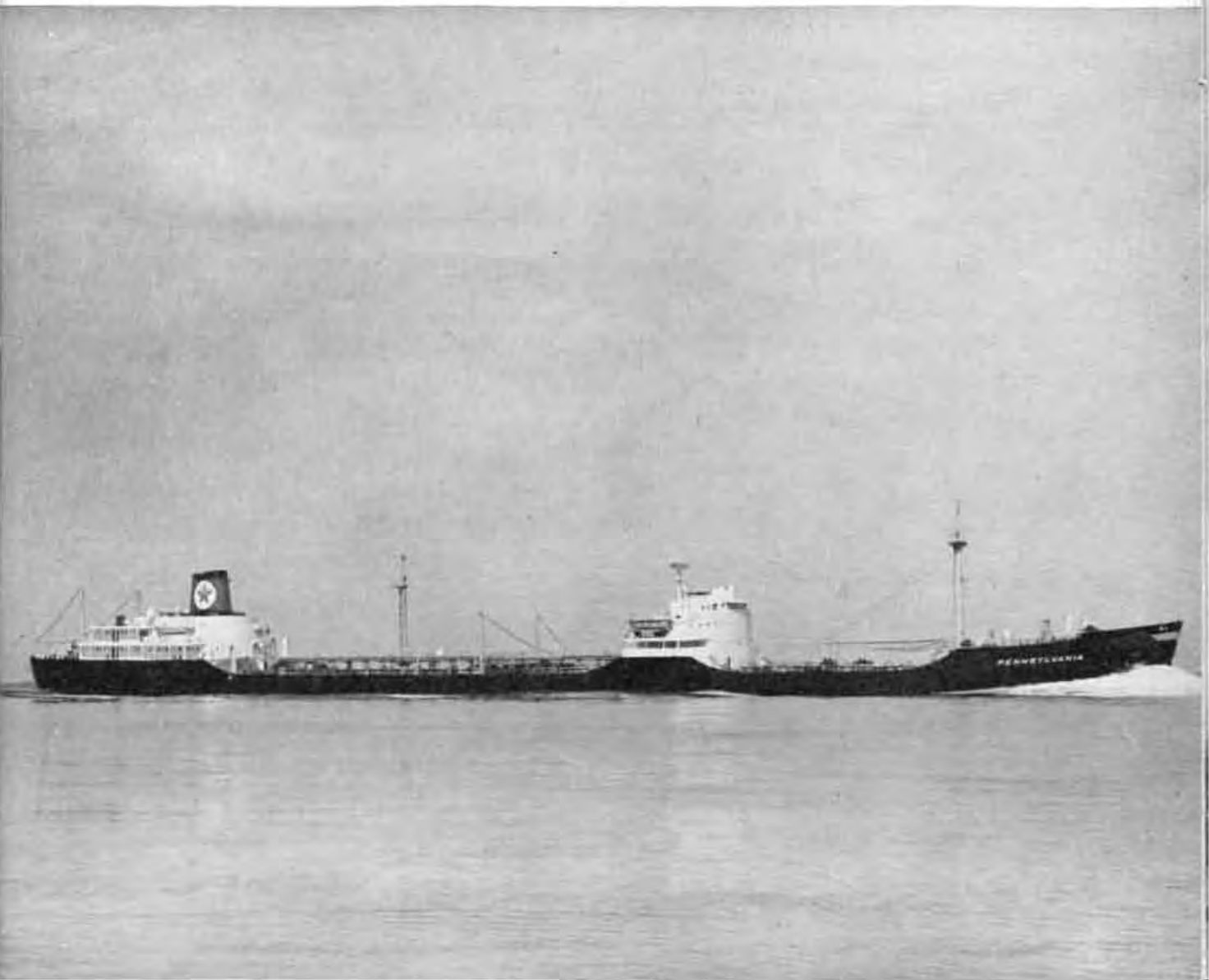
PROCEEDINGS OF THE
MERCHANT MARINE COUNCIL
UNITED STATES COAST GUARD

The Printing of This Publication Has Been Approved by the Director of the Bureau of the Budget March 17, 1949

Vol. 6 October 1949 No. 10



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. There are no restrictions on the republication of material appearing in this issue except for the cover picture.

Mention of source will be appreciated.

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SS *Pennsylvania:* One of the new super tankers. *Courtesy, Texas Company.*

Distribution (SDL 39):
A: a, b, c, d (2 ea.); remainder (1 ea.).
B: e (35 ea.); c (14) ea.); g, l (5 ea.); f (4 ea.); h (3 ea.); d (2 ea.); remainder (1 ea.).
C: All (1 ea.).
D: All (1 ea.).
E: m (1 ea.).
List 141M.

COUNCIL ACTIVITIES

The Merchant Marine Council held a semiannual meeting on September 27, 1949, at Coast Guard Headquarters, Washington, D. C. Public hearings were held on that day for the purpose of receiving comments on the proposed changes in regulations which had been previously announced in the August 1949 "Proceedings" as well as in the Federal Register of August 23, 1949.

In addition to the members of the Merchant Marine Council on duty at Coast Guard Headquarters the following officers from the districts throughout the country sat as follows: Rear Admiral Raymond T. McElligott, Commander, 13th Coast Guard District, Seattle, Wash.; Captain Arthur G. Hall, Commander, 7th Coast Guard District, Miami, Fla.; Captain Lewis H. Shackelford, Marine Inspection Officer, 3rd Coast Guard District, New York, N. Y.; and Mr. John F. Oettl, Marine Inspection Officer, 8th Coast Guard District, New Orleans, La.

The Merchant Marine Council recommended to the Commandant that the changes proposed in the regulations and described in the August "Proceedings" be adopted. The following items were recommended:

1. To amend the Motorboat Regulations by adding a new section 24.12, which will require a licensed motorboat operator to exhibit or produce his license for the inspection of any Coast Guard boarding officer at all times when he is operating a vessel carrying passengers for hire.

2. To amend section 25.4–3 of the Motorboat Regulations by deleting from this section the specification requirements regarding construction of wood floats and place them in a new subpart 160.039 in Subchapter Q—Specifications.

3. To amend paragraph 27.4–2 (j) of the Motorboat Regulations to permit, in addition to a heat actuated device to shut off the fuel supply in the tank in the event of fire, either an approved mechanical or an approved electrical device capable of shutting off the fuel supply when the engine stops, which shall be installed in the fuel line in a motorboat or motor vessel of more than 15 gross tons which carry passengers for hire.

4. To amend paragraph 27.5–2 (a) to clarify the requirements for the construction of fuel tanks for motorboats or motor vessels of more than 15 gross tons which carry passengers for hire and use as fuel liquids with a flash point of more than 110° F.

5. To amend sections 59.60, 59.61, 60.53, and 60.54 of the "General Rules and Regulations for Vessel Inspection, Ocean and Coastwise," to provide for improvements made in line-throwing appliances and line-throwing equipment. The use of impulse-projected rockets will be required on new vessels and as replacements on existing vessels. The effect of this amendment will be that the Lyle gun will be permitted on board vessels now equipped with them, but that, after the effective date of the amendments, vessels

placed in service or replacements for Lyle gun installations now on existing vessels will be required to carry the impulse-projected rocket type unless by reason of tonnage the shoulder gun type is permitted.

6. To amend sections 61.4 (a) (1), 77.4 (a) (1), 95.4 (a) (1), and 114.6 (a) (1) of the various General Rules and Regulations for Vessel Inspection to require a water sprinkling system in compartments of vessels where the escape of inert gas or steam from such extinguishing systems would render uninhabitable crew or passenger spaces.

7. To amend sections 146.09–6, regarding construction of portable magazine chests; 146.22–100, regarding pyroxylin plastics, film support (nitro-cellulose base), and transportation of iron sponge; 146.23–10 (b), regarding handling of sulfuric acid; 146.24–15 (a), regarding transportation of caustic soda solutions with chlorine on unmanned barges; and 146.27–100, regarding iron sponge, iron mass, and iron oxides; in the regulations covering explosives or other dangerous articles or substances and combustible liquids on board vessels. These changes incorporate the various comments received where practicable.

8. To add specifications regarding buoyant apparatus, lifeboat and life raft hatchets, embarkation-debarkation ladders, life rafts, life floats, shoulder gun type line-throwing appliances, portable magazine chests, wood floats, impulse-projected rocket type line-throwing appliances, automatic electric floating water lights, motor lifeboat searchlights, and hand electric flashlights to parts 160 and 161 of Subchapter Q, Specifications. All comments received were considered and incorporated into the specifications where possible.

9. To amend the Pilot Rules for Certain Inland Waters by adding a new regulation requiring fishing vessels to carry day marks when such vessel is dragging her nets. This section is to be the same as article 9 (k) of the International Rules.

The proposed changes have been recommended by the Council to the Commandant and will appear in the Federal Register in the near future. The amendments when approved by the Commandant will also be published in the Appendix of a future edition of the "Proceedings."

