council. Use of funds for printing this publication has been approved by the Bureau of the Budget October 3, 1957.

CONTENTS

DISTRIBUTION (SDL 67)

A: a aa b c d (2); remainder (1)
B: e (35); c (16); f (4); h (3); g (2); remainder (1)
C: a b (less Quonset Pt.) c d e f g i m o w (1)
D: i (5); a b c d e f g h j k m (1)
E: o (New London only) (1)
List 141M
List 111

Holiday Greetings

At this season of good will, I am happy to send greetings to you at sea and ashore who are keeping the American flag flying on the trade routes of the world.

Your many suggestions and ideas which help improve our publication are gratefully acknowledged. Best wishes for a joyous and peaceful Christmas and continued smooth sailing in the New Year.

A. C. Richmond

Vice Admiral, U. S. Coast Guard
Commandant

THE INTERNATIONAL MARINE SAFETY PICTURE

By VICE ADM. A. C. RICHMOND, COMMANDANT OF THE COAST GUARD

(A Paper Presented at the American Merchant Marine Conference, October 15–17, 1958, in San Francisco, Calif.

IT IS QUITE significant, I believe, that Propeller Clubs and the Coast Guard have as one of their important and impelling objectives the safety of life in the American Merchant Marine.

We have listened to many fine presentations at this Conference dealing with the national marine picture. Therefore, it is with design that I turn to the international marine safety picture.

First, let me point out that we in the Coast Guard believe our American Merchant Marine to be the best equipped and safest afloat. With this in mind, we must then ask ourselves why we are troubling to promote safety on an international scale. This is a manifold question which requires sober thought and consideration.

In general, let us acknowledge that international Safety of Life at Sea conferences lead to the standardization of types of equipment and of procedures, to the acceptance of vessels and equipment from a safety viewpoint on a reciprocal basis between nations, to increased safety for United States passengers traveling on foreign vessels, and last but not least—to the lessening of economic disadvantage resulting from competition by foreign vessels operating under greatly reduced standards of safety.

PAST CONFERENCES

As background, after the sinking of the SS *Titanic* on April 14, 1912, with a heavy loss of life, the United States Congress proposed that an international conference be held to provide means for preventing such a disaster in the future. In response to worldwide sentiment to this end, the United Kingdom called a conference in London in 1914, the first International Conference on Safety of Life at Sea under that title. It provided that passenger ships should have minimum standards of subdivision, minimum boatage and lifesaving appliances; required the use of radio; established the International Ice Patrol; and recommended the use of fixed routes on the North Atlantic run. The outbreak of the First World War and other causes prevented the 1914 Convention from coming into force. Parts of it were enacted nationally, particularly those parts pertaining to lifesaving appliances which were largely contained in the LaFollette Seaman's Act of March 4, 1915.

After the termination of that war, consideration was given to the holding of a second conference to carry forward the work commenced in 1914. Extensive preparatory work was undertaken, both in the United States and abroad, and on April 16, 1929 the second International Conference on Safety of Life at Sea was convened in London. This was participated in by 18 nations, all of which signed the final act on May 31, 1929. Because of fear in the United States Senate as to ambiguities in article 54 dealing with control, the 1929 Convention was not ratified by the United States until the middle of 1936, and even then the ratification was accompanied by three reservations.

The 1929 Convention and regulations carried on the work begun in 1914, with special emphasis on watertight integrity and radio. In general, the 1929 Convention served its purpose well, and it was accepted by a total of 43 nations.

Nevertheless, with the advances in nautical science and improved techniques accelerated during World War II, it seemed obvious that a third conference should be held as soon as possible after the close of hostilities. Such recommendation was made to the Secretary of State in 1943 by a special shipping committee organized by that Department. A salient feature of the committee's recommendations was that, rather than depending upon ad hoc conferences, arrangements should be made for future safety conferences to be held automatically at some fixed interval to maintain continuity of thinking and to avoid such long lapses between conferences as had occurred in the past.

With the approval of the Department of State, representatives of the United States and of the United Kingdom held informal conversations in 1943, and agreement was reached that as soon as possible after the close of World War II the United Kingdom would, in accordance with the provisions of the 1929 Convention, invite those nations party to that Convention to attend a conference for its revision. Accordingly, on November 25, 1946 the United Kingdom officially invited the United States to attend a Safety Conference to be held in London upon a date which was finally fixed as April 23, 1948.

SPECIALIZED AGENCIES

In the meantime the United Nations, already in the process of forming specialized agencies in various fields, explored the desirability of setting up a specialized agency in the field of international shipping. The need for an organization competent to deal with world problems in the shipping field had long been evident. During World War II the need was met to some extent by a Combined Shipping Adjustment Board and a United Maritime Authority, the United States necessarily playing a leading role in the establishment of those wartime organizations. Following the cessation of hostilities the United States took the lead in keeping alive the concept of a world shipping organization.

Concurrently with the development of the wartime and postwar shipping agencies above-mentioned, a move also was under way to set up an international maritime safety organization to administer the international convention for the safety of life at sea, or to administer any later convention revising or superseding the convention of 1929. It was felt that the holding of diplomatic conferences from time to time was not alone sufficient to deal adequately with international problems involving safety at sea, and that a permanent organization for that purpose was needed.

(*Continued on page 234*)

MARINE MACHINERY BREAKDOWNS

By J. H. MILTON

Senior Surveyor in charge of Engineering Investigation, Lloyd's Register of Shipping

Reprinted from the Transactions, North East Coast Institution of Engineers and Shipbuilders, Volume 73, 1957, this Paper will cover, in this and subsequent issues, some of the problems which can confront Surveyors and Superintendents when serious defects, necessitating the delay of a vessel, have developed at sea or have been brought to light at a survey. The cases will cover the following groups: (a) Steam Reciprocating Engines, (b) Boilers, (c) Turbines and Gearing, (d) Diesel Engines, (e) Thrust and Inter Shafting, (f) Tailshafts.

STEAM RECIPROCATING ENGINES

ONE OF THE most outstanding cases of unexpected serious trouble with this type of machinery occurred while an examination of a small fracture in the webs connecting the base of the L. P. cylinder of a large triple expansion steam engine to its column facing was being effected. In order that a proper examination of this fracture could be made, it was requested that the door of the cylinder bottom be removed and, while waiting for this to be done, a casual examination was made of the feet of the H. P. and I. P. cylinders. The I. P. was interesting, inasmuch as there were brown stains on the otherwise clean and brightly painted surfaces. A tap with a wheel key rang extremely hollow, and a slight knock was sufficient to penetrate the surface. A subsequent investigation with a hammer showed all four sides of the foot to be wasted away to such an extent internally that the remaining cast iron was only one-eighth inch to one-sixteenth inch thick. The cause of the wastage was soon apparent when it was noticed that the rear columns of this big triple expansion engine were circulated by sea water for cooling the guide faces, and there were no division plates between the top of the columns and the underside of the cylinders. The owners of this vessel wished that permanent repairs be effected at her home port, and for this to be possible, temporary repairs had to be done to enable her to complete about a week's steaming.

The internal wastage of this I. P. cylinder foot was so acute (see fig. 1) that it seemed incredible that guide thrust, and steam loading in the cylinder, had not caused complete fracture. Temporary repairs involving welded mild steel brackets, cross tie bars and gusset plates were effected (see fig. 2) and the passage to her home port safely effected.

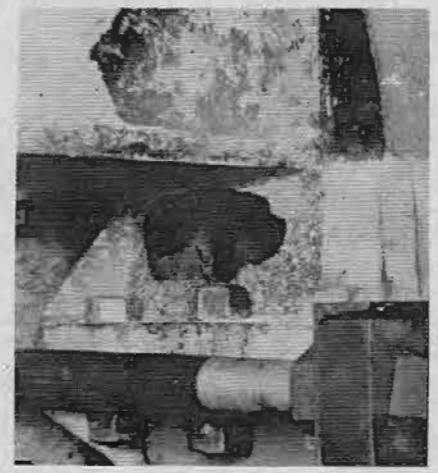


Figure 1.

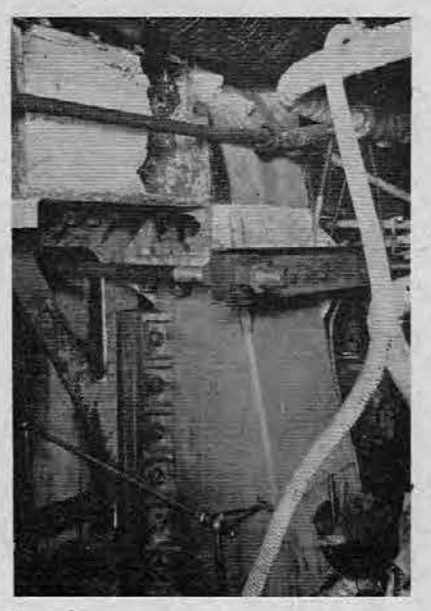


Figure 2.

MAIN ENGINE DRIVEN FEED PUMP SEIZURE

A distressing case of a main engine failure, occurring just as the vessel in question was leaving port, in a loaded condition after completing her special survey, also comes to mind.

In this instance the vessel was proceeding down river to the open sea when one of the main engine lever driven feed pump rams heated up, through being too tight a fit in neck and gland bushes, and seized. The resulting damage was serious—the after half of the rocking shaft bearing bracket cast on the rear of the L. P. column was broken, pump links twisted and bent, pump levers, crosshead and tailrod bent, etc.

The most difficult part of the damage from the repair angle was the rocking shaft bracket, and it was finally decided to cut off all remaining parts of this bracket from the column, and replace it by a fabricated mild steel one, secured in place by "Scotch" plugs.

These plugs, not generally used, have many uses and are unrivaled for securing mild steel brackets or strengthening plates to cast entablatures, bedplates, etc.

The principle of these plugs is as follows—the mild steel structure to be attached to the casting is fixed in its correct position by 1 or 2 small tap bolts, and then a predetermined number of holes are drilled through the mild steel and cast iron to take screwed plugs of the size required. The holes are tapped to take the plugs, as shown in figure 3, and after these have been screwed home and the heads twisted off, ordinary morse taper pins are driven hard home in the center tapered hole of the plugs. The plugs are thus expanded out in the mild steel and the casting, so that each plug takes its full share of the load put on the joint.

The fabricated rocking shaft bracket was satisfactorily secured to the back of the L. P. column by means of the plugs just described. All other components were either faired or renewed and when seen some 6 or 7 years after the accident the repair was still as firm as when effected. (See fig. 3.)

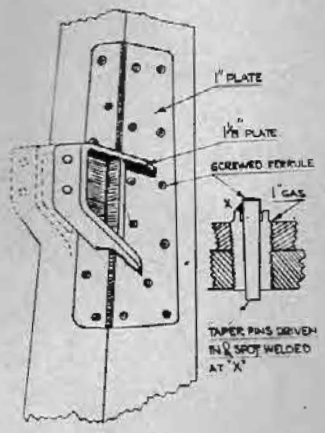


Figure 3.

Another repair effected by means of these plugs was the strengthening of a rear H. P. column which was badly cracked beneath its top attachment flange—the form of this repair is shown in figure 4.

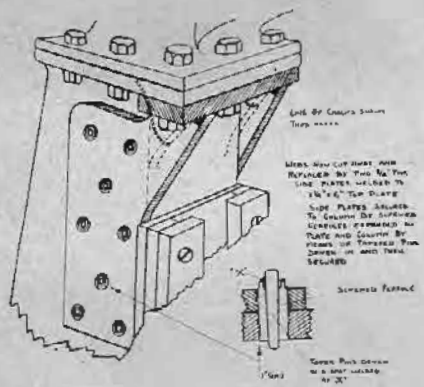


Figure 4.

FAILURE OF PISTON RINGS AND METALLIC PACKING

Piston rings and metallic packing of superheated steam engines, especially of the high revolutions per minute type are sometimes afflicted by serious overheating and scoring. In one case of this sort a new vessel was considered unacceptable by the prospective owners, and it was only after intensive investigation, that the cause of the troubles being experienced was traced to wrongly positioned zinc plates in the Scotch boilers supplying steam to the engines. The zinc plates in question were placed loosely in perforated steel boxes secured to the lowest main steam space longitudinal stays, thus being at or just below the working level of the water in the boilers.

As in most superheated steam installations, some cylinder oil found its way into the boilers, and this appeared to have aggravated the decomposition of the zinc. The boxes containing the zinc plates had burst open (see fig. 5) and the brownish-grey

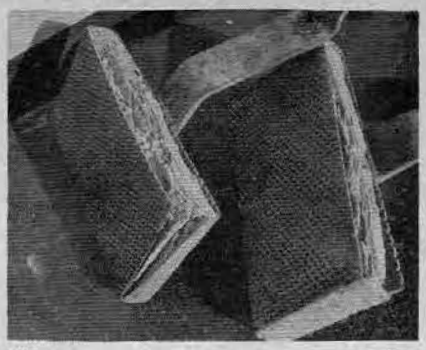


Figure 5.

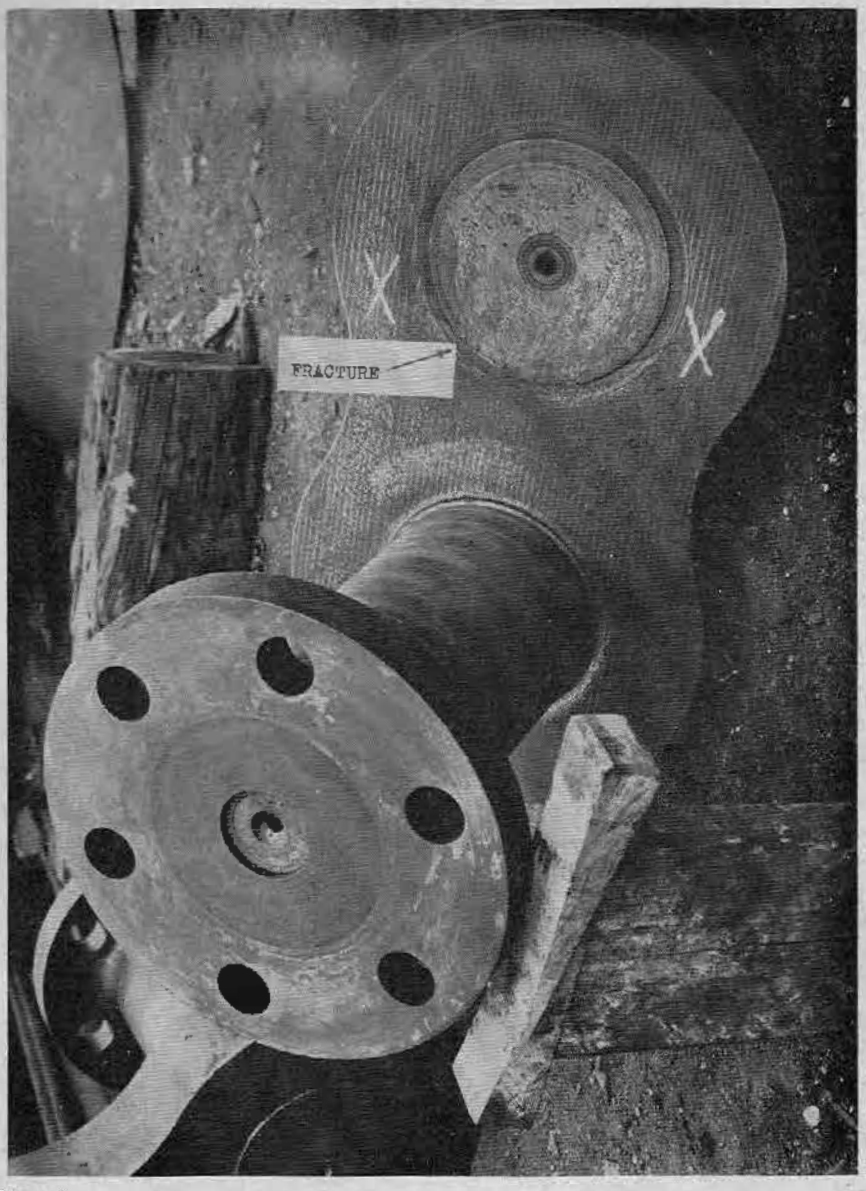


Figure 6.

hard gritty substance resulting from the decomposition of the zinc was being carried over with the steam into the machinery. Removal of these top zinc plates, placed as they were in a region of high ebullition, in boilers having oil-contaminated water which was no doubt assisting carryover, completely cured the trouble.

CRANKSHAFT FAILURES

Crankshafts in reciprocating steam engines unlike oil engines are not often the cause of unexpected delay to vessels. One unforgettable instance of this nature occurred to the writer before the war. The vessel in question was undergoing special survey and examination of the crankshaft showed the L. P. crank to be fractured through the after web and crankpin. (See fig. 6.) There appeared to be no apparent reason why the crankpin should be fractured and after removal of this crank from the vessel the fracture was broken open, revealing the fact that the fracture followed the fusion zone of a weld securing pin to web. (See fig. 7.) Further investigation brought to light the fact that this crankshaft was of a patented "Unity" method of construction. In this method of construction no dowels were used and the outer ends of both pins and journals were vee'd out, welded and subsequently machined. A number of crankshafts were constructed in this way, even for diesel engines, but the method was ultimately abandoned as not being satisfactory. In the case in question the replacement crank was shrunk and dowelled in what was, at that time, normal practice.

Before having repairs to fractured crankshafts, a recent one effected at Las Palmas should be mentioned. The vessel in question had been aground and after operating the machinery full ahead and full astern several times it was noted that the No. 4 after main bearing was running warm.

Examination of the crankshaft in way of this bearing showed it to be fractured. It was decided to try and make the nearest port at slow speed. Unfortunately the fracture developed fairly rapidly and when 40 miles from port the shaft severed completely. (See fig. 8.) The vessel was towed in and, after survey, a temporary repair to enable the vessel to reach the United Kingdom was decided upon.

The journal piece forward of the break was removed from its shrink in the after web of the L. P. crank and discarded, and after suitably preparing the other part of the journal piece (i. e., the part aft of the break) a new piece was welded on. (See fig. 9.) The repaired aftr. journal and coupling piece was then remachined to correct size and shrunk into place in the aftr. L. P. crank web. (See fig. 10.)

Satisfactory engine trials were held and the vessel completed her homeward passage without mishap.

This repair was effected in the creditably short time of 12 days.

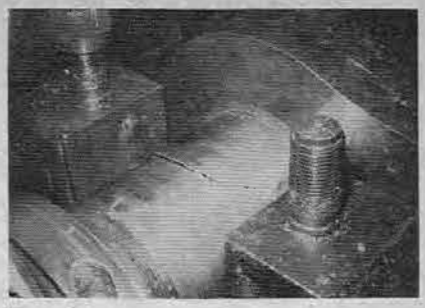


Figure 8.

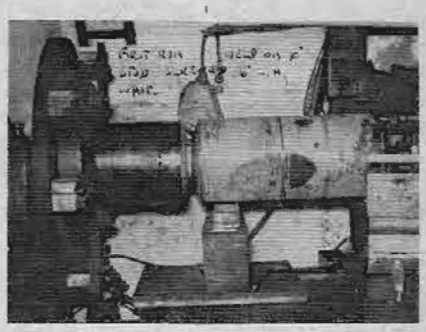


Figure 9.

Figure 7.

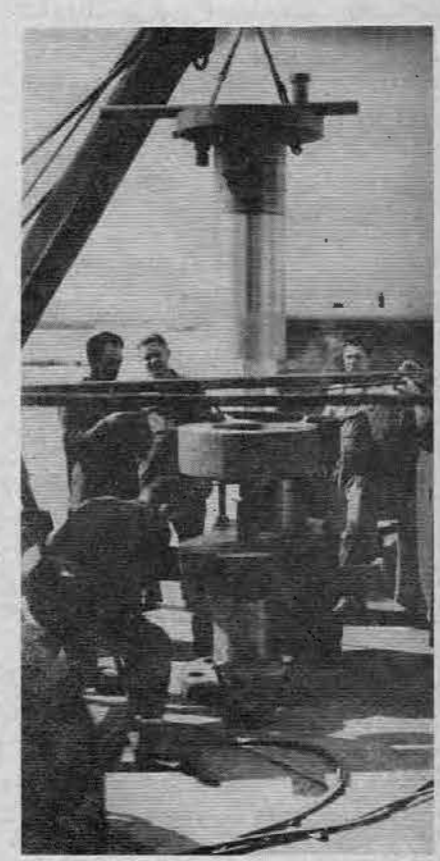
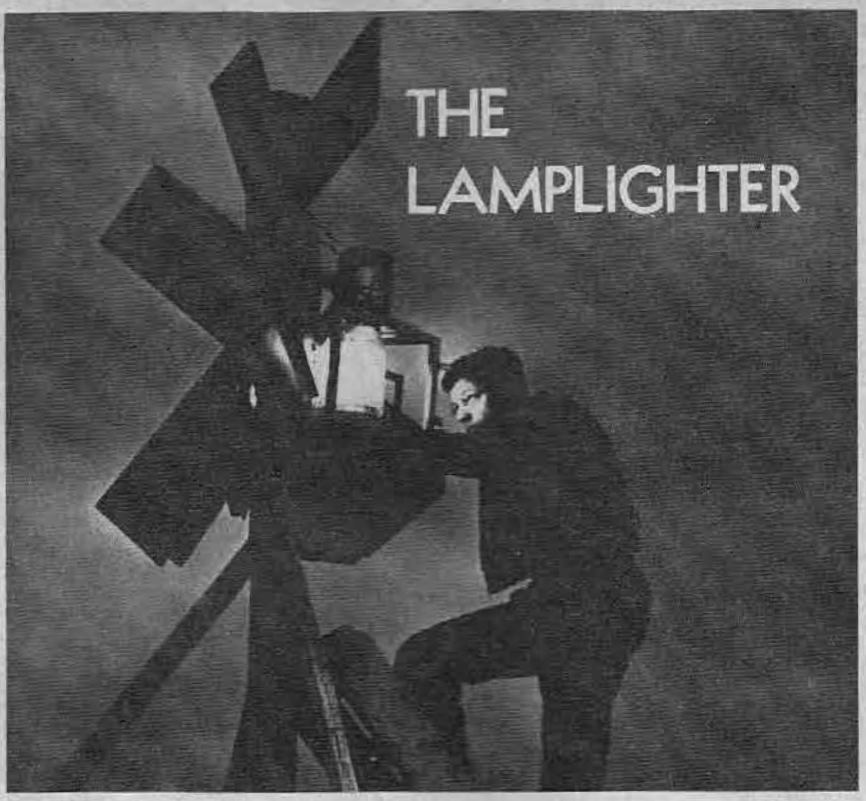


Figure 10.

THE LAMPLIGHTER



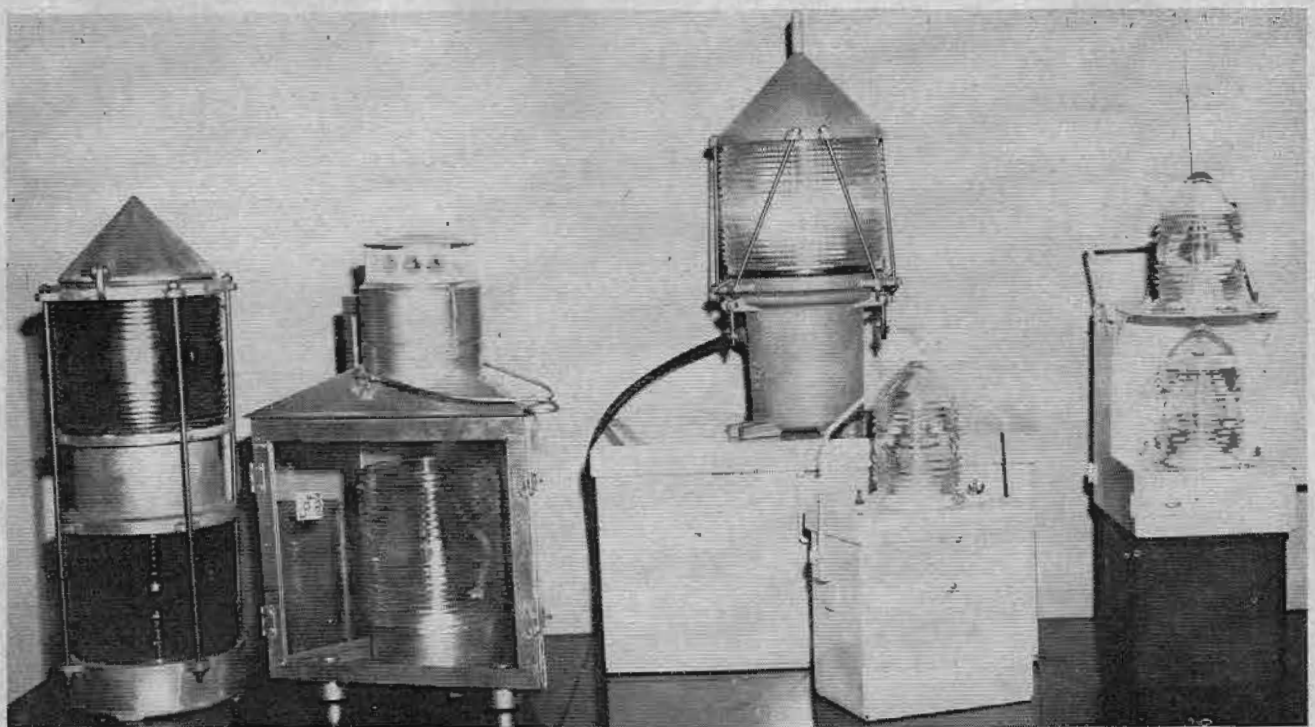
SNAPPED JUST AT SUNSET this lamplighter checks an oil light on the Mississippi River. This ritual of checking, cleaning, and refilling the light with kerosene is rapidly coming to an end with the introduction of greatly improved electric and battery-electric lights on our inland rivers. Photo Courtesy *The Lamp*, Standard Oil Co. (N. J.).

AIDS TO NAVIGATION on our inland waterways have undergone a full evolution from mineral oil to kerosene and more recently, to electric and battery-electric devices. With this change from oil to flashing electric light, that romantic figure of an earlier generation, the lamplighter, has just about disappeared from the marine scene.

Employed to tend the oil lamps on waterways where the Coast Guard maintains aids to navigation, the lamplighters make their rounds, refilling the lamps, trimming the wicks, and making sure the lights in their charge are ready to assist rivermen through the darkness.

In May of this year the Coast Guard had 367 lamplighters on their civilian payroll, almost all within the Second Coast Guard District which is centered about St. Louis, Mo. This District had, on October 1, 1958, 2,738 aids of which 341 were oil lights, but is expected that by the start of the Spring navigational season all the oil lights will be replaced by flashing electric aids.

Last year the 187-mile stretch of Mississippi River from St. Louis to Cairo was converted from fixed oil lights to flashing electric lights. During the past Summer the oil lights on the Missouri River from its mouth to Mile 226 were converted to flashing electric in addition to 54 lights on the Ohio River.



THE OLD AND THE NEW: Second from the left is a triangular C oil lantern which soon will be gone from the river scene replaced by a commercial electric lantern, extreme left, and the three battery-electric lanterns at the right.

MARITIME SIDELIGHTS

Sun Oil Co. has laid the keel for a 745 foot supertanker, largest ever built by the Sun Shipbuilding & Drydock Co., Chester, Pa. Planned for service early in 1960, the ship will have a beam of 102 feet and a loaded draft of 37 feet 9 inches. This American-flag tanker will have a crude capacity of 362,000 barrels.

⚓ ⚓ ⚓

American Export Lines has requested the Maritime Administrator to designate a new essential trade route between the Great Lakes and the Mediterranean to permit the conduct of operations between Europe and our inland ports. In connection with this request the company has made application for operating differential subsidy covering vessels to be operated in this trade. American Export has proposed one sailing every 21 days using three C–2 ships.

⚓ ⚓ ⚓

Bethlehem Steel Co.'s Sparrows Point Shipyard will build four 495 feet freighters for Lykes Bros. Steamship Co. it was announced in the *AMMI Bulletin*. The vessels of C3–S–37a design will cost $9,172,000 each.

⚓ ⚓ ⚓

The Propeller Club of the United States will hold its 1959 meeting in Detroit, Mich., October 14–16, and Honolulu will be the host city in 1960, it was announced by Henry C. Parke, newly elected president of the organization.

⚓ ⚓ ⚓

A study has been released in Sweden for the construction of a nuclear powered tanker of 65,000 tons with a machinery output of 30,000 horsepower. The reactor is located in a center tank 300 feet forward of the accommodations and remotely controlled from the after engineroom. This is the first detailed study worked out in Sweden with an emphasis on economy of operation and marine safety.

AIRLIFT TO HOSPITAL is accomplished by a Coast Guard helicopter in the Gulf of Mexico. Called to the SS *Gulf Service* 70 miles south of the Mississippi's mouth to remove a seaman with severe abdominal pains, the helicopter picked up the man from the stern of the vessel (see insert) and set him down alongside a waiting ambulance ashore for transfer to the New Orleans Public Health Service Hospital.

Application of Farrell Lines, Inc., for construction—differential subsidy aid in building five cargo liners to guarantee continuance of fast, regular American-flag freight transport on Essential United States Foreign Trade Route 15–A (U. S. to Africa) was announced by Clarence G. Morse, Chairman, Federal Maritime Board and Maritime Administrator, U. S. Department of Commerce.

⚓ ⚓ ⚓

The self-discharging collier *Consolidation Coal* unloaded her maiden cargo of 24,000 tons of coal by her own 250-foot discharging boom at the rate of a ton a second, it was announced.

⚓ ⚓ ⚓

This country's first Liberty ship, the SS *Patrick Henry*, has returned to the yards of her builder for scrapping. She slid into the waters of the Patapsco River in Baltimore on September 27, 1941, first of 383 sister ships built in the old Bethlehem-Fairfield yard. Of 2,580 Liberty ships built for American-flag operation, 1,388 are laid up, 813 were sold, 86 were scrapped, and 293 were lost in war action.

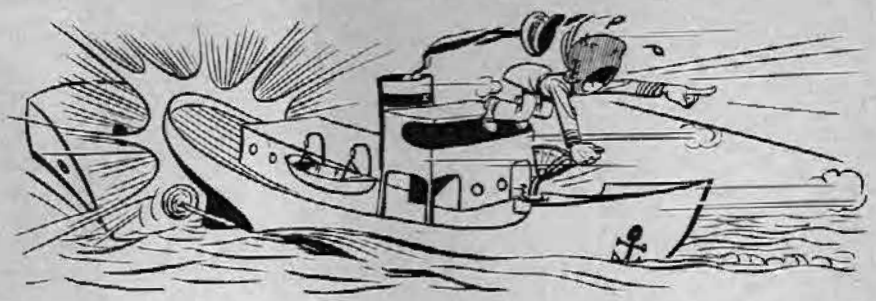
⚓ ⚓ ⚓

The popular American Practical Navigator, commonly known as "Bowditch" after Dr. Nathaniel Bowditch, author of its first edition, has been completely rewritten by the United States Navy Hydrographic Office. The 1,524-page edition has a dark blue cover with gold lettering and is available December 6, the 128th birthday of the Hydrographic Office. Price $6.25 per copy.

⚓ ⚓ ⚓

Bethlehem Steel Co.'s bid of $2,666,680 for 35 Government-owned Liberty ships has been accepted by the Maritime Administration. The Bethlehem bid, for all 35 of the reserve fleet vessels or none, averaged $76,191 per ship, well above the set minimum of $70,000. The vessels are to be used for scrap.

FULL AHEAD ASTERN



If any mariners doubt the importance of checking drydock repairs, have them lend an ear to this unusual casualty.

A twin screw foreign flag ship completed propeller work in an East coast shipyard and prepared to shift to a loading berth assisted by tugs. The ship signaled for an ahead movement on its engines and all seemed normal.

At this point normalcy ceased!

Instead of going ahead as anticipated the ship resolutely ploughed astern. The more ahead bells, the more astern movement. Stopping the ship with only minor damage to a second ship moored across the river, it was decided to put her back in drydock for a look-see.

The trouble? The left hand propeller had been installed on the starboard shaft and the right hand propeller on the port shaft.

Granted this accident is unique in itself, it serves to point up the importance of checking all repairs, particularly to the underwater body of your ship. Nothing can curl the hair of an operating staff quicker than the necessity of a re-drydocking for a job that should have been written off the first time.

UNSEAWORTHINESS CLAIM

A bedroom utility man employed on a tanker slipped on an unsecured scatter rug on the deck of the chief engineer's cabin and claimed $150,000 damages for permanent disability and $56,000 for additional pain and suffering.

As described in *American Maritime Cases* 1237, 1958, the Court was asked to find the vessel "unseaworthy" because of the use of rugs not firmly secured to the decks. The Court said that, even in the case of passengers, the ship is under no obligation to secure furniture which is inherently safe, but only to warn passengers of dangers which they are not likely to anticipate because of their inexperience at sea, particularly in heavy weather.

In holding that the shipowners were liable in respect to certain medical services, the Court remarked that the claimant disclosed "an unfortunate accident-prone and claim-prone tendency."

It is interesting in this case to note that the British weekly shipping journal "Fairplay" had these remarks to make:

"The fact that these proceedings ever reached the Court draws attention to the manner on which the word 'unseaworthiness' has been stretched to embrace a multitude of matters entirely unrelated to the ordinary conception of the meaning of the word."

PAPERWORK LOOKOUT

Failure to keep a proper lookout because of a preoccupation with paperwork resulted in the stranding of a 2,787 ton British steamer near Gull Island Point, Newfoundland.

A British Court of Inquiry suspended the Master's Certificate of the Captain for 18 months and the Master's Certificate of the Chief Officer for 15 months because they found the stranding was "caused or contributed to by the wrongful acts or default" of the two men.

Described in the current issue of the *Merchant Navy Journal*, the Court said: "The Court desires to draw attention to the fact that the failure of the Chief Officer to keep a proper lookout was largely due to his preoccupation with paperwork, which he wanted to keep up to date in order to avoid delay in the next port of call, St. John's. The same kind of plea was put forth by the Master.

"The Court is of the opinion that such reasons cannot serve as excuses for the failures in proper conduct by both officers. But they do raise the question whether vessels of this type are adequately staffed to deal with all the paperwork involved."

The severity of the punishment in this case, albeit from a foreign Court, should serve to warn mariners against doing watch-below work on deck.

A PAUSE FOR LIFE

Before you swing a leg over a tank coaming, take a pause for life!

Whether the tank has a reminder stenciled nearby like this one or not, be sure you know what the conditions down below are. Has the tank been ventilated? Has it been tested with a gas indicator? Do your shipmates know where you intend to go?

In other words, before you enter a tank or other enclosed space take time to ensure yourself it is safe to do so. Take a pause for life! Photo Courtesy *California Shipping Company*.

MOVIES AVAILABLE

Operators of vessels equipped with 16 mm sound movie projectors may be interested in a series of Coast Guard films available without charge.

The 24 films are:

Alaskan Patrol, Artificial Respiration, Coast Guard at War, On Foreign Shores, Coast Guard Cadet, Coast Guard Cutters Around the Continent, Coast Guard Icebreakers, Coast Guard Officer, Common Sense Afloat, Guard Against Sabotage, International Ice Patrol, Loran Comes to Bataan, Loran Duty, Loran for Ocean Navigation, Normandy Invasion, Safety on the Water, Sentries of the Sea Lanes, Serving the Merchant Marine, Shine the Boot, Story of a Transport, Story of the Great Lakes, Sunset in the Pacific, The United States Coast Guard, Weathermen of the Sea, and You're Being Boarded.

Any of these films may be obtained from Chief, Public Information Division, Coast Guard Headquarters, Washington 25, D. C. or any Coast Guard District Commander free of charge except for return transportation charges. Interested persons should allow one month for scheduling and mailing.

APPEAL DECISIONS

For failure to join his vessel in a foreign port and wrongfully giving his seaman's document to a person not lawfully entitled to it, a seaman was found guilty of misconduct and an Examiner of the Coast Guard revoked his seaman's documents.

On appeal to the Commandant of the Coast Guard the revocation order was affirmed.

In his decision on this case the Commandant said:

"The seriousness of the offense of voluntarily leaving a document, validated for security clearance, in the possession of a foreign national is indicative of no justification for modification of the order of revocation."

★ ★ ★

For wrongfully striking a fellow crew member with a dangerous weapon, a seaman was found guilty of misconduct and the Examiner revoked all seaman documents issued to him. On appeal, the Commandant affirmed the revocation order.

★ ★ ★

Consistent with the Commandant's policy with respect to narcotics offenders, this seaman surrendered all his seaman documents by order of a Coast Guard Examiner upon finding him guilty of the charge of "conviction of a narcotic drug law violation." Public Law 500, 83d Congress, 68 Stat. 484, provides for the revocation of a seaman's document after he has been found guilty of having been convicted, in a court of record, for the violation of the narcotic drug laws of the United States, the District of Columbia, or any State or Territory of the United States. Revocation is the only order provided for by the statute after a seaman has been found guilty of such conviction.

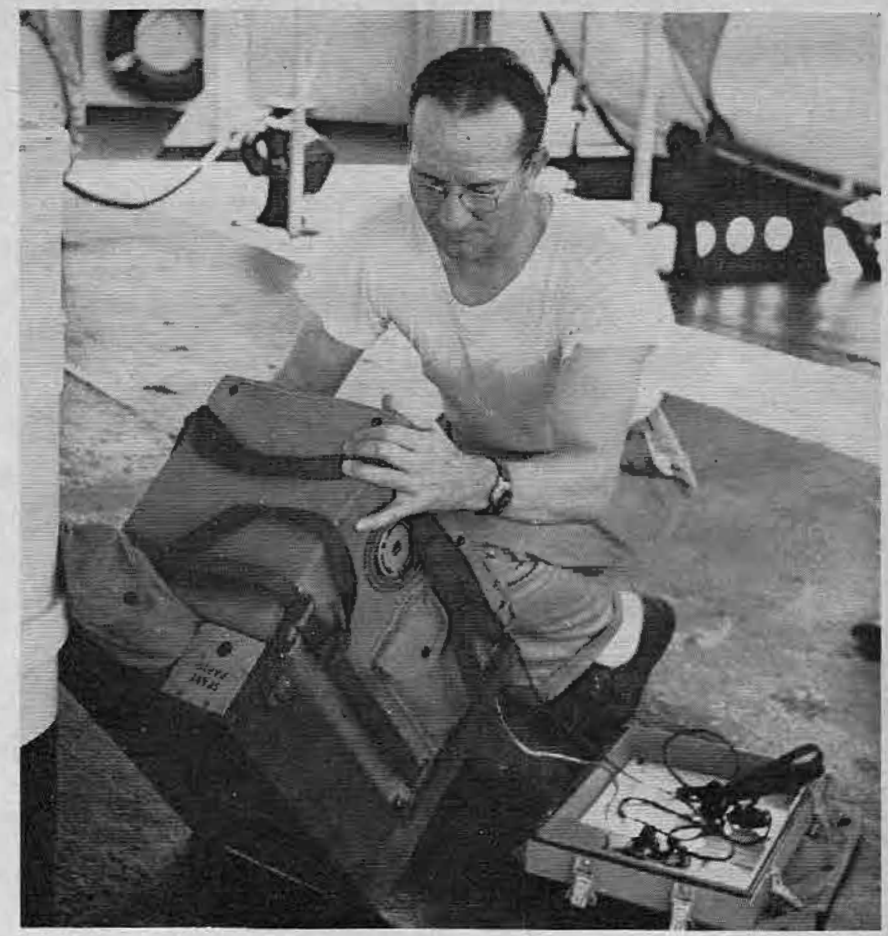
★ ★ ★

Found guilty of misconduct, this engineering officer had all his seaman's documents and license revoked by an Examiner and the Commandant affirmed the Order. This officer was found guilty of failure to join, assault with a dangerous weapon, wrongfully leaving the engine room unattended while a sea watch was set at anchor; and on the following morning, failure to stand his watch due to intoxication.

★ ★ ★

For failure to keep a proper lookout which was found to have contributed to a collision with another vessel, this motorboat operator was found guilty of negligence and an Order was entered suspending all documents issued to him for a period of three months.

HOW'S YOUR PORTABLE RADIO?



Radio officer Peter Murphy of the SS *Clarke's Wharf* is shown making the required weekly check of his ships lifeboat portable radio apparatus.

Coast Guard regulations not only require the carriage of this equipment on all vessels on an international voyage carrying less than 20 lifeboats which do not have at least one lifeboat on each side of the vessel fitted with a fixed radio installation, but say: "It shall be the duty of the master to require that all batteries for all fixed and portable radio apparatus for lifeboats are brought up to full charge weekly if the batteries are of a type which require recharging;" and, "In any case, the transmitter shall be tested weekly using a suitable artificial aerial."

The equipment is to be stowed in the radio room, chart room, or other suitable location ready to be moved to one or other of the lifeboats in the event of an emergency.

Designed so that it may be used in an emergency by any member of the crew, it is recommended that fundamentals of the portable radio be passed on to every man aboard ship in the event the radio officer is incapacitated in time of emergency. Remember, the life you save may be your own! Photo Courtesy *California Shipping Co. Safety Bulletin.*

For permitting the use of an unsafe gangway the Chief Mate of a seagoing ship was found guilty of negligence and the Commandant affirmed the Order suspending all documents issued to this officer for one month.

★ ★ ★

For being wrongfully absent from his duties and station, this crew member of a large American passenger ship was found guilty of misconduct and an Order was entered suspending all his seaman's documents for 18 months—10 months' outright suspension and 8 months on 12 months probation. Eight of the 10 months' outright suspension were the result of a previous probationary suspension for similar offenses.

nautical queries

Q. What operating conditions will cause the formation of carbon monoxide in the exhaust of diesel engines?

A. Carbon monoxide will be formed in the exhaust gases of diesel engines when the engines are operating with an insufficient amount of fresh air for the amount of fuel being injected into the cylinders. This may occur when the engine is overloaded; when the inlet air passages, ports or valves are partially blocked thereby restricting the flow of fresh air; and in some cases of incomplete scavenging thereby fouling the fresh supply of air.

Q. Give the purpose of seal-stripping and describe how it is installed.

A. Seal - stripping is another method, similar to thin tipping and labyrinth shrouding, of reducing tip leakage. The seal strip, made in segments, is fitted in a groove in the casing or rotor and held in place by means of a caulking strip. Should the rotor become misaligned, rubbing will occur on the thin edge of the seal strip without doing damage to the blading.

Q. Explain why the effect due to the angularity of the connecting rod is large, whereas in the case of the eccentric rod, it is considered negligible.

A. The effect of this angularity of connecting rod is quite large in the case of the piston of an engine when the ratio of the lengths of crank and connecting rod is about 1 to 4, but with an eccentric, the length of the eccentric rod is so great in proportion to the length of the eccentric arm, that the deviation is so small that it is neglected.

Q. Explain how the throttling losses can be kept to a minimum on the main turbine.

A. To keep the throttling losses at a minimum the main throttle should be full open and a high steam chest pressure maintained. This can be accomplished by having the minimum number of nozzles open as required to maintain speed. Nozzles not in use should be kept tightly closed. Steam strainers, nozzles, and nozzle control valves should be examined regularly and maintained in their proper operating condition.

Q. What are the functions of the water drum on the two-drum water-tube boiler?

A. The functions of the water drum are to equalize the distribution of water to the generating tubes and to provide a receptacle for the accumulation of scale and other solid material which may be present in, or may be precipitated from, the boiler water. Removal of this solid matter is provided for by the bottom blow valve.

Q. What is the object of the refractory lining in the furnace of a water tube boiler?

A. The object in lining a boiler furnace with refractory material is to assist in maintaining a high furnace temperature, accelerate the rate of combustion, and consequently complete an efficient combustion; to keep in and direct the heated gases of combustion into the gas passages across the generating tubes; and to protect the water drums and casing from the products of combustion.

Q. Explain the effect that magnesium chloride has, when dissolved in the boiler water, upon the plates and tubes of the boiler.

A. Magnesium chloride reacts with water to form hydrochloric acid and a precipitate of magnesium hydroxide. The hydrochloric acid, if uncorrected, will give the water definite acid characteristics, and will react with the iron of the shell and the tubes of the boiler, forming ferrous chloride and free hydrogen. As a result of this reaction some of the boiler metal is dissolved.

Q. What are the advantages obtained from the use of air heaters?

A. (*a*) More nearly complete combustion of fuel within the furnace proper.

(*b*) Less excess air is required.

(*c*) Furnace temperatures are increased, increasing the capacity of the boiler.

(*d*) Furnace and overall boiler efficiencies are increased.

Q. What are the methods by which the rate of combustion is varied to meet changes in the steam demand?

A. The rate of combustion may be varied by changing the following:

(*a*) The size of the atomizers used;

(*b*) The number of the atomizers used;

(*c*) The oil pressure used;

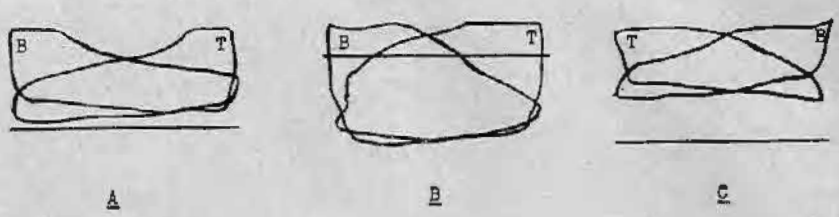
(*d*) The fuel oil back pressure on the wide range, variable capacity burner.

Q. State two methods of speed control used in direct-current motors and state how the speed is varied in each case.

A. The speed of D. C. motors may be controlled by (1) field control and (2) armature control. Increasing or decreasing the resistance of the field circuit will increase or decrease respectively the speed of the motor. Increasing or decreasing the resistance of the armature circuit will decrease or increase respectively the speed of the motor.

STEAM INDICATOR

Q. The below indicator diagrams were taken from a triple expansion reciprocating engine. From which cylinders were diagrams A, B, and C taken?



A B C

A. A—Intermediate.
B—Low pressure.
C—High pressure.

ACCIDENTS IN BRIEF

Here is a condensation of some accidents reported to Coast Guard Headquarters during the past month. A capsule glimpse into the cause * * * and effect. In each case the victim was incapacitated at least 72 hours.

CAUSE	EFFECT
 Stumbled on deck padeye	Sprained right ankle
Broken wire spring line	34 days incapacitation
Backward fall from step ladder	Back injuries
After mooring line parted	Compound fracture of right leg
Sootblower pulley falls	Bruised big toe
Evaporator opened before empty	Burns to feet and ankles
Inhalation of grain dust	Fainted and cut back of head
Electric grinder	Crushed left thumb and index finger
Inadequate lathe guard	Lacerated fingers, 19 days incapacitation
Power chipping hammer, no safety glasses.	Injured left eye
Struck by fire hose under full pressure	Fractured vertebra.

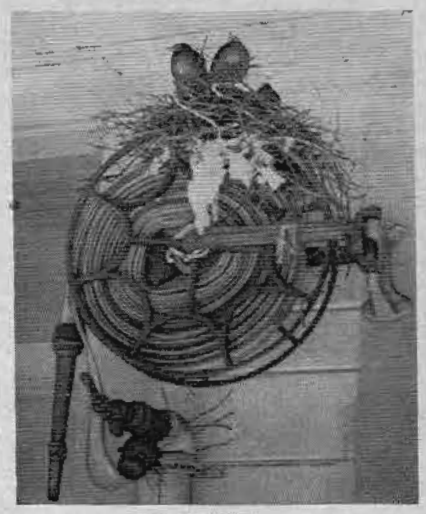
CORRECTION

The hand whistle signals recommended by the U. S. Navy for use when utilizing Navy tugs published in the October issue of the *Proceedings* were printed incorrectly.

The correct signals are as follows:

FROM STOP TO HALF SPEED AHEAD	1 BLAST
FROM HALF SPEED AHEAD TO STOP	1 BLAST
FROM HALF SPEED AHEAD TO FULL SPEED AHEAD	4 SHORT BLASTS
FROM FULL SPEED AHEAD TO HALF SPEED AHEAD	1 BLAST
FROM STOP TO HALF SPEED ASTERN	2 BLASTS
FROM HALF SPEED ASTERN TO FULL SPEED ASTERN	4 SHORT BLASTS
FROM HALF OR FULL SPEED ASTERN TO STOP	1 BLAST
CAST OFF, STAND CLEAR	1 PROLONGED 2 SHORT

THIS KIND OF SAFETY IS FOR THE BIRDS



ALTHOUGH THIS PICTURE was not taken aboard ship, it shows what can happen when you let that safety maintenance slip by. Don't let your gear get like this! Photo Courtesy *California Shipping* Co.

MARINE SECTION, NATIONAL SAFETY COUNCIL

Carl F. Vander Clute, General Manager, Marine Department, Gulf Oil Corp., was elected General Chairman of the Marine Section of the National Safety Council at the 46th Annual Safety Congress and Exposition held in Chicago, Ill., October 20–24.

Attended by representatives of the Marine industry and Government from all parts of the country, the meetings included a Stevedoring Session, Ship Operators Sessions, a Business Meeting, a Coast Guard Session, and concluded with the traditional luncheon with the Port of Chicago Propeller Club.

At the opening session Leslie H. Quackenbush, vice president, States Marine Corp. and outgoing General Chairman of the Marine Section, made the welcoming remarks which were followed by a panel discussion under the general title, *"What Are We Doing To Reduce Accidents?"*

In the afternoon session talks were presented by Richard B. Weckel, assistant to director of safety, Pickands Mather & Co. on *"Safety on Great Lakes Ore Carriers"*; W. I. McElroy, vice president, Warrior & Gulf Navigation Co., Chickasaw, Ala., *"Accidents on River Towboats and Barges"*; Bruno J. Aujenti, president, Marine Index Bureau, Inc., *"Evaluating Twenty Years of Marine Safety"*; and William J. Burke, Jr., executive vice president, Cargo Gear Bureau, *"Cargo Gear Safety—Certification."*

At the business session awards were presented in the five different divisions of the Marine Section for outstanding papers presented over the past year. In the Tanker Division the award was won by Carl F. Vander Clute; the Cargo Ship Division award went to Robert J. Tarr, operating manager, Luckenbach Steamship Co.; the Passenger Ship Division award went to Joseph S. Blackett, vice president, Grace Line; Stevedoring Division, Andrew D. Warwick, president, T. Hogan & Sons; and in the Shipbuilding Division the award was won by George E. Burcher, Jr., Newport News Shipbuilding & Drydock Co.

In the second Ship Operators Session papers were read by Charles L. Boyle, manager, Marine Department, Sun Oil Co., on *"In the Wake of Accidents"*; Capt. John P. Chiles, assistant to vice president, American President Lines, *"Prevention of Accidents on Passenger Vessels and Cargo Ships"*; and Ralph W. Netterstrom, Chief, Maritime Safety Services, United States Department of Labor, *"Rigging and Use of Ship's Cargo Gear."*

Vice Adm. A. C. Richmond, Commandant of the Coast Guard, with Rear Adm. H. T. Jewell, Chief, Office of Merchant Marine Safety, and Rear Adm. J. A. Kerrins, Commander, Ninth Coast Guard District, headed a large group of Coast Guard personnel who took part in their segment of the program.

After a brief welcome by Vice Admiral Richmond, Rear Admiral Jewell made general comments on the progress of marine safety in the past year. The speakers were introduced by Vice Adm. Richmond. Lt. Comdr. Robert T. Norris spoke on *"Electronic Aids to Navigation."* Comdr. William R. Sayer reported on *"The Review of Marine Casualties"* and Charles B. Smith presented a paper, *"Lessons from the Shipment of Hazardous Cargo."*

The joint luncheon with the Port of Chicago Propeller Club which concluded the 1958 meeting of the National Safety Council was highlighted by a talk by Vice Admiral Richmond.

The United States Department of Commerce took action on October 30, 1958, imposing the same shipping restrictions with respect to the Communist-controlled area of Viet Nam as are now applicable to Communist China and north Korea.

Since December 16, 1950, ships and aircraft of American registry have been prohibited from calling at any Chinese Communist port or other place under control of the Chinese Communists, and from carrying any cargo destined directly, or indirectly, for Communist China.

NUMBERED AND UNDOCUMENTED VESSELS

The table below gives the cumulative total of undocumented vessels numbered under the provisions of the act of June 7, 1918, as amended (46 U. S. C. 288), in each Coast Guard district by Customs ports for the quarter ended 30 September 1958. Generally speaking, undocumented vessels are those machinery-propelled vessels of less than 5 net tons engaged in trade which by reason of tonnage are exempt from documentation. They also include all other vessels propelled in whole or in part by machinery which have not been issued marine documents by the Customs, owned in the United States and found on the navigable waters thereof.

Coast Guard District	Customs Port	Total
1 (Boston)	(4) Boston	19,334
	(1) Portland, Maine	10,101
	(2) St. Albans	971
	(5) Providence	5,383
	Total	**35,789**
2 (St. Louis)	(45) St. Louis	13,585
	(12) Pittsburgh	2,633
	(34) Pembina	299
	(35) Minneapolis	3,534
	(40) Indianapolis	7,455
	(42) Louisville	3,103
	(43) Memphis	7,094
	(46) Omaha	581
	(47) Denver	51
	Total	**38,335**
3 (New York)	(10) New York	58,959
	(6) Bridgeport	11,680
	(11) Philadelphia	25,017
	Total	**95,656**
5 (Norfolk)	(14) Norfolk	18,636
	(13) Baltimore	26,318
	(15) Wilmington, N. C	9,653
	Total	**54,607**
7 (Miami)	(18) Tampa (part)	32,130
	(16) Charleston	1,843
	(17) Savannah	2,956
	(49) San Juan	551
	(51) St. Thomas	147
	Total	**37,627**
8 (New Orleans)	(20) New Orleans	23,199
	(18) Tampa (part)	560
	(19) Mobile	9,417
	(21) Port Arthur	5,106
	(22) Galveston	11,498
	(23) Laredo	2,054
	(24) El Paso	32
	(43) Memphis (part)	65
	Total	**51,931**
9 (Cleveland)	(41) Cleveland	13,339
	(7) Ogdensburg	3,041
	(8) Rochester	7,459
	(9) Buffalo	4,888
	(36) Duluth	2,850
	(37) Milwaukee	5,016
	(38) Detroit	26,434
	(39) Chicago	11,431
	Total	**74,458**
11 (Long Beach)	(27) Los Angeles	17,920
	(25) San Diego	3,089
	(26) Nogales	244
	Total	**21,253**
12 (San Francisco)	(28) San Francisco	19,873
13 (Seattle)	(30) Seattle	24,901
	(29) Portland, Oregon	9,524
	(33) Great Falls	843
	Total	**35,358**
14 (Honolulu)	(32) Honolulu	4,118
17 (Juneau)	(31) Juneau	8,551
	Grand total	**477,556**

Therefore, it was found to be desirable to provide a forum for consideration of certain phases of intergovernmental shipping problems to fall within the scope of a single world shipping organization within the framework of the United Nations. The establishment of such an organization would not result in duplication of functions of any other world organization. There did not exist at that time any other permanent international organization with similar functions in the same field. In fact, the lack of a suitable international shipping organization was the chief reason for the establishment of the proposed organization. It would be a specialized agency related to the United Nations in conformity to the pertinent provisions of the Charter of the United Nations. It was understood that the establishment of the organization would, together with the International Civil Aviation Organization, the International Telecommunication Union, and the World Meteorological Organization, complete the establishment of the specialized agencies considered by the United Nations to be essential to deal with technical and economic problems and to coordinate activities of worldwide concern in the fields of transport and communication.

IMCO

Accordingly, at a meeting of the United Maritime Consultative Council in Washington in October 1946 there was prepared a draft convention which served as a basic working document at a Geneva Conference in 1948 for the formulation of the present Intergovernmental Maritime Consultative Organization (IMCO).

Concurrently, the Transport and Communications Commission of the Economic and Social Council of the United Nations officially had recommended that the United Nations sponsor the creation of an international maritime body.

The Commandant of the Coast Guard and his preparatory committees for the 1948 Safety of Life at Sea Convention were fully in touch with these steps toward a permanent maritime organization, and the United States proposals were drawn up to fit within the framework of that organization.

The United Nations Maritime Conference was held at Geneva from February 19 to March 6, 1948, resulting in a convention for an Intergovernmental Maritime Consultative Organization. The Geneva Conference recommended that the International Conference on Safety of Life at Sea take into account in its deliberations the fact that such a body would probably come into early being. The convention as drawn up at Geneva had the support of the Department of State, the Department of Commerce, the Coast Guard, Maritime Commission; and representatives of the shipping industry were on the United States delegation to the Geneva Conference.

The convention established the Intergovernmental Maritime Consultative Organization (IMCO) with various organs; namely, an Assembly, a Council, a Maritime Safety Committee, sueh subsidiary organs as the Organization may consider necessary, and a Secretariat. The convention entered into force on 17 March 1958 when the required 21 states became parties to the convention.

At the present time the Preparatory Committee of IMCO is engaged in preparations for the first Assembly, scheduled to be held in London in early January 1959. It is felt that maritime safety, tonnage measurement, prevention of oil pollution, and similar technical subjects may be part of the initial program. The Intergovernmental Maritime Consultative Organization will not act with respect to labor matters, such matters being left to the International Labor Organization, in which the United States has participated as a member since August 20, 1934.

ANDREA DORIA

While such disasters as the loss of the *Titanic* and *Morro Castle* were tragic, they centered attention on the need for more adequate safeguards for those who use the waters of the world—whether as sailor or passenger.

On 25 July 1956 the MV *Stockholm* left New York on her regular run to Sweden. Shortly after passing Ambrose Lightship at the entrance to New York Harbor, her master, according to his testimony, set the vessel's course so as to enable her to pass south of Nantucket Lightship at a distance of about 1 mile. On that day the SS *Andrea Doria* was proceeding westward on her regular voyage from Italy to New York. She passed south of Nantucket Lightship at a distance of approximately 1 mile at about 10:20 a. m. (e. d. t.). About 50 minutes later the *Stockholm* collided with her, as a result of which 50 people lost their lives, the *Andrea Doria* sank, and everyone asked, "Why?"

On 27 July 1956 the House Committee on Merchant Marine and Fisheries was authorized to conduct studies and investigations relating to all matters involving safety of life at sea, including—but not limited to—adequacy of existing construction standards of passenger vessels, adequacy of navigation and warning devices presently in use, including radar, and the facts and circumstances surrounding the collision between the two vessels.

While at first glance the catastrophe on the high seas involving two foreign-flag vessels would appear to be wholly outside the province of the Congress, even though a number of passengers on both vessels were American citizens, nevertheless there was a large field of direct concern—not only to ascertain facts, but to establish, insofar as practicable, the efficacy of the present international standards and the effectiveness of their operation; and also, the results which flow from the participation of the United States in the various international conventions relating to vessel operation and safety of life at sea.

The main concern of the Committee was with such matters as (1) adequacy of existing standards and practices for passenger ship construction and operations; (2) adequacy of navigation, communication and warning devices and their operation; and (3) sea lanes.

After much study the committee's recommendations included, among others: (1) reevaluation of the standards of subdivision, damage stability, and ballasting with the view to the development of realistic provisions for international adoption; (2) that the State Department take immediate steps to initiate a conference for safety of life at sea to the end that the lessons learned from the *Stockholm-Andrea Doria* disaster be made effective at the earliest possible date.

Pursuant to these recommendations, a full industry and governmental committee was appointed by the Coast Guard, under the chairmanship of Vice Adm. E. L. Cochrane, USN (Retired) to reevaluate construction standards for passenger ships.

PRESENT ACTION

While this matter was under study by the United States, in the latter part of 1957 the Government of Great Britain officially proposed a conference for the purpose of revising the International Convention for the Safety of Life at Sea, 1948; the International Regulations for Preventing Collisions at Sea; and the International Convention Respecting Load Lines, 1930. The Coast Guard has been directed to assume the overall responsibility for initiating and coordinating the preparation of the United States proposals for submission to these conferences. In carrying out this project the Coast Guard is

working with the maritime industry and interested governmental agencies to develop a properly coordinated United States position. As a result, the following is a summary of current activity.

The work of the Construction Committee has been expanded to prepare recommendations including standards for cargo ships for the forthcoming conference. Other committees which are busy preparing the position of the United States are the Lifesaving Appliances Committee, Rear Admiral Jewell, USCG, Chairman; the Radio Committee, Mr. Bartley, FCC, Chairman; Safety of Navigation Committee, Rear Admiral Duke, USN, Chairman; Nuclear Power Committee, Mr. Gatewood, ABS, Chairman; and the Load Line Committee, Mr. Brown, ABS, Chairman. The members of the committees are among the leading experts in the maritime industry and in government. There is one overall general committee made up mainly of the chairmen of these committees plus State Department representation. The purpose of this general committee is to coordinate the overall efforts of the actual working committees.

FUTURE DEVELOPMENTS

While it is not anticipated that it will be necessary to embark on a full scale revision of the present Convention, the preparations for this forthcoming conference will demand considerable time and effort from all concerned. It is 10 years since the last International Safety Conference was held and, in the meantime, notable advances have been made in the fields affecting safe navigation.

It is expected that the preparatory committees will consider proposals contemplating changes in international requirements concerning construction and stability (taking into account the *Andrea Doria* disaster), the authorized use of inflatable life rafts, modification of the Rules of the Road, increased utilization of modern radio facilities, and proposals and recommendations concerning the use of nuclear power.

It will be apparent that many proposals will originate in other countries, on each of which we must be prepared to establish a United States position.

A Conference on the Safety of Life at Sea is scheduled to be convened under the auspices of IMCO in April of 1960. Specifically this Conference will consider revision or amendments to the Safety of Life at Sea Convention of 1948 and the International Rules for the Prevention of Collisions at Sea. It is expected that this will be followed by a conference to amend the Load Line Convention, also bringing that Convention under the auspices of IMCO. Also, it is probable that IMCO will take over cognizance of the International Convention for the Prevention of Pollution of the Sea by Oil.

REVISIONS

IMCO will provide the machinery for keeping the conventions up to date by necessary amendment from time to time. The need for sweeping revisions of the conventions would not arise. The present Safety of Life at Sea Convention provides that, within the framework of IMCO, in the case of important amendments, governments not accepting such amendments within a specified time shall cease to be parties to the convention. Similar provisions, no doubt, will be included in the other conventions under IMCO. However, I should point out that no amendment can come into force with respect to a particular country until accepted by that government itself. No organ of IMCO has other than recommendatory power with respect to the acceptance of amendments.

In conclusion, I believe that the international marine safety picture which I have given you indicates clearly that continued cooperation on a day to day basis between the American Merchant Marine and the Coast Guard will be essential to the achievement of proper international safety standards in order to maintain our position in world commerce.

GRIM STATISTICS

The following figures reflect records maintained in the Office of Merchant Marine Safety, Casualty Review Section, on fatal boating accidents reported to and investigated by the Coast Guard:

Type of Craft	Number
Outboards	156
Inboards	87
Rowboats	12
Auxiliary	7
Sailboats	2
Houseboats	1
Canoe	1
Total	266

Type of Accident	Deaths
Capsizing	170
Foundering	42
Fell overboard	48
Collision	16
Striking Submerged Object	16
Explosion and Fire	11
Unknown	11
Intoxication	8
Unseaworthiness	7
Overloading	7
Skiing	5
Natural Deaths	5
Disappearance of Vessel	5
Struck by Propeller	4
Swimming from Boat	4
Attempted Rescue	3
Skin Diving from Vessel	3
Suffocation	3
Criminal Recklessness	2
Racing	1
Insanity	1
Struck by Boat	1
Speeding	1
Gunshot	1
Total number of lives lost	375

MERCHANT MARINE PERSONNEL STATISTICS

MERCHANT MARINE OFFICER LICENSES ISSUED

QUARTER ENDING 30 SEPTEMBER 1958

DECK

Grade	Original	Renewal
Master:		
Ocean	56	519
Coastwise	6	44
Great Lakes	1	12
B. S. & L.	24	128
Rivers	3	60
Radio officer licenses issued	15	34
Chief mate:		
Ocean	37	108
Coastwise		8
Mate:		
Great Lakes		
B. S. & L.		
Rivers		
Second mate:		
Ocean	63	130
Coastwise		
Third mate:		
Ocean	135	133
Coastwise		
Pilots:		
Great Lakes	4	13
B. S. & L.	117	42
Rivers	94	28
Master: Uninspected Vessels	4	9
Mate: Uninspected Vessels	19	43
Motorboat operators	278	662
Total	856	1,982
Grand total	2,838	

ENGINEER

Grade	Original	Renewal
STEAM		
Chief engineer:		
Unlimited	26	646
Limited	15	137
First assistant engineer:		
Unlimited	29	184
Limited	1	9
Second assistant engineer:		
Unlimited	56	235
Limited	1	
Third assistant engineer:		
Unlimited	210	244
Limited		
MOTOR		
Chief engineer:		
Unlimited	11	120
Limited	34	155
MOTOR—Continued		
First assistant engineer:		
Unlimited	13	21
Limited	15	20
Second assistant engineer:		
Unlimited	6	19
Limited	1	1
Third assistant engineer:		
Unlimited	163	335
Limited	2	
Chief engineer: Uninspected vessels	9	9
Assistant engineer: Uninspected vessels	6	3
Total	598	2,138
Grand total	2,736	

WAIVER OF MANNING REQUIREMENTS

WAIVERS	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes	Total
Deck officers substituted for higher ratings			1		1
Engineer officers substituted for higher ratings					
Ordinary Seamen for Able Seamen					
Wiper or coalpassers for qualified member engine dept					
Total waivers			1		1
Number of vessels			1		1

INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Marine Details investigated a total of 3,788 cases during the third quarter of 1958. From this number, hearings before Examiners resulted involving 37 officers and 241 unlicensed men. In the case of officers, no licenses were revoked, 2 were suspended without probation granted, 13 were suspended with probation granted, 3 cases were dismissed after hearing, and 1 hearing was closed with admonition. Of the unlicensed personnel, 15 documents were revoked, 21 were suspended without probation, 84 were suspended with probation granted, 11 hearings were closed with admonition, and 27 cases were dismissed after hearing. Two licenses and 77 documents were voluntarily surrendered.

ORIGINAL SEAMEN'S DOCUMENTS ISSUED

Type of document	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes and rivers	Total
Staff Officer	55	11	23	5	94
Continuous Discharge Book	252	5	2		259
Merchant Mariner's Documents	1,435	580	745	807	3,567
AB any waters unlimited	192	46	66	41	345
AB any waters, 12 months	67	22	24	66	179
AB Great Lakes, 18 months	3		5	36	44
AB Tugs and Towboats, any waters	1	1	2		4
AB Bays and Sounds	2				2
AB Seagoing Barges		4	1		5
Lifeboatman	351	48	74	8	481
QMED	168	37	88	81	374
Radio Operators	2				2
Certificate of service	1,526	512	708	706	3,452
Tankerman	39	81	5	86	211
Total	4,093	1,347	1,743	1,836	9,019

MERCHANT MARINE STATISTICS

There were 937 vessels of 1,000 gross tons and over in the active oceangoing United States merchant fleet on October 1, 1958, according to the Maritime Administration. This was 8 more than the number active on September 1, 1958.

There were 24 Government-owned and 913 privately owned ships in active service. These figures did not include privately owned vessels temporarily inactive, or Government-owned vessels employed in loading grain for storage. They also exclude 29 vessels in the custody of the Departments of Defense, State, and Interior.

There was an increase of 14 active vessels and a decrease of 12 inactive vessels in the privately owned fleet. One new combination passenger-cargo ship, the SS *Brasil*, was delivered into service and 1 freighter, the *Valiant Explorer*, was returned from foreign to United States flag.

Of the 92 privately owned inactive vessels, 37 dry cargo ships and 36 tankers were laid up for lack of employment, 2 more than on September 1. Most of the others were undergoing repair or conversion.

The Maritime Administration's active fleet decreased by 6, while its inactive fleet increased by 19. Three freighters, the *Ambrose Bierce*, the *William Whipple*, and the *Cyrus H. K. Curtis*, were sold for scrap. Fifteen transports owned by the Navy were turned over to the Administration, and one ship was placed in fleet custody. This increased the Government fleet by 13 to a total of 2,136. The total merchant fleet, active and inactive, increased by 15 to 3,141 on Oct. 1, 1958.

No new ships were ordered. One new passenger ship, the SS *Brasil*, was delivered, and one new Great Lakes ore carrier, the *Edmund Fitzgerald*, was delivered. Two converted tankers were also delivered. The total of large merchant ships on order or under construction in United States shipyards dropped by four vessels to 95.

Seafaring jobs on active oceangoing United States flag ships of 1,000 gross tons and over, excluding civilian seamen manning Military Sea Transportation Service ships were 51,364. Prospective officers in training in Federal and State nautical schools numbered 2,196.

APPENDIX

AMENDMENTS TO REGULATIONS

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

Subchapter C—Aids to Navigation

[CGFR 58-34]

PART 67—PRIVATE AIDS TO NAVIGATION, OUTER CONTINENTAL SHELF AND WATERS UNDER THE JURISDICTION OF THE UNITED STATES

MISCELLANEOUS AMENDMENTS

The purpose of the following amendments to the regulations is to clarify that part of the regulations relating to the display and visibility of lights required on private aids to navigation on the outer continental shelf and waters under the jurisdiction of the United States.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Treasury Department Orders Nos. 167-3 (18 F. R. 2962) and 167-23 (21 F. R. 5852) to promulgate regulations in accordance with the statutes cited with the regulations below, the following amendments to the regulations are prescribed which shall become effective upon the date of publication of this document in the FEDERAL REGISTER.

SUBPART 67.05—GENERAL REQUIREMENTS FOR LIGHTS

Section 67.05-15 is amended to read as follows:

§ 67.05-15 *Operating periods of obstruction lights.* Obstruction lights shall be displayed at all times between the hours of sunset and sunrise, local time, commencing at the time the construction of a structure is begun. During construction and until such time as a platform capable of supporting the obstruction lights is completed, the fixed lights on an attending vessel shall be used. In addition, when lights are in use for general illumination to facilitate the construction or operation of a structure, and can be seen from any angle of approach at a distance equal to that prescribed for the obstruction lights for the class of structure, the actual operation of obstruction lights also will not be required.

SUBPART 67.20—CLASS "A" REQUIREMENTS

Section 67.20-5 is amended to read as follows:

§ 67.20-5 *Obstruction lights.* The obstruction lights shall be white lights as prescribed in Subpart 67.05 of this part. The lights shall be of sufficient candlepower as to be visible at a distance of at least five nautical miles 90 percent of the nights of the year. The lights shall be displayed not less than 20 feet above mean high water, but not at a height greater than that specified in § 67.05-1 (f).

SUBPART 67.25 CLASS "B" REQUIREMENTS

Section 67.25-5 is amended to read as follows:

§ 67.25-5 *Obstruction lights.* (a) The obstruction lights shall be white lights as prescribed in Subpart 67.05 of this part and shall be of sufficient candlepower as to be visible at a distance of at least three nautical miles 90 percent of the nights of the year. The lights shall be displayed not less than 20, nor more than 60 feet, above mean high water, except that on Class "B" structures which are required to be marked by only one light, that light may be displayed not less than 10 feet above mean high water if the structural features preclude mounting the light within the range of heights specified above.

(b) The District Commander may waive the requirement for obstruction lights on Class "B" structures if there is no hazard to navigation by so doing.

SUBPART 67.30—CLASS "C" REQUIREMENTS

Section 67.30-5 is amended to read as follows:

§ 67.30-5 *Obstruction lights.* (a) The obstruction lights shall be white or red lights as prescribed in Subpart 67.05 of this part and shall be of sufficient candlepower as to be visible at a distance of at least one nautical mile 90 percent of the nights of the year. The lights shall be displayed at such height, above mean high water, as shall be prescribed by the District Commander. When the District Commander shall authorize red lights to mark a Class "C" structure, the color thereof shall conform to the shade of red prescribed in Military Specification Mil-C-25050 (ASG), Type 1, Grade D. A copy of the specification may be obtained from the Bureau of Supplies and Accounts, Department of the Navy, Washington 25, D. C.

(b) When Class "C" structures are erected in close proximity to each other, or are connected in such a manner as to prevent marine traffic from passing freely through the field, obstruction lights may be authorized to mark the perimeter structures only, when in the judgment of the District Commander the group of structures which are equipped with obstruction lights are so arranged that the particular structures are protected to the degree required by this part, and are not a hazard to navigation.

(c) Unless advised to the contrary by the District Commander, obstruction lights shall be required on Class "C" structures erected in depths of water greater than 3 feet at mean low water.

(d) In cases where, although not required, an applicant desires to establish and operate obstruction lights, a permit therefor shall be granted, at the discretion of the District Commander: *Provided,* That the lights meet the requirements set forth in this part.

(Sec. 92, 63 Stat. 503, as amended; 14 U.S.C. 92)

Dated: September 25, 1958.

[SEAL] A. C. RICHMOND,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 58-8185; Filed, Oct. 3, 1958; 8:47 a. m.]

EQUIPMENT APPROVED BY THE COMMANDANT

[EDITOR'S NOTE.—Due to space limitations, it is not possible to publish the documents regarding approvals and terminations of approvals of equipment published in the Federal Register dated October 29, 1958 (CGFR 58-41). Copies of these documents may be obtained from the Superintendent of Documents, Washington 25, D. C.]

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from 1 October to 31 October 1958, inclusive, for use on board vessels in accordance with the provisions of Part 147 (46 CFR 146–147) of the Dangerous Cargo Regulations are as follows:

CERTIFIED

Alken-Murray Corp., 131 East 23d St., New York 10, N. Y., Certificate No. 323, dated 1 October 1958, ALKEN-MURRAY EVEN-FLO CNT.

AFFIDAVITS

The following affidavits were accepted during the period from 15 September 1958 to 15 October 1958:

Monninghoff G. M. B. H., 228 Wiemelhauser St., P. O. Box 435, Bochum, Germany, FLANGES.

Kepner Products Co., 7321 West 59th St., Box 407, Summit, Ill., VALVES.

General Rubber Corporation,[1] Tenafly, N. J., FITTINGS.

Moore Products Co., H and Lycoming Sts., Philadelphia 24, Pa., VALVES AND FITTINGS.

Tube Forgings of America, Inc. (Formerly Clyde Tube Forgings of America, Inc.) Foot of S. W. Gibbs St., Portland 1, Oreg., FITTINGS AND FLANGES.

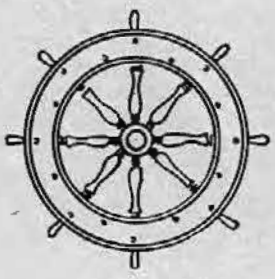
---

[1] Rubber expansion joints only limited to Class II salt and fresh water piping systems and a maximum temperature of 180° F.

FUSIBLE PLUGS

The regulations prescribed in Subpart 162.014, Subchapter Q, Specifications, require that manufacturers submit samples from each heat of fusible plugs for test prior to plugs manufactured from the heat being used on vessels subject to inspection by the Coast Guard. A list of approved heats which have been tested and found acceptable during the period from 15 September 1958 to 15 October 1958 is as follows:

H. B. Sherman Mfg. Co., Battle Creek, Mich., Heat Nos. 819, 820, 821, 822, and 823.



MARINE SAFETY PUBLICATIONS AND PAMPHLETS

The following publications and pamphlets are available and may be obtained upon request from the nearest Marine Inspection Office of the United States Coast Guard, except for cost publications which may be obtained upon application to the Superintendent of Documents, Government Printing Office, Washington 25, D. C. Date of each publication is indicated following title.

CG No.	*Title of Publication*
101	Specimen Examinations for Merchant Marine Deck Officers. 1–50
108	Rules and Regulations for Military Explosives. 5–15–54
115	Marine Engineering Regulations and Material Specifications. 3–1–58
123	Rules and Regulations for Tank Vessels. 4–1–58
129	Proceedings of the Merchant Marine Council. Monthly
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. 4–1–58
172	Pilot Rules for the Great Lakes and Their Connecting and Tributary Waters. 4–1–58
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids. 7–2–51
175	Manual for Lifeboatmen and Able Seamen, Qualified Members of Engine Department, and Tankerman. 6–1–55
176	Load Line Regulations. 11–1–53
182	Specimen Examinations for Merchant Marine Engineer Licenses. 5–1–57
184	Pilot Rules for the Western Rivers. 7–1–57
190	Equipment Lists. 4–1–58
191	Rules and Regulations for Licensing and Certificating of Merchant Marine Personnel. 9–15–55
200	Marine Investigation Regulations and Suspension and Revocation Proceedings. 7–1–58
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels. 4–1–57
227	Laws Governing Marine Inspection. 7–3–50
239	Security of Vessels and Waterfront Facilities. 7–1–58
249	Merchant Marine Council Public Hearing Agenda. Annually
256	Rules and Regulations for Passenger Vessels. 3–1–57
257	Rules and Regulations for Cargo and Miscellaneous Vessels. 6–1–55
258	Rules and Regulations for Uninspected Vessels. 7–1–55
259	Electrical Engineering Regulations. 6–1–55
266	Rules and Regulations for Bulk Grain Cargo. 2–13–53
267	Rules and Regulations for Numbering Undocumented Vessels. 1–15–53
268	Rules and Regulations for Manning of Vessels. 9–3–57
269	Rules and Regulations for Nautical Schools. 11–1–53
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935. 11–19–52
290	Motorboats. 7–1–58
293	Miscellaneous Electrical Equipment List. 4–15–58
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf. 1–2–57
323	Rules and Regulations for Small Passenger Vessels. (Not More Than 65 Feet in Length) 6–1–58

Official changes in rules and regulations are published in the Federal Register, which is printed daily except Sunday, Monday and days following holidays. The Federal Register is a sales publication and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D. C. It is furnished by mail to subscribers for $1.50 per month or $15.00 per year, payable in advance. Individual copies desired may be purchased as long as they are available. The charge for individual copies of the Federal Register varies in proportion to the size of the issue and will be 15 cents unless otherwise noted on the table of changes below.

Changes Published During October 1958

The following have been modified by Federal Register:
CG–190 Federal Register, October 29, 1958
CG–320 Federal Register, October 4, 1958

ANNUAL INDEX—VOLUME 15

We Believe • • •

THAT every man bears the unalterable responsibility for keeping out of harm's way. This he owes to himself, his family, his fellows and his job.

THAT no man lives or works entirely alone. He is involved with all men, touched by their accomplishments, marked by their failures. If he fails the man beside him, he fails himself, and he will share the burden of that loss. The true horror of an accident is the realization that a man has failed himself—and more—that his fellows have failed him.

THAT accidents are conceived in improper attitudes, and born in moments of actian without thought. They will cease to be only when the proper attitude is strong enough to precede the act—when the right attitude creates the awareness that controls the act.

THAT the prevention of accidents is an objective which crosses all levels of rank, organization and procedure.

THAT freedom from harm is not a privilege but a goal to be achieved and perpetuated day by day.

THAT the elimination of injury and pain through accidents is a moral and Christian obligation upon which the final measure of our performance directly depends.