

PROCEEDINGS OF THE MERCHANT MARINE COUNCIL UNITED STATES COAST GUARD

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This copy for not less than 20 readers.
PASS IT ALONG

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**MERCHANT
MARINE
COUNCIL**

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The
Merchant Marine Council
of the United States
Coast Guard

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Chief, Merchant Marine Technical Division
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COMMANDER C. H. BROACH, USCG
Chief, Merchant Vessel Personnel Division
Member

CAPTAIN G. A. LITTLEFIELD, USCG
Executive Secretary and Member

MR. K. S. HARRISON
Chief Counsel

For each meeting two District Commanders and three Marine Inspection Officers are designated as members by the Commandant.

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I WAS TESTING TANKS ON A TANKER ONCE. HAD A YOUNG FELLOW WITH ME. JUST BREAKING IN.



TESTS SHOWED THERE WAS GAS IN THE TANK, SO I CAME OUT.



YELLED TO HIM TO GET OUT. SAW HIM COLLAPSE.



I WENT DOWN ONE SIDE OF A COFFERDAM AND TOLD MY PARTNER TO STAND BY ON DECK.



COULDN'T FIND MY HELPER. SUDDENLY CAME TO ME THAT HE WAS TESTING ON THE OTHER SIDE.



I GAVE ALARM. THREW DOWN AIR HOSE. MATE AND HIS MEN GOT A FRESH AIR HOSE MASK AND GOT HIM OUT.



JUST WENT DOWN PART WAY TO WHERE I COULD GET THE SAMPLING HOSE DOWN TO THE BOTTOM.



DASHED OVER IN TIME TO SEE A HAT DISAPPEARING DOWN THE TANK.



HE HAD STARTED TO TURN BLUE. WE GAVE HIM ARTIFICIAL RESPIRATION. WE GOT HIM TO A HOSPITAL. GOT A FEW SHOTS OF OXYGEN. RECOVERED.



GOOD HOUSEKEEPING—STEWARDS DEPARTMENT

Of all the emergencies encountered on a ship at sea, fire is the one to be most feared as it strikes without the least warning. Yet, fire is the one hazard that is almost wholly preventable, for *fire prevention is merely good housekeeping.*

In this respect the steward's department can play an important part, especially on passenger vessels. All those portions of the vessel which are termed "livable" come under their direct supervision and observation. This includes not only those portions of the vessel which are visible to passengers, but also those spaces which serve as lockers, service rooms, and cubbyholes where working equipment and cleaning materials are stored.

If curiosity were to lead you to open a door marked "Service Room", you would not expect to find the following conditions: A trash basket in one corner heaped with used paper towels, paper cups, novelty hats, and wilted flowers left over from the Captain's dinner the night before. Nor would you expect to see in another corner empty floor cans, dirty mops and dusters; likewise, dirty clothes, old newspapers, magazines, or a pile of rags saturated with oil and furniture polish thrown there after having been used on the woodwork. Such conditions beget fire, and the lack of order does not speak well for the vessel. Rather, first impressions of cleanliness and order invoked by gleaming linoleum, bright work and shining chromium, seem to belie the true conditions.

In the galley, you can find sparkling glassware and china arranged neatly in racks. Clean pots and pans hang in a row overhead or on a bulkhead. There seems to be a place for everything and everything in its place. Suppose you were to look into the uptake or ventilator over the range. Would it be, as is often the case, a black-soot-covered and greasy hole? Or would your attention be caught by a pile of hot ashes on the deck in front of the charcoal broiler? Or by the cord of the hot plate so frayed as to expose the wires? These are but a few of the dangerous and unnecessary conditions allowed to go unnoticed by a steward who is unaware of or neglects the rules of good housekeeping on a vessel.

The matter of fire hazards and their prevention and control should be of particular interest to stewards. To

have a fire, two things must be present: Combustible materials and a source of ignition. Spaces under the jurisdiction of the steward's department are especially susceptible to this combination.