SS PENNSYLVANIA

The newly built *Pennsylvania* supertanker for The Texas Co. entered service during the summer of 1949, having been built by Bethlehem Steel Co. at their Fore River yard at Quincy, Massachusetts.

The *Pennsylvania* has an over-all length of 623 feet, a beam of 84 feet, a deadweight tonnage of 27,700 tons, designed speed of 16 knots, liquid cargo carrying capacity of 240,700 barrels, and dry cargo capacity of 65,600 cubic feet. Accommodations are provided for a total complement of 54 persons consisting of 7 deck officers, 8 engineering officers, 10 petty officers, 25 crew and 4 others. She is powered by a single screw with geared turbine having a shaft horsepower of 12,500 at 100 revolutions per minute. The vessel is equipped with a system of fire alarm, extinguishing, and lifesaving equipment in accordance with the latest requirements of the United States Coast Guard.

FIRE PREVENTION WEEK

The need for constant vigilance in fire prevention must be exercised the year around, but each year one week is designated as "Fire Prevention Week" in order to emphasize the necessity for fire prevention. On August 2 the President by a proclamation designated the week beginning October 9, 1949, as Fire Prevention Week and the following is quoted from that proclamation:

"I earnestly request that during that week all of us undertake a year-round campaign against destructive fires in our homes and in our communities. I also request that State and local governments, the American National Red Cross, the National Fire Waste Council, the Chamber of Commerce of the United States, business, labor, and farm organizations, churches, schools, civic groups, and agencies of public information, including newspapers, magazines, and the radio, television, and motion-picture industries, cooperate fully in the observance of Fire Prevention Week. I direct the appropriate agencies of the Federal Government to assist in arousing public awareness of the need for active participation in this crusade against the frightful toll of life and property resulting from fires."

On board a vessel an accidental fire may be far more disastrous than a similar blaze in a shore establishment. The fire may prevent possible escape by destroying or prohibiting the use of emergency equipment provided. Vigorous inspections should be made at regular intervals to insure proper fire preventive measures have been instituted and are enforced.

To prevent accidental fires it is suggested that inspections be made, and equipment replaced if necessary, regarding the following:

1. Inspect electrical wires, extension cords, and ignition wires, and replace all which are worn or frayed.

2. Inspect refuse containers and use only fire-resistive containers wherever possible.

3. Check engine exhaust pipes at floors and bulkheads and maintain adequate and proper insulation.

4. Maintain the engines and engine rooms scrupulously clean, removing exterior oil, grease, waste, and refuse if found.

5. Before working on engine fuel pumps or gas lines, disconnect battery cables, especially if in same or adjoining compartments.

6. When welding operations are necessary, provide adequate fire watches.

7. Check all fire-fighting equipment and maintain it in top operating condition at all times.

8. Check bilges and maintain in a gas-free condition.

9. Before blowing tubes of boilers, provide an adequate fire watch.

10. When switchboards and electrical equipment are located near hatches or other openings, provide adequate means to prevent water from entering and shorting out such equipment.

11. Inspect and maintain galley uptakes, galley exhaust ventilation ducts, and grease extractors in the exhaust ducts in a clean condition.

By observing the preventive measures suggested above, it is felt that the crusade against the frightful toll of life and property resulting from fires may save many lives.

*Learn it
SAFETY *Live it
*Teach it

A TEXAS CITY REMINDER

According to the Los Angeles Times dated August 30, 1949, Longshoreman Jose Venegas, 48, was sentenced to 180 days in jail yesterday for smoking a cigarette aboard a ship berthed at Los Angeles Harbor.

Justice of the Peace John A. Shidler of Gardena, sitting temporarily in San Pedro municipal court, admitted the penalty seemed severe. But there was good reason for it, he contended, to wit:

Loaded aboard the ship, the Grace Line freighter *Santa Juana*, were 7,660 cases of dynamite, 2,000 kegs of blasting powder, and 14 cases of caps!

Testimony disclosed that an explosion on the ship would have flattened everything within a radius of 1,000 yards. Judge Shidler, recalling the Texas City disaster, said the men who work such ships "must be made more thoughtful."

Gamble with your money if you wish, but don't gamble with your life and health.

Practice Safety and live longer!

857826—49

RADAR NAVIGATIONAL AIDS—1950

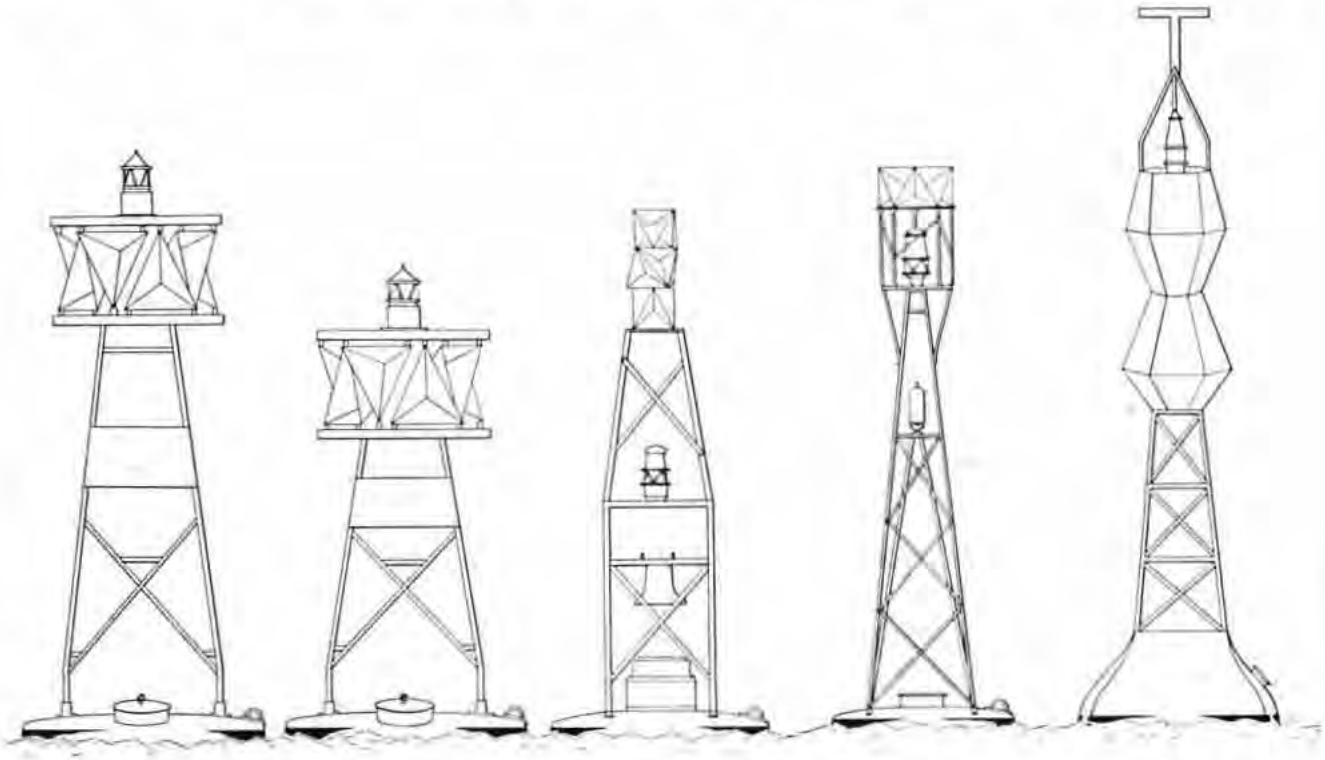
There now appear on navigational charts and in certain light lists some new notations to the effect that certain navigational buoys are "Radar Reflector" (RA. REF.) equipped or that a lighthouse or lightship has "Ramark" (RAMK), installed. It is quite possible that many navigators and others interested in merchant marine radar navigation are not completely familiar with these new types of radar aids. The intent of this article is to briefly describe in a general way for the benefit of the navigator who has radar aboard what radar reflectors and radar beacons are.

The United States Coast Guard is the agency responsible for the operation of U. S. marine aids to navigation and has therefore undertaken considerable investigation and development in the field of radar aids since the advent of radar as a short distance shipboard navigational aid for marine use. Postwar experience with maritime radar has now indicated that if full utilization of the radar is to be realized as a navigational and safety device, certain existing aids should possibly be improved for radar use, namely buoys and certain lighthouses or vessels. The problem has so far been resolved principally by providing reflective devices to improve the existing echoing areas of certain important navigational aids and development of a simple radar beacon known as ramark. Installation of such radar aids is going forward gradually as indicated by the notations appearing on or in the charts and Light Lists.

The radar reflectors presently being used on large lighted buoys in the United States usually consist of a number of corner reflectors mounted in a cluster arrangement and installed above or below the light or they are made an integral part of the buoy light tower. Figure I clearly illustrates the two methods used for radar reflector mounting on United States buoys. It is desirable to point out that some types of navigational buoys are inherently good echoing areas for S- and X-band radar. The reflective signal received from such buoys is in many cases already adequate and the installation of additional reflecting devices would not materially improve the reflection efficiency of the buoy.

At the present time 16 of the important coastal and lakes larger navigational buoys maintained by the United States Coast Guard have been equipped with radar reflectors. Additional trials are going forward in an effort to improve the reflective proportions of the smaller type buoys, such as cans and nuns.

Several foreign countries are actively engaged in programs designed to provide similar radar reflector buoys in their local waters as aids to radar navigation. Of the countries known to be working on the problem all are employing electro-mechanical reflection devices of one kind or another such as plane, trihedral, or polyhedron shapes. These shapes are usually mounted in various cluster patterns as illustrated in figure I.



OUTLINE DRAWINGS OF VARIOUS RADAR REFLECTORS

NO SCALE

The radar beacon type aid to marine navigation is known as a "ramark." Numerous navigators and users of shipboard radar have reported considerable difficulty locating a lightship or lightstation when vessel traffic was heavy in the vicinity of such targets. Recognizing this, the United States Coast Guard has experimented with X- and S-band ramark equipment. The signals received from the ramark will provide the radar navigator with a bearing on the transmitting target. In order to keep the transmitting equipment technically and operationally simple, it is necessary to limit the amount of intelligence which the ramark would provide to the navigator. At the present time ramarks, whether X- or S-band, will only furnish bearing information to the user. Ramark emissions when received on a navigational radar appear as a narrow beam. This beam extends radially from the center to the periphery of the radar screen (PPI), indicating the direction of the transmitting beacon. The accuracy of this bearing is partly dependent on the resolution and accuracy of the radar used. Thus, it may be seen that if a radar navigator obtains a ramark bearing on a target such as a light vessel or lighthouse that target may be easily located even though the radar screen is cluttered with other shipping or reflecting objects. It is at the present time not possible to provide range information also without using very complicated beacon transmitting equipment. Such equipment would be extremely expensive and very difficult to maintain. However, in order for the navigator to obtain a "fix" it would only be necessary to use two ramark beacons suitably located.

The ramark as now being used experimentally in this country transmits on a special radar band, therefore ramark presentation is available only to the navigator when the radar is modified slightly to receive signals on 9310 mcs. (X-band), or 3256 mcs. (S-band).

X- and S-band ramark installations are right now available to mariners on the Great Lakes. An installation is operating continuously at the Detour Reef Light Station. Other ramark installations, X- and S-band will probably be made on the Atlantic coast. It is quite probable that the installations will be made aboard lightships on the coast. These installations will eventually permit Atlantic coastwise shipping to evaluate ramark as an aid to radar navigation.

In certain areas on the coasts and lakes, and more frequently on the rivers, there has been considerable discussion and some experimental trials of radar reflectors and radar beacons to mark bridge channels. There is continuing interest and experimentations by several manufacturers and Government agencies but none of these have yet evolved an entirely satisfactory device for this application. It is possible that as engineering development and research progresses there will evolve some device which will be useful for this application but to date it has not become evident what the nature of the device will be.

LESSONS FROM CASUALTIES

STILL ANOTHER LIFEBOAT DROPPED!

Another seaman died as the result of injuries sustained when a lifeboat was dropped approximately 40 feet over the side of a Victory type vessel (VC2). One August morning the ship's boatswain and five seamen began overhauling and lubricating the lowering and releasing gear of the lifeboats Nos. 2 and 4 on a Victory type vessel. The lifeboats Nos. 2 and 4 were served by one electric motor in combination with two clutches, one for each lifeboat. The clutch arrangement is such that either clutch may be engaged at one time or both clutches may be simultaneously disengaged. In this particular installation, as in the case in a number of similar installations on this type of vessel, an interlocking switch actuated by the clutch lever has been added to prevent the electric control associated with one lifeboat from operating the motor should it be mechanically clutched to the other lifeboat.

The No. 4 lifeboat was lowered into the water and its releasing gear tested, found satisfactory, was connected up and hoisted level with the boat deck. Next the No. 2 motor lifeboat was uncovered, lowered to the water, and operated in the area of the ship for about 15 minutes, returned to the ship's side, and hoisted to the level of the boat deck, where it was allowed to remain until the crew were ready to grease the falls on the winch drum.

The crew then returned to the No. 4 lifeboat which was hoisted to its stowage position when it began to rain. Three of the seamen were in the No. 4 lifeboat starting to spread and lash down the canvas cover. At this time the electric motor started (approximately 5 minutes after it had started to rain) and carried the davit arms up until they were hard against their stops. Someone yelled and two of the seamen jumped out onto the house, but the third one was unable to do so before the falls parted. Then the lifeboat and davit arms charged down the trackway and the lifeboat dropped approximately 40 feet into the water. The three seamen working in the No. 2 lifeboat lowered away immediately to help their coworker. They placed the injured seaman in a stretcher and he was raised by cargo gear, landed on the dock, and rushed to a hospital, but died without regaining consciousness.

By later inspections and tests it was found that water had entered the interlocking switch where the lever pin pierces the switch casing, causing a ground between the wiring and the casing. The ground closed the contactors for operating the clutch motor, even though the No. 4 limit switch was in the open position. This condition caused the No. 4 lifeboat to be hoisted beyond the limit switch control. An actual test was made later by grounding the bottom lead in this interlocking switch and it slowly actuated the contactor coil in the controller and the winch began operating.

The failure to have the interlocking switch properly waterproofed started the chain of events which resulted in another seaman being killed because the lifeboat was dropped.

In view of the fact that two hazardous conditions exist in this type of electrical installation; namely, (a) where no interlocking switch is installed, and (b) where an interlocking switch of unsatisfactory construction is provided, steps should be taken as soon as possible to remedy these conditions so that other seamen will not lose their lives. This may be accomplished by:

(1) Installing an acceptable interlocking switch where none now exists, this switch to be actuated by the clutch lever and so connected in the control circuit that the controls associated with one lifeboat cannot operate the motor should the motor be mechanically clutched to the other lifeboat; and,

(2) Replacing presently installed interlocking switches of unsatisfac-

tory construction with acceptable units.

A Navigation and Vessel Inspection Circular No. 9-49, reprinted on page 173, further describes this casualty and sets forth the recommendations of the Coast Guard of corrective measures which should be taken as soon as possible.

SEASON OF TRAGEDIES

To describe the tragic events that have become statistics in the tables below could not be done within the pages of this pamphlet. The casualty reports submitted to the Coast Guard do not cover all of the tragedies that have occurred in the boating, cruising, and yachting seasons in the United States. While the total number of accidents reported have remained nearly the same, the total number of deaths have shown an alarming increase.

The word "ghastly" very aptly describes the many accidents being reported to the Coast Guard. While more and more people are turning to pleasure boating as a means of relaxation and fun, it is terrible to note that carelessness is one of the main contributing causes.

While many deliberately violate safety laws and safety practices, it is regretted that in many instances innocent persons have been killed or maimed. It is not always possible to enforce common sense safety precautions. The person's main protection available is to refuse to associate with irresponsible individuals who have no regard for safety.

While the statistics for the 1949 pleasure boating season are not available, it appears certain that this season will top the list as one of the bloodiest and most gruesome waste of human life in the annals of pleasure boating. Not only were many accidents caused on board motorboats and small motor vessels by carelessness, but the careless operation of pleasure craft killed and maimed many innocent persons.

If it were possible to cut out carelessness for all time by simply cutting the word out of the dictionary, it would have been done long before this. Stopping carelessness isn't just blotting it out of your mind and forgetting about it, it is being ever mindful of its presence!

Carelessness causes accidents! Carelessness may be an error in judgment, lack of attention, or failure to give proper consideration to the task at hand.

PACK A LIGHT

Recently a man went down into the 'tween deck to do some repair work at sea. Hatches were covered on weather deck, open in the 'tween deck. The lights went off, and when the man went back in the dark to fix them he stepped in the open hatch and fell to the lower hold.

In this case the accident was the failure of the lights, probably shorted by a broken wire. More attention to inspection might have caught this defect before the accident. The injury could have been avoided had the recommended practice of roping off open hatches been followed.

The injury also could have easily been avoided had the man had a flashlight in his pocket for use in

ACCIDENTS—MOTORBOATS AND MOTOR VESSELS LESS THAN 300 GROSS TONS, INLAND WATERS OF UNITED STATES

	Fiscal year 1946			Fiscal year 1947			Fiscal year 1948			Fiscal year 1949		
	Number			Number			Number			Number		
	O/S	G/S	Deaths	O/S	G/S	Deaths	O/S	G/S	Deaths	O/S	G/S	Deaths
Collisions	189	89	9	59	113	8	102	93	13	92	85	31
Groundings	31	17	0	33	22	1	25	21	0	36	21	1
Founderings	27	34	35	31	39	50	40	40	54	50	59	79
Fires and explosions—Vapor	2	41	7	3	48	14	10	54	13	9	54	10
Fires and explosions—Other causes	26	25	6	21	17	6	28	36	7	38	25	7
Miscellaneous	17	3	2	6	9	0	10	6	3	13	12	3
Total accidents	292	209		153	248		215	250		238	256	
Grand total		501	59		401	79		465	90		494	131

FIRES AND EXPLOSIONS—MOTORBOATS AND MOTOR VESSELS LESS THAN 300 GROSS TONS, HIGH SEAS AND FOREIGN

	O/S	G/S	Deaths	O/S	G/S	Deaths	O/S	G/S	Deaths	O/S	G/S	Deaths
Fires and explosions—Vapor	0	2	0	0	3	0	1	3	13	1	0	0
Fires and explosions—Other causes	2	2	0	7	1	3	7	2	4	3	0	0
Total accidents	2	4		7	4		8	5		4	0	
Grand total		6	0		11	3		13	17		4	0

NOTE.—O/S—Designates oil screw vessels.
G/S—Designates gas screw vessels.
Fiscal year—1-year period from July 1 to June 30.
Basis—The above tabulation is based on casualty reports submitted to the U. S. Coast Guard.

just such an emergency. While every effort should be made to insure constant and sufficient illumination for work in the holds, an unavoidable power failure may occur at any time. Therefore, men working in the holds should be provided with flashlights at all times regardless of railings, closed hatches, or stowed cargo to enable them to reach an exit or trace a light cord without danger to themselves and loss to the ship.—*Seaman's Safety Guide*, March 1948.

Safety Suggestions

Sometime ago, a seaman, Richard F. Day, won a safety-at-sea contest which was judged by a jury made up of a bosun, a ship's cook, a fireman-watertender, and two safety experts. As one seaman to another, here are Mr. Day's suggestions to you:

1. Before raising or lowering booms always make sure working gear both standing and running is safe before starting to work.

2. Never cross covered hatches in port. A cover may be missing and you may be seriously injured.

3. When rigging staging or for working aloft always make sure both standing and running gear are safe before going to work.

4. When working aloft with tools use a canvas bag to put tools in, for should one drop it could cause serious injury to someone below on deck.

5. When handling mooring lines on winch niggerhead never use light, loose gloves. They may get caught in between strands (turns) on drum, causing serious injury to fingers.

6. When climbing up and down ladders (perpendicular) always use both hands on side of ladders, not rungs. A rung may be rusted through, causing you to lose your balance and causing you serious injury.

7. When working between decks be sure to rig a lifeline around open hatches to prevent anyone from falling into lower hold.

8. When your ship is loading or discharging cargo, never walk under a loaded sling.

9. Always stay sober while doing dangerous work and at any other time, as an intoxicated shipmate may cause serious injury to you or himself. If one of your crew is drunk, order him at once to his quarters and keep him there.

10. Never try to lift anything over your weight. You may get a serious back injury or a rupture. Always in this case get someone to help you.

11. Never stand under booms when they are being raised or lowered, because you can never know when a topping lift wire or a guy line may break, causing serious injuries to your shipmates or you.

12. Never go aloft if you are too nervous, because you are liable to get panicky and cause yourself serious injury. This also concerns going over the bow on staging when the ship is light.

13. At all times watch your step day and night. Look where you are going and be careful you don't bump into or trip over something, causing serious injury.

14. When handling wire topping lift, cable, or wire hawsers always use heavy leather gloves. A wire splinter can cause serious injury to hand or fingers.

15. Any injury, no matter how slight, always report to the purser or the one in charge of first aid, to prevent infection or other things which might become serious.

16. Before entering a chain locker be positive the wild cat on the windlass is securely locked.

Follow these suggestions of a shipmate and keep yourself from getting hurt on the job.—*Shipboard Safety*, January 1948.

TAKE A SHORT CUT
HAVE A SHORT LIFE.

Why take a Chance!
So little to gain—
So much to lose

APPENDIX

FIELD ORGANIZATION

[CGFR 49-35]

CHANGE IN DESCRIPTION OF LAND AREAS OF CERTAIN COAST GUARD DISTRICTS

The notice containing the description of organization and functions of the United States Coast Guard, published in the Federal Register December 30, 1948, 13 F. R. 8815-8818, is amended effective October 1, 1949, in section 4, "Field Organization" as follows:

A. Revise the table in paragraph (b) as follows:

1. Change the description of the area comprising the Second Coast Guard District to read, "West Virginia; Kentucky; Tennessee; Oklahoma; Kansas; Nebraska; North Dakota; South Dakota; Wyoming; Colorado; Iowa; Missouri; Pennsylvania south of latitude 41° N. and west of longitude 79° W.; those parts of Ohio and Indiana south of latitude 41° N.; Illinois, except that part north of latitude 41° N. and east of longitude 90° W.; Wisconsin south of latitude 46°20' N. and west of longitude 90° W.; Minnesota south of latitude 46°20' N.; and those parts of Arkansas, Mississippi, and Alabama north of latitude 34° N."

2. Change the description of the area comprising the Eighth Coast Guard District to read, "Texas, New Mexico, and Louisiana; those parts of Alabama, Mississippi, and Arkansas south of latitude 34° N.; and that part of Florida west of the Apalachicola River."

3. Change the description of the area comprising the Eleventh Coast Guard District to read, "Arizona; Clark County in Nevada; and the southern part of California comprising the counties of Santa Barbara, Kern and San Bernardino, and all counties south thereof."

4. Change the description of the area comprising the Twelfth Coast Guard District to read, "Utah; Nevada, except Clark County; and the northern part of California comprising the counties of San Luis Obispo,

Kings, Tulane, and Inyo, and all counties north thereof."

5. Change the description of the area comprising the Thirteenth Coast Guard District to read, "Washington, Oregon, Idaho, and Montana."

Dated: September 7, 1949.

[SEAL] E. H. FOLEY, *Jr.*
Acting Secretary of the Treasury.

[F. R. Doc. 49-7439; Filed, Sept. 14, 1949; 8:50 a. m. 14 F. R. 5673]

Navigation and Vessel Inspection Circular No. 8-49

United States Coast Guard,
Washington 25, D. C., August 11, 1949.

Marking Fire and Emergency Equipment and Apparatus, Fire Doors, Watertight Doors, Lifeboat Embarkation Stations and Direction Signs, Stateroom Notices, Instructions for Changing Steering Gears, Etc.

1. Requests have been received from shipbuilders and others for information concerning the proper marking of fire and emergency equipment, fire doors, watertight doors, lifeboat embarkation stations and direction signs, and the wording of stateroom notices on vessels when not otherwise specifically stated in the General Rules and Regulations. The following recommendations are made for the purpose of effecting uniformity in such markings:

GENERAL ALARM BELL SWITCH

The general alarm bell switch in the pilothouse or fire control station to be clearly marked with lettering on a brass plate or with a sign in red letters on suitable background:

"GENERAL ALARM"

GENERAL ALARM BELLS

Mark in red paint in ½" letters "General Alarm"—"When Bell Rings Go To Your Station".

MANUAL ALARM BOXES

If not clearly marked "Fire Alarm—Break Glass" or "In Case of Fire Break Glass", to be marked "In Case of Fire Break Glass" in ½" letters. Each box is to be numbered using 1" figures and red paint.

MANUAL ALARM BELLS

The manual alarm bells on bridge, in engine room and in fire control station and crew quarters to be marked "Manual Fire Alarm" in 1" letters, red paint.

SPRINKLER ALARM BELLS

On bridge, in engine room and fire control station, mark "Sprinkler Alarm Zone No. 1", 2, etc.

SPRINKLER ZONE VALVE

Number each zone valve with 3" red letters and figures or mark with legible brass plate.

STEAM FIRE SMOTHERING APPARATUS

Indicate by a sign the location of the "Steam Fire Apparatus." CO_2 fire extinguishing system to be similarly and appropriately marked "CO_2 Fire Apparatus." Use 3" red letters. The valves of all branch pipes leading to the several compartments to be distinctly marked to indicate the compartments or parts of the vessel to which they lead.

FIRE HOSE STATION

"Fire Station No. —" at each fire hose valve to be marked in 2" red letters.

WATCHMAN DETEX CLOCK KEY STATION

Number each key station in 1" figure—red paint.

EMERGENCY SQUAD EQUIPMENT

Lockers containing equipment for use of emergency squad to be marked "Emergency Squad Equipment." Lockers where oxygen breathing apparatus is stowed to be marked "Oxygen Breathing Apparatus."

FIRE EXTINGUISHERS

Number or tag each fire extinguisher and mark location where stowed in corresponding numbers in 1" letters.

EXIT LIGHTS

To be red glass marked "Exit" and to be so arranged in corridors that they can be seen from a distance.

EMERGENCY LIGHTS

Stencil a letter "E" at each light in 1" letter with red paint.

FIRE SCREEN DOORS

Number each fire screen door in 2" letters. Color most legible in contrast to background.

Viz: "F. S. D. 1," etc.

FIRE SCREEN DOORS EMERGENCY EXITS

Mark "Emergency Exit" in 2" letters as follows:

(a) on compartment side of fire screen doors,
(b) on corridor side of stair well doors,
(c) on inside of stair well doors leading to embarkation deck.

Signs to be so located on the door as to insure that passengers and crew may be properly directed to embarkation stations in emergencies under the premise that the doors have been closed. Color should be most legible contrast to background.

WATERTIGHT DOORS

Number each watertight door in at least 2" figures and letters "W. T. D. 1," 2, 3, etc. Color to be in contrast to color of doors.

Mark location of all watertight door remote operating stations in at least 2" figures and letters and indicate the number of the door. Mark direction of operation of lever or wheel provided to close or open the door at all watertight door operating stations. Color of sign to contrast with background.

LIFEBOAT STATIONS

Place on deck beams or suspend from overhead at each boat station on embarkation deck a sign in 3" letters "Lifeboat Station No. 1," 2, etc. If there is no overhead structure at a boat station, place a similar sign in a position where it will readily be seen.

EMBARKATION DIRECTION SIGNS—TO LIFEBOATS

Locate signs in alleyways, corridors and stair wells. These signs to be of 1" letters with arrows indicating the shortest route to follow to reach lifeboats. The arrow to be of appropriate dimensions, viz:

TO BOATS →

TO BOATS ←

The signs near the exits to the embarkation deck should be marked with the numbers of the boat stations nearest to such exits, viz:

TO BOAT STATIONS
NOS. 1, 3, 5
(or 2, 4, 6, etc.) →

Any combination of arrows and 1" lettering which will clearly indicate the direction to be followed will be acceptable. It is recommended that the signs directing the way to the odd numbered boats be green and those directing the way to the even numbered boats be red in color.

STATEROOM NOTICES

Framed notices to be conspicuously posted in the stateroom indicating the following:

"EMERGENCY SIGNALS

"FIRE AND EMERGENCY—CONTINUOUS RAPID RINGING OF THE SHIP'S BELL AND OF THE GENERAL ALARM BELLS

FOR A PERIOD OF NOT LESS THAN TEN SECONDS.

"ABANDON SHIP (OR BOAT STATIONS)—MORE THAN SIX SHORT BLASTS AND ONE LONG BLAST OF THE WHISTLE SUPPLEMENTED BY THE SAME SIGNAL ON THE GENERAL ALARM BELLS."

State location of life preservers.

Include instructions and picture showing how to wear life preservers.

"THE OCCUPANTS OF THIS ROOM ARE ASSIGNED TO LIFEBOAT NO. —. ALL PASSENGERS ARE REQUIRED TO PUT ON A LIFE PRESERVER AND GO TO THEIR LIFEBOAT STATIONS WHENEVER GENERAL ALARM BELL RINGS.

"THE ROOM STEWARD WILL PROVIDE LIFE PRESERVERS FOR CHILDREN."

CHILDREN'S LIFE PRESERVERS

Mark the lockers or boxes in which the children's life preservers are stowed and also the number contained therein, 2" figures and letters.

Viz:

20

CHILDREN'S LIFE PRESERVERS

INSTRUCTIONS FOR CHANGING STEERING GEAR

Instructions in at least 1" letters and figures to be posted at each emergency steering station and in the steering engine room, relating in order the different steps to be taken in changing to the emergency steering gear. Each clutch, gear, wheel, lever, valve, or switch which is used during the change-over to be numbered or lettered on a brass plate or painted so that the markings can be recognized at a reasonable distance. Indicate each clutch or pin to be "in" or "out" and each valve which is to be "opened" or "closed" in shifting to any means of steering for which the vessel is equipped. Include instructions to line up all steering wheels and rudder amidship before changing gears.

RUDDER ORDERS

At all steering stations, there shall be installed a suitable notice on the wheel or device or in such other position as to be directly in the helmsman's line of vision, to indicate the direction in which the wheel or device must be turned for "right rudder" and for "left rudder."

MARKING OF EQUIPMENT

All lifeboats, rafts, floats, buoyant apparatus including equipment, also life preservers, ring buoys, fire hose, axes, etc. to be painted or branded with the name of the vessel and numbered as required in accordance with the General Rules and Regulations.

2. Existing signs, markings, and posters that are in general conformity with the above may be accepted if they adequately serve their purpose.

3. Navigation and Vessel Inspection Circular No. 5–47 is hereby canceled.

J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

Navigation and Vessel Inspection Circular No. 9–49

United States Coast Guard,
Washington 25, D. C., September 21, 1949.

Lifeboat davits; single electrical winch control, interlocking switch, waterproofing of

1. Recently a seaman on a Victory type vessel (VC2) died as a result of injuries sustained when a lifeboat, breaking away from its secured position, was carried overboard into the water. While the boat was in its secured position and the seaman was spreading and lashing down the canvas cover, the winch motor suddenly started without the manual operation of any of its controls causing the boat to be heaved hard against its stops resulting in parting of the falls and the casualty.

2. In this type of installation one electric motor serves two lifeboats in combination with two clutches, one for each boat. The clutch arrangement is such that either clutch may be engaged at one time or both clutches may be simultaneously disengaged. Furthermore, in this particular installation, as is the case in a number of similar installations on this type of vessel, an interlocking switch actuated by the clutch lever has been added to prevent the electric controls associated with one boat from operating the motor should it be mechanically clutched to the other boat. The interlocking switch in the instant case was not of waterproof construction. An accumulation of water within the enclosure provided an electric circuit to "ground" thereby applying a 115-volt potential across the contactor coil in the control panel, a potential which was sufficient to actuate the contactor and complete the circuit to the motor.

3. In view of the fact that two hazardous conditions exist in the above-described type electrical installation; namely, (a) where no interlocking switch is installed and (b) where an interlocking switch of unsatisfactory construction is provided, steps should be taken as soon as possible to remedy these conditions. This may be accomplished by:

(a) Installing an acceptable interlocking switch where none now exists, this switch to be actuated by the clutch lever and so connected in the control circuit that the controls associated with one boat cannot operate the motor should the motor be mechanically clutched to the other boat; and

(b) Replacing presently installed interlocking switches of unsatisfactory construction with acceptable units.

4. Two acceptable interlocking switches are:

General Electric Co. CR 9440–LS442AA (without external operating lever), and

Westinghouse Electric Corp., Type 442–AA, Style 946030 (without external operating lever).

However, there may be other acceptable units of comparable design providing the same safety features.

5. The corrective measures outlined in the foregoing should not be construed as precluding from consideration any other method which will accomplish the same purpose satisfactorily.

J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

Equipment Approved by the Commandant

WELDING ELECTRODES

The following types of electrodes have been tested in accordance with the requirements of ASTM designation A233–48T for mild steel arc welding electrodes in the presence of an American Bureau of Shipping Surveyor and the test reports indicate that the requirements were met.

Lincoln Electric Co., 12818 Coit Road, Cleveland 1, Ohio. Lincoln Electric Co. (Manufacturer), Shield Arc LH–70, Type E6016.

Operating Positions and Electrode Sizes

The $\frac{1}{8}$" and $\frac{5}{32}$" diameter electrodes will be allowed for all position welding. The $\frac{3}{16}$", $\frac{7}{32}$", and $\frac{1}{4}$" diameter electrodes will be allowed for horizontal fillet and flat positions. Special limitations require direct or alternating current.

Metal & Thermit Corp., 120 Broadway, New York 5, N. Y. Metal & Thermit Corp. (Manufacturer), MUREX Type R E6010.

Operating Positions and Electrode Sizes

The 3/32", 1/8", 5/32", and 3/16" diameter electrodes will be allowed for all position welding. The 7/32", and 1/4" diameter electrodes will be allowed for horizontal fillet and flat positions. The 5/16" diameter electrode will be allowed for flat positions. Special limitations require direct current.

Approval of Equipment

[CGFR 49-32]

By virtue of the authority vested in me as Commandant, United States Coast Guard, by R. S. 4405 and 4491, as amended; 46 U. S. C. 375, 489, and section 101 of Reorganization Plan No. 3 of 1946 (11 F. R. 7875, 60 Stat. 1097, 46 U. S. C. 1), as well as the additional authorities cited with specific items below, the following approvals of equipment are prescribed and shall be effective for a period of five years from the date of publication in the Federal Register unless sooner canceled or suspended by proper authority:

LIFEBOATS

Approval No. 160.035/22/1, 24' x 8' x 3.25' steel oar-propelled lifeboat, 43-person capacity; identified by construction and arrangement Dwg. No. 259-C, dated November 13, 1947, and revised June 3, 1949, manufactured by C. C. Galbraith & Son, Inc., 99 Park Place, New York 7, N. Y. (Supersedes approval No. 160.035/22/0, published in the Federal Register July 31, 1947.)

Approval No. 160.035/230/0, 22' x 7.5' x 3.17' aluminum oar-propelled lifeboat, 31-person capacity, identified by construction and arrangement Dwg. No. 22-2D, dated July 29, 1948, and revised May 26, 1949, manufactured by Marine Safety Equipment Corp., Point Pleasant, N. J.

Approval No. 160.035/244/0, 18' x 6' x 2.5' aluminum motor-propelled lifeboat without radio cabin, 14-person capacity, identified by general arrangement and construction Dwg. No. 1820, dated March 1, 1949, manufactured by Lane Lifeboat & Davit Corp., Foot of Fortieth Road, Flushing, N. Y.

(R. S. 4417a, 4426, 4481, 4488, 4492, 35 Stat. 428, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 396, 404, 474, 481, 490, 1333; 50 U. S. C. 1275; 46 CFR 37.1-1, 59.13, 76.16, 94.15, 113.10)

VALVES, SAFETY

Approval No. 162.001/106/0, Series VM-310, carbon steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 300 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A-1047S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/107/0, Series VM-320, carbon steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 300 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A-1047S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/108/0, Series VM-330, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 300 pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A-1047S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/109/0, Series VM-410, carbon steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A-1048S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/110/0, Series VM-420, carbon steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A-1048S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/111/0, Series VM-430, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A-1048S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/112/0, Series VM-510, carbon steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A-1049S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½" and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/113/0, Series VM-520, carbon steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A-1049S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½" and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/114/0, Series VM-530, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A-1049S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½" and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/115/0, Series VM-610, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A-1050S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/116/0, Series VM-620, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A-1050S, dated July 29, 1948, and Dwg. No. B-1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/117/0, Series VM-630, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600

pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A–1050S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/118/0, Series VM–640, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 1000° F. maximum temperature, Dwg. No. A–1050S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3", and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/119/0, Series VM–910, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 900 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A–1051S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/120/0, Series VM–920, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 900 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A–1051S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/121/0, Series VM–930, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 900 pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A–1051S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/122/0, Series VM–940, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 900 pounds per square inch primary service pressure rating, 1000° F. maximum temperature, Dwg. No. A-1051S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/123/0, Series VM–1210, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A–1052S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/124/0, Series VM–1220, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A–1052S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3", and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/125/0, Series VM–1230, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A–1052S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/126/0, Series VM–1240, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 1000° F. maximum temperature, Dwg. No. A–1052S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/127/0, Series VM–1510, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. A–1053S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½" and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/128/0, Series VM–1520, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 750° F. maximum temperature, Dwg. No. A–1053S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½", and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/129/0, Series VM–1530, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 900° F. maximum temperature, Dwg. No. A–1053S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½" and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/130/0, Series VM–1540, alloy steel body pop safety valve, flanged nozzle type, exposed spring, fitted with spring cover, 1,500 pounds per square inch primary service pressure rating, 1000° F. maximum temperature, Dwg. No. A–1053S, dated July 29, 1948, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 1½", 2", 2½" and 3", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/131/0, Series VMX–310, carbon steel body duplex pop safety valve, semi-nozzle type, exposed spring, fitted with spring cover, 300 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. F–145, dated December 10, 1946, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 2", 2½", 3", and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/132/0, Series VMX–410, carbon steel body duplex pop safety valve, semi-nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. F–145, dated December 10, 1946, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 2", 2½", 3" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/133/0, Series VMX–510, carbon steel body duplex pop safety valve, semi-nozzle type, exposed spring, fitted with spring cover, 600 pounds per square inch primary service pressure rating, 650° F. maximum temperature, Dwg. No. F–145, dated December 10, 1946, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 2" and 2½", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

Approval No. 162.001/134/0, Model WT (Duplex) carbon steel body pop

safety valve, wing disc type, exposed spring, fitted with spring cover, 250 pounds per square inch maximum pressure, 450° F. maximum temperature, Dwg. No. F–150, dated June 20, 1949, and Dwg. No. B–1700S, dated February 2, 1949, approved for sizes 2", 2½", 3", 3½" and 4", manufactured by J. E. Lonergan Co., Second and Race Streets, Philadelphia 6, Pa.

(R. S. 4417a, 4418, 4426, 4433, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 392, 404, 411, 1333, 50 U. S. C. 1275, 46 CFR 52.65)

RANGES, LIQUEFIED PETROLEUM GAS BURNING

Approval No. 162.020/15/0, Garland gas range, Type No. 82, approved by the American Gas Association, Inc., under Certificate No. 11–42–2.001, for liquefied petroleum gas service, manufactured by the Detroit-Michigan Stove Co., 6900 Jefferson Avenue, East Detroit 31, Mich.

Approval No. 162.020/16/0, Garland gas range, Type No. 83, approved by the American Gas Association, Inc., under Certificate No. 11–42–2.001, for liquefied petroleum gas service, manufactured by the Detroit-Michigan Stove Co., 6900 Jefferson Avenue, East Detroit 31, Mich.

Approval No. 162.020/17/0, Garland gas range, Type No. 84, approved by the American Gas Association, Inc., under Certificate No. 11–42.211, for liquefied petroleum gas service, manufactured by the Detroit-Michigan Stove Co., 6900 Jefferson Avenue, East Detroit 31, Mich.

Approval No. 162.020/18/0, Garland gas range, Type No. 86, approved by the American Gas Association, Inc., under Certificate No. 11–42–2.001, for liquefied petroleum gas service, manufactured by the Detroit-Michigan Stove Co., 6900 Jefferson Avenue, East Detroit 31, Mich.

Approval No. 162.020/19/0, Garland deep fat fryer, Type No. 14–00, approved by the American Gas Association, Inc., under Certificate No. 13–7–1.001, for liquefied petroleum gas service, manufactured by the Detroit-Michigan Stove Co., 6900 Jefferson Avenue, East Detroit 31, Mich.

(R. S. 4417a, 4426, 49 Stat. 1544, 54 Stat. 1028, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 404, 463a, 1333, 50 U. S. C. 1275; 46 CFR 32.9–11, 61.25, 95.24, 114.25)

FIRE EXTINGUISHER, PORTABLE, HAND, CARBON TETRACHLORIDE TYPE

Approval No. 162.004/35/1, Pyrene 1½-quart carbon tetrachloride type hand portable fire extinguisher, Assembly Dwg. No. B–4593, dated May 13, 1947, Alt. 19, dated October 27, 1947, Name Plate Dwg. No. A–9076, dated January 18, 1940, Alt. 3, dated January 23, 1948, manufactured by Pyrene Manufacturing Co., 560 Belmont Avenue, Newark 8, N. J. (This approval supersedes Approval No. 162.004/35/0, published in the Federal Register July 31, 1947.)

(R. S. 4417a, 4426, 4479, 4492, 49 Stat. 1544, 54 Stat. 165, 166, 346, 1028, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 391a, 404, 463a, 472, 490, 526g, 526p, 1333, 50 U. S. C. 1275; 46 CFR 25.5–1, 26.3–1, 27.3–1, 34.5–1, 61.13, 77.13, 95.13, 114.15)

BULKHEAD PANELS

Approval No. 164.008/27/0, "Kaylo", inorganic composition board type Bulkhead Panel with wood, steel, or equivalent veneer on both sides, identical to that described in National Bureau of Standards Test Report No. TG10230–14; FP2746, dated June 29, 1949, approved as meeting Class B–15 requirements in a ⅞ inch thickness, exclusive of veneer, manufactured by American Structural Products Co., Toledo 1, Ohio.

(R. S. 4417a, 4426, 49 Stat. 1384, 1544, 54 Stat. 346, 1028, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 367, 369, 391a, 404, 463a, 1333, 50 U. S. C. 1275; 46 CFR Part 144)

Dated: August 3, 1949.

[SEAL] J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 49–6426; Filed, Aug. 8, 1949; 8:58 a. m.; 14 F. R. 4906]

TERMINATION OF APPROVALS FOR DISTRESS SIGNALS

[CGFR 49–30]

The changes in the regulations and specifications for hand red flare distress signals and floating orange smoke distress signals were described in a notice published in the FEDERAL REGISTER dated August 22, 1947 (12 F. R. 5670) and public hearings were held by the Merchant Marine Council on September 23 and 24, 1947, at Washington, D. C., and the revised regulations and specifications were published in the FEDERAL REGISTER October 31, 1947, 12 F. R. 7072–7079. The regulations were further revised and amendments were published in the FEDERAL REGISTER October 30, November 24, and December 16, 1948, 6411–6415, 6921, 7783–7785. These regulations specified that hand red flare distress signals and floating orange smoke distress signals for inspected merchant vessels after June 1, 1949, shall be manufactured in accordance with specifications in subparts §§ 160.021 and 160.022 in Part 160 of Subchapter Q—Specifications in Chapter I of Title 46, Code of Federal Regulations, and further specified that such distress signals manufactured before June 1, 1949, which do not bear a date of manufacture cannot be continued in use after June 1, 1949, while those distress signals bearing a date of manufacture may be continued in use for a period of three years from such date of manufacture, but in no case will be allowed in use after June 1, 1952.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by R. S. 4405, 4417a, 4426, 4488, 4491, 49 Stat. 1544, 54 Stat. 346, and sec. 5 (e), 55 Stat. 244, as amended; 46 U. S. C. 1, 367, 375, 391a, 404, 481, 489, 1333, 50 U. S. C. 1275; and section 101 of the Reorganization Plan No. 3 of 1946, 11 F. R. 7875, 60 Stat. 1097, 46 U. S. C. 1, *It is ordered*, That:

(a) All approvals for hand red flare distress signals and floating orange smoke distress signals granted by the Bureau of Marine Inspection and Navigation or its predecessors or the Commandant, United States Coast Guard, prior to October 31, 1947, shall be terminated effective on and after June 1, 1949.

(b) All hand red flare distress signals and floating orange smoke distress signals which do not bear a date of manufacture shall not be continued in use as a part of the required lifesaving equipment on board inspected merchant vessels after June 1, 1949.

(c) All hand red flare distress signals and floating orange smoke distress signals manufactured under approvals terminated by paragraph (a) above and which do bear a date of manufacture may be continued in use as a part of the required lifesaving equipment on board inspected merchant vessels for a period of three years from the date of manufacture stamped thereon but in no case later than June 1, 1952.

Dated: August 2, 1949.

[SEAL] J. F. FARLEY,
Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 49–6408; Filed, Aug. 5, 1949; 8:51 a. m.]

AFFIDAVITS

The following affidavits were accepted from August 15, 1949, to September 15, 1949:

Barium Steel & Forge, Inc., Canton 1, Ohio. Forgings.

Cann & Saul Steel Co., 516 Commerce Street, Philadelphia 6, Pa. Forgings.

Glover Machine Works, Inc., Marietta, Ga. Fittings.

Olney Foundry, Link-Belt Company, 180 West Duncannon Avenue, Philadelphia 20, Pa. Castings.

Charles Perkes Company, 2671 Salmon Street, Philadelphia 25, Pa. Flanges and Flanged Fittings.

The Q-P Manufacturing Company, Needham Heights 94, Mass. Fittings.

The Uniblow Valve Company, 1920 West 77th Street, Cleveland 2, Ohio. Fittings.

C. H. Wheeler Manufacturing Co., Sedgley Avenue at 19th and Lehigh, Philadelphia 32, Pa. Valves.

Wiehl Bros. Brass Foundry, Inc., 987 Grand Street, Brooklyn 6, N. Y. Castings.

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of Ships' Stores and Supplies Certificated from August 25, 1949, to September 25, 1949, inclusive, for use on board vessels in accordance with the provisions of part 147 of the regulations governing "Explosives or Other Dangerous Articles on Board Vessels," are as follows:

West Disinfecting Co., 42-16 West Street, Long Island City 1, N. Y., Certificate No. 292, dated September 6, 1949, "Mothene."

West Disinfecting Co., 42-16 West Street, Long Island City 1, N. Y., Certificate No. 293, dated September 6, 1949, "Pine Scented Teramine."

West Disinfecting Co., 42-16 West Street, Long Island City 1, N. Y., Certificate No. 294, dated September 6, 1949, "Teramine the Odorless Disinfectant and Sanitizer for Hospital Use."

West Disinfecting Co., 42-16 West Street, Long Island City 1, N. Y., Cerficate No. 295, dated September 6, 1949, "West Mosquitocide (Larvicide)."

ELECTRICAL APPLIANCES

The following list supplements that published by the United States Coast Guard under date of May 15, 1943, entitled "Miscellaneous Electrical Equipment Satisfactory for Use on Merchant Vessels," as well as subsequently published lists and is for the use of Coast Guard personnel in their work of inspecting merchant vessels. Other electrical items not contained in this pamphlet and subsequent listings may also be satisfactory for marine use, but should not be so considered until the item is examined and listed by Coast Guard Headquarters. Before listings of electrical appliances are made it is necessary for the manufacturer to submit to the Commandant (MMT), United States Coast Guard Headquarters, Washington 25, D. C., duplicate copies of a detailed assembly drawing, including a material list with finishes of each corrosive part of each item.

Manufacturer and description of equipment	Location apparatus may be used				Date of action
	Passenger and crew quarters and public spaces	Machinery cargo and work spaces	Open decks	Pump rooms of tank vessels	
The Adalet Mfg. Co., Cleveland, Ohio:					
Ceiling type lighting fixture with guard, watertight, 1 100-watt lamp max., Cat. Nos. VE-217, VE-317, and VE-417, Dwg. VE-0100 Rev. O	X	X			7/28/49
Ceiling type lighting fixture with guard, watertight, 1 200-watt lamp max., Cat. Nos. VE-227, VE-327, and VE-427, Dwg. No. VE-0200 Rev. O	X	X			7/28/49
Wall mounting lighting fixture with guard, 90° type, watertight, 1 100-watt lamp maximum, Cat. Nos. VLE-2197, VLE-3197, and VLE-4197, Dwg. No. VLE-0100 Rev. O	X	X			7/28/49
Pendant type lighting fixture with guard, watertight 1 100-watt lamp max., Cat. Nos. VA-217, VA-317, and VA-417, Dwg. No. VA-0100 Rev. O	X	X			7/28/49
Pendant type lighting fixture with guard, watertight, 1 200-watt lamp max., Cat. Nos. VA-227, VA-327, and VA-427, Dwg. No. VA-0200 Rev. O	X	X			7/28/49
Control Instrument Co., Inc., Brooklyn, N. Y.:					
Salinity indicating panel, type 55A, 115 V A. C., 60 cycle, Dwg. 20874 Rev. HH and 20873 Rev. G	X	X			9/7/49
Salinity indicating panel, type 55A-1, 115 V A. C. 60 cycle, Dwg. 22011 Rev. C	X	X			9/7/49
Salinity indicator cell and valve assemblies, Dwg. 20973 Rev. W, 22221 Rev. K, and 20454 Rev. DD	X	X			9/7/49
Salinity indicator system rotary converter, 115 V D. C./110 V A. C., 60 cycle, Type CA19, 110 V. A., Dwg. 20875 Rev. B	X	X			9/7/49
Salinity indicator calibrating resistor assembly, Dwg. 22766 Rev. B	X	X			9/7/49
Crouse-Hinds Co., Syracuse, N. Y.:					
Floodlight, Type ADE-14, with standard base mounting for marine use, catalog Nos. 42740-M and 42739-M, 1 500-watt lamp max., watertight, Dwg. 83-KH1 Alt. 1	X	X	X		8/12/49
Felbick Electric Co., Union, N. J.:					
Full-automatic running light panel, 115 volts A. C. or D. C., 230 V D. C., for double-filament lamp or double-lens dual-lamp navigation lights, Dwg. 205 Alt. 1	X	X			9/13/49
Semi-automatic running light panel, 115 volts A. C. or D. C., 220 V D. C., for double-filament lamp on double-lens dual-lamp navigation lights, Dwg. 206 Alt. 1		X	X		9/13/49
Henschel Corp., Amesbury, Mass.:					
General alarm system relay, watertight, Dwg. 60-168-1 Alt. 0		X	X		7/25/49
Electric engine order transmitter-indicator, 12", double-face, double-engine, pedestal mounting, 115 V, 60 cycle, A. C. Dwg. 10-1081-1 Alt 0		X	X	X	9/7/49
Internal units for commercial electric telegraphs, Dwg. 10-1041 Alt. 10					9/7/49
Electric telegraph current failure alarm panel, Dwg. 40-065 Alt. 0			X	X	9/7/49
Electric telegraph transfer relay, double, 115 V, 60 cycle A. C., Dwg. 60-211 Alt. 0			X	X	9/7/49
Tank, high or low oil level alarm contact maker, waterproof, 2 ampere, 115 V, 60 cycle, A. C., Dwg. 60-128-2 Alt. 3		X	X	X	8/26/49
Filterette for use with shaft speed indicating system, 115 V, 60 cycle, A. C., Dwg. 60-160 Alt. 3			X	X	8/5/49
Steering gear alarm panel, 230 V D. C., Dwg. No. 40-064 Alt. 1			X	X	7/27/49
Whistle timer, 115 V, 60 cycle, A. C., Dwg. 40-059 Alt. 2			X	X	7/27/49
Pauluhn Electric Mfg. Co., Inc., New York, N. Y.:					
Hinged cover box for boat winch motor controllers, watertight, Dwg. No. 60 Alt. 0		X	X	X	7/26/49
Penn El Service Co., Philadelphia, Pa.:					
Terminal tubes, male and female, sizes 1 to 15, inclusive, Dwg. 1750M/1783F, Rev. 8/8/49		X	X	X	8/26/49
Pilot Marine Corporation, New York, N. Y.:					
Salinity indicator panel, model S3A5-2PR, Dwg. Nos. 652C Alt. 5, 651D, Alt. 2, and 650 H Alt. 5			X	X	8/8/49
Salinity indicator panel, model S3A10, Dwg. Nos. 692 Alt. 2, 693 Alt. 2, 650C Alt. 2, and 650D Alt. 3			X	X	8/8/49
Salinity indicator panel, model S3A7, Dwg. Nos. 652D Alt. 1, 650J Alt. 3, and 651E Alt. 2			X	X	8/8/49
Salinity indicator system power relay for dumping valve solenoid, model S3A1, Dwg. 695 Alt. 1			X	X	8/8/49
Salinity cell, valve, and receptacle assembly, Dwg. 647D Alt. 3			X	X	8/8/49
Salinity indicator cell, type 7, Dwg. 675A Alt. 4			X	X	8/8/49
Salinity indicator system receptacle box and plug, Dwg. No. 648 Alt. 2			X	X	8/8/49
Raymond Rosen Engineering Products, Inc. Philadelphia, Pa.:					
Running light indicator panel, 9 circuit, 115 V A. C., Dwg. No. 9-0062 Alt. B			X	X	7/25/49

Manufacturer and description of equipment	Location apparatus may be used				Date of action
	Passenger and crew quarters and public spaces	Machinery cargo and work spaces	Open decks	Pump rooms of tank vessels	
Rudd-Melikian, Inc., Philadelphia, Pa.:					
Coffee dispenser for marine service, counter model, 115 V A. C., Dwg. Nos. C–F–47 Alt. 0, C–F–48 Alt. 0, B–F–46 Alt. 0, and A–F–45 Alt. 0	.....	.....	x	x	8/31/49
Russell & Stoll Co., Inc., New York, N. Y.:					
Bulkhead fixture for installation in tank vessel pump room bulkhead, watertight, Cat. No. 960G, 1 100-watt lamp max., Cat. No. 961G, 1 150-watt lamp max., Dwg. B–7853 Alt. 2	.....	x	x	x	8/22/49
Bulkhead fixture for installation in tank vessel pump room bulkhead with adapter assembly to convert fixture, Cat. No. 950 to Cat. No. 960G or 961G, watertight, Dwg. B–7852 Alt. 2	.....	x	x	x	8/22/49
The Simes Co., College Point, L. I., N. Y.:					
Ceiling fixture, nonwatertight, 1 60-watt lamp max., Dwg. 44178, Alt. 0	.....	.....	x	.....	9/2/49
Berth light, pullman type, nonwatertight, 1 25-watt lamp maximum, Dwg. No. 43900 Rev. 2	.....	.....	x	.....	8/24/49

Hints for Safe Use of Wrenches

1. Always place the wrench on the nut so that the pull on the handle tends to force the jaws farther onto the nut.
2. Use only wrenches having jaws in good condition; keep pipe wrench jaws sharp and clean.
3. Use wrenches that are the right type and size for the job.
4. Never use a shim to make the wrong size wrench fit the nut.
5. Never use a piece of pipe on the wrench handle to get more leverage.
6. Never use a wrench as a hammer. It weakens the wrench.
7. Pulling a wrench is safer than pushing. If you must push, keep your knuckles in the clear.
8. Avoid falls; see that your footing is good before you pull.

Merchant Marine Personnel Statistics

ORIGINAL SEAMEN'S DOCUMENTS ISSUED MONTH OF AUGUST 1949

Region	(1) Staff officer	(2) Continuous discharge book	(3) U. S. merchant mariner's documents	(4) AB any waters unlimited	(5) AB any waters 12 months	(6) AB Great Lakes 18 months	(7) AB tugs and towboats any waters	(8) AB bays and sounds [1]	(9) AB seagoing barges	(10) Lifeboatman	(11) Q. M. E. D.	(12) Radio operators	(13) Certificate of service	(14) Tankerman
Atlantic coast	61	3	929	230	77	1	.....	.....	2	520	135	8	834	3
Gulf coast	6	3	376	83	35	11	.....	.....	.....	123	66	2	359	28
Pacific coast	20	3	272	72	25	2	.....	.....	.....	310	64	4	221	6
Great Lakes and rivers	1	.....	291	18	57	34	.....	.....	.....	50	56	2	240	22
Total	88	9	1,868	403	194	48	0	0	2	1,003	321	16	1,654	59

[1] 12 months, vessels 500 gross tons or under not carrying passengers.

NOTE.—Columns 4 through 14 indicate endorsements made on United States merchant mariner's documents.

WAIVERS OF MANNING REQUIREMENTS FROM AUGUST 1 TO AUGUST 31, 1949

Region	Number of vessels	Deck officers substituted for higher ratings	Engineer officers substituted for higher ratings	Able seamen substituted for deck officers	Ordinary seamen substituted for able seamen	Qualified members of engine department substituted for engineer officers	Wipers or coal passers substituted for qualified members of engine department	Wipers, coal passers or cadets substituted for engineer officers	Ordinary seamen or cadets substituted for deck officers	Total
Atlantic coast	1	.....	.....	.....	.....	.....	1	.....	.....	1
Gulf coast	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pacific coast	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Great Lakes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total	1	.....	.....	.....	.....	.....	1	.....	.....	1

NOTE.—In addition, individual waivers were granted to permit the employment of 4 able seamen holding certificates for "any water—12 months" in excess of the 50 percent authorized by general waiver.

INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Marine Details investigated a total of 763 cases during the month of August 1949. From this number, hearings resulted involving 23 officers and 63 unlicensed men. In the case of officers, no licenses were revoked, 10 were suspended, 6 were suspended with probation granted, none were voluntarily surrendered, 5 cases were dismissed, and 2 hearings were closed with admonition. Of the unlicensed personnel, 6 certificates were revoked, 18 were suspended, 26 were suspended with probation granted, 5 were voluntarily surrendered, 8 were closed with admonition, and 8 were dismissed after hearing.

The Merchant Marine Detail was reopened in Antwerp, Belgium, as of July 1, 1949.

MERCHANT MARINE LICENSES ISSUED DURING AUGUST 1949

DECK OFFICERS

		Region								Total	
		Atlantic coast		Gulf coast		Great Lakes and rivers		Pacific coast			
		O	R	O	R	O	R	O	R	O	R
Master	Ocean	23	109	7	40	0	2	6	77	36	228
	Coastwise	1	12	5	1	0	0	1	3	7	16
	Great Lakes	0	0	0	0	0	1	0	0	0	1
	B. S. & L.	4	35	0	3	0	1	1	8	5	47
	Rivers	1	4	6	3	1	12	0	0	8	19
Chief mate	Ocean	12	23	7	6	0	0	9	15	28	44
	Coastwise	0	1	0	0	0	0	0	0	0	1
Second mate	Ocean	33	27	5	6	0	2	10	21	48	56
	Coastwise	0	0	0	0	0	0	0	0	0	0
Third mate	Ocean	10	34	2	5	0	9	4	14	16	62
	Coastwise	0	0	0	0	0	0	0	0	0	0
Mate	Great Lakes	0	0	0	0	0	0	0	0	0	0
	B. S. & L.	2	4	0	0	0	0	2	1	4	5
	Rivers	0	0	1	0	1	4	0	0	2	4
Pilots	B. S. L. & R.	67	101	10	30	21	27	6	52	104	210
Master	Uninspected vessels	0	3	0	0	0	0	4	5	4	8
Mate	Uninspected vessels	0	0	0	0	0	0	2	0	2	0
Total		153	353	43	94	23	58	45	196	264	701
Grand total		506		137		81		241		965	

ENGINEER OFFICERS

Steam	Chief engineer:										
	Unlimited	13	108	3	31	1	7	6	54	23	200
	Limited	4	44	0	3	3	13	1	5	8	65
	First assistant engineer:										
	Unlimited	13	29	8	13	1	2	9	25	31	69
	Limited	0	4	0	0	0	4	0	7	0	15
	Second assistant engineer:										
	Unlimited	34	65	5	12	1	6	16	46	56	129
	Limited	0	0	0	0	0	1	0	0	0	1
	Third assistant engineer:										
	Unlimited	15	58	2	13	2	13	4	23	23	107
	Limited	0	1	0	0	0	1	0	0	0	2
Motor	Chief engineer:										
	Unlimited	3	10	0	8	1	1	2	13	6	32
	Limited	9	27	1	7	0	2	3	9	13	45
	First assistant engineer:										
	Unlimited	0	3	0	1	1	0	2	1	3	5
	Limited	8	0	0	1	1	1	2	1	11	3
	Second assistant engineer:										
	Unlimited	2	5	0	0	0	1	2	2	4	8
	Limited	1	0	0	0	0	0	0	0	1	0
	Third assistant engineer:										
	Unlimited	1	86	0	17	0	18	1	58	2	179
	Limited	0	1	0	0	0	0	0	0	0	1
Uninspected vessels	Chief engineer	0	2	2	0	0	0	2	0	4	2
	Assistant engineer	1	0	0	0	0	0	4	1	5	1
Total		104	443	21	106	11	70	54	245	190	864
Grand total		547		127		81		299		1,054	

LEARN YOUR A, B, C's

ACCIDENTS ARE BRED FROM CARELESSNESS

CUT OUT CARELESSNESS FOR ALL TIME—YOU CAN STOP ACCIDENTS IF YOU ONLY TRY HARD