Following are some of the possible fire hazards, with suggestions for fire prevention and control:

I. FIRE HAZARDS

GALLEY:

1. Flarebacks in range fire boxes.
2. Collection of oil in drip pans.
3. Leaky fuel lines.
4. Use of matches other than "safety" type.
5. Accumulation of trash and other combustible material.
6. Overheating of galley range.
7. Permitting grease to accumulate on hood over range or in air ducts.

PUBLIC ROOMS:

1. Smoking.
2. Use of polishes or cleaning agents other than approved types.
3. Accumulations of trash, waste-paper, etc.

MISCELLANEOUS:

1. Oily rags or those dirtied by metal polishes, wax or oil cleaners.
2. Portable extension wiring.
3. Inflammable material in contact with electric lights.
4. Inflammable material in contact with steam pipes.
5. Portable electric utensils (hot plates, toasters, percolators, etc.).
6. Improper storage of inflammable liquids.
7. Accumulation of trash or waste-paper, etc.

II. FIRE PREVENTION

1. Smoking:
 - (a) Freighters: No smoking in galley or storerooms.
 - (b) Passenger vessels: No smoking while on duty; smoking in crew's quarters only.
2. Use only approved polishes and cleaners. Destroy all unauthorized types or brands upon discovery.
3. Constant observance of passenger quarters and public rooms for fire hazards such as cigarette butts, burning matches, electric curling irons, etc.
4. Use safety matches only.

5. Keep inflammable material from contact with steam pipes or electric lights.
6. Store inflammable liquids in approved places.
7. Keep lockers and closets neat and permit no accumulation of rubbish.
8. Do not permit oily, paint-smearied rags, those dirtied with polishes, waxes, or cleaning material to accumulate in lockers, cupboards, etc.
9. Furnish receptacles for wastepaper and trash in crew's quarters and empty them daily.
10. Keep oil burners in proper repair and adjustment.
11. Follow instructions relative to lighting of burners.
12. Make daily inspections of departments for fire hazards.

III. FIRE CONTROL

GENERAL:

1. Know latest instructions in methods of fire-fighting.
2. Remember instruction as to actions upon discovery of fire.
3. Know the location of fire extinguishers and the proper use of each type.
4. Have fire drills with assigned definite problems.
5. Check your fire-fighting equipment frequently.

FIRE-FIGHTING EQUIPMENT:

1. Type:
 - (a) Steam.
 - (b) Water.
 - (c) Chemicals.
 1. Soda acid.
 2. Foamite.
 3. Carbon dioxide.
2. Care:
 - (a) In place.
 - (b) Easily accessible.
 - (c) In working order.
 - (d) Sprinkler valves open.
 - (e) Sprinkler heads unobstructed.
 - (f) Alarms in working order.

The important and essential functions performed by the steward's department in its contribution to the smooth performance of the vessel cannot be overestimated. A steward who takes a proper pride in his work strives to discharge his responsibility to the traveling public with respect to their safety as well as to their comfort.

IT HAPPENED MAY 18, 1832

Time: May 18, 1832

Scene: The House of Representatives

Go back these past 120 years. Listen:

The distressing calamities which have resulted from the explosion and collapse of the boilers of steamboats, the increasing dangers to which the lives and property of so many of our fellow-citizens are daily and hourly exposed from this cause, unite in their demands upon that Government, possessing the competent power and authority, to throw around the lives and fortunes of those thus exposed, all the safeguards which a wise and prudent legislation can give.

The committee have had more difficulty in determining the extent of the power of Congress to legislate over the subject, than to decide what would be the proper legislation by a sovereign possessing unlimited and unrestricted powers over persons and things.

Whatever power of legislation over this subject is vested in Congress, refers itself to the third section of the first article of the constitution of the United States, which declares "that Congress shall have power to regulate commerce with foreign nations, and among the several States, and with the Indian tribes."

Under this power to regulate commerce among the several States, the right of Congress to prescribe the mode, manner, or form of construction of the vehicles of conveyance to be used for the transportation of commodities, is not perceived or recognized by the committee.

Whether the boat or vessel shall be propelled by the wind, or by paddles, or by steam, and, if by steam, whether it shall be a high or low pressure engine, etc., are questions with which it is believed Congress have nothing to do; and if the power were given by the constitution, its exercise might be of a doubtful expediency.

It is better to leave the subject of the application of steam power to the propelling of boats, to the sound discretion of those concerned, and to the improvements of the age, than to attempt, by any legislation of ours, to prescribe the particular kind of machinery to be employed.

If the suggestions of some, whose communications have been referred to the committee, were adopted, and Congress should undertake to prescribe, by legislation, the particular description of steam engines, their shape, construction, or model to be employed on board of steam vessels,

it would be extremely difficult for Congress to keep pace in its legislation with the rapid march of improvement upon the subject of the application of steam power to machinery. Our legislation would lag behind the efforts of science and practical improvement. That which this Congress would adopt as the best and most expedient to be enforced by its legislation, would, perhaps, be condemned upon actual experiment or trial.

The committee have made these general remarks in answer to the varied and numerous recommendations contained in the mass of documents which accompany the report of the Secretary of the Treasury, that Congress should prescribe and adopt some general or uniform rule by which the machinery of steamboats shall be constructed, in whole or in part.

Many of these communications contain matter of interest, and are worthy to be communicated to the public, from which much scientific and practical information may be derived by those engaged in constructing and navigating steamboats. A selection of such, as, in the judgement of the committee, would be of advantage to the public, has been made, and are appended to this report. The committee submit them, without the expression of any opinion of their own, to the judgement of those whose intelligence and experience will enable them to determine correctly upon their respective merits.

An inquiry into the causes which produce the explosion of steam boilers, has engaged, for a series of years, the labors of many able and scientific men. The committee do not propose to pursue this subject by obtruding any opinions or speculations of their own. They will content themselves by stating, in brief, all the causes to which this effect of steam has been ascribed by the practical and scientific investigators.

First. The faulty construction of boilers.

Second. The defective material of which they have been composed.

Third. Long use, by which the original strength of boilers has been weakened, and thereby rendered incapable of sustaining that pressure of steam for which they were originally constructed.

Fourth. Carelessness and want of skill in the engineers.

Fifth. An undue pressure of steam beyond the capacity of the strength of the boiler, no matter how perfect

its construction, sound, or its material originally may have been.

Sixth. From a deficiency in the supply of water, producing an overheated steam, and increasing the heat of the flues of the boiler, which, when brought into sudden contact with water, through the agency of the supply pump, in increased quantities, produces a quality in steam which often causes explosions the most dangerous and disastrous.

No legislation is competent to annihilate those causes, or to prescribe and enforce the means of preventing their operation in all cases. Steam, and the mode of its application to machinery, is an agent which must be left to the control of intellect and practical science. It only belongs to legislation to excite, by rewards and punishments, that faithful application of those engaged in its use, which will best guard against the dangers incident to negligence.

The melancholy incidents which have occurred by the explosion of many of the boilers of steamboats in the waters of the United States; the shock which is universally felt on these occasions, had impressed the committee with an opinion that the destruction of human life had been much greater than it turns out to be upon further and more minute investigation.

The whole number of explosions in the United States are ascertained to be 52; number of killed, 256; and number of wounded, 104.

The committee propose to provide, by legislation, some safeguard against explosions produced by the first, second, third, and sixth causes stated above. Against the fourth and fifth causes, viz, carelessness and want of skill in the engineer; and an undue pressure of steam upon the boiler beyond its capacity, no adequate remedy, through or by the legislation of Congress, can be afforded. The remedy for this evil, if it belongs to legislation at all, must be furnished by the legislation of the several States. It would, in the opinion of the committee, be wiser, however, to leave it to be supplied by the interest and discreet judgement of the owners and masters of steamboats, which will always dictate the employment of those best skilled as engineers; whose characters would compel them to the performance of their duties as such, in a manner most advantageous to their employers, and most reputable to themselves.

Explosions which take place from the first, second, or third causes

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MAY 18, 1952—120 YEARS LATER

The preceding article turned the pages of time back to a day 120 years ago. Let us return to the present and see what has actually happened in the past 120 years. In considering individual cases of assistance, inspection, or other separate efforts, one is apt to overlook the over-all picture of Coast Guard activities pertaining to the maritime public. On May 18, 1952, 120 years later, one could have noted the extent of such activities during a single fiscal year by referring to the report on Coast Guard activities during the fiscal year ending June 30, 1951. Many different steps were taken to live up to the responsibility placed upon the Coast Guard to save and promote the safety of life and property at sea and on the navigable waters.

Among the duties which the Coast Guard performed in promoting safety in the merchant marine and on navigable waters during fiscal year 1951 were approval of plans for the construction, repair, and alteration of vessels; approval of materials, equipment, and appliances, issuance of certificates of inspection; administration of load line requirements; licensing and certificating of officers, pilots, and seamen; investigation of marine casualties; enforcement of manning requirements, citizenship requirements, and requirements for the mustering and drilling of crews; control of logbooks; shipping, protection, and welfare of merchant seamen; promulgation and enforcement of rules for lights, signals, speed, steering, sailing, passing, anchorage, movement, and towlines of vessels, and of regulations governing the transportation of explosives and other dangerous cargoes aboard vessels; numbering of undocumented vessels; prescription and enforcement of regulations for outfitting and operation of motorboats; licensing of motorboat operators; and the regulation of regattas and marine parades.

A total of 12,912 plans covering the construction or material alteration of merchant vessels was examined for

approval by the Coast Guard. Included among the vessels to which these plans applied were the S. S. *Independence* and the S. S. *Constitution*, 650-foot sister ships having accommodations for 1,000 passengers, which were completed and placed in service during the year.

Items of required safety equipment for use on merchant vessels were examined and tested, and 181 of those items were granted type approval. Among the items considered was the specially designed lifesaving equipment for the S. S. *United States*, the largest passenger vessel ever built in this country. The lifeboats for this vessel have the most advanced design for fire resistance in that all wood has been eliminated from their construction. Factory inspections were made of 414,677 items of equipment.

The first major revision of the Tank Vessel Regulations since 1936 was completed during the year. This revision incorporates the most recent improvements for the safe operation of tank ships, including requirements for closed venting systems on vessels carrying highly inflammable cargoes, and requirements for the use of water spray nozzles in combating oil fires.

There were 2,427 marine casualties reported, of which 1,000 received detailed investigation. Of the casualties receiving detailed investigations, 27 were investigated by Marine Boards of Investigation. There were 333 lives lost in 117 marine casualties. The most serious casualties were the collisions between the tankers *Esso Greensboro* and *Esso Suez*, and between the freighter *Mary Luckenbach* and the hospital ship *Benevolence*. Three vessels of over 1,000 gross tons were lost as a result of marine casualties: the *Benevolence*, the steam dredge *Sandcraft*, and the S. S. *Andrea F. Luckenbach*. Only one passenger lost his life as a result of casualties or inspected and certificated vessels.

Five public hearings of the Merchant Marine Council were held regarding miscellaneous amendments to regulations dealing with marine

engineering, transportation of dangerous cargo, lifesaving equipment, and the issuance of new regulations relative to the security of vessels and waterfront facilities. All written and oral comments, data, and suggestions received from private enterprise and industry were considered by the Council, and where possible these were incorporated in the amendments to the regulations.

The Merchant Marine Council Committee held 24 regular meetings and gave preliminary consideration to proposed amendments to regulations, to proposed legislation affecting the merchant marine, and to other merchant marine matters submitted to the commandant. Panels of consultants composed of outstanding representatives from industry assisted the committee in drafting amendments or new regulations.

To promote safety at sea, 8,000 copies of the monthly periodical Proceedings of the Merchant Marine Council were published and distributed free each month to seamen, shipowners, operators, proctors in admiralty, and the various agencies of the Government affected by the merchant marine. This publication contained feature articles and statistics concerning matters of interest to the merchant marine, lessons from casualties occurring in the merchant marine, and advance notice regarding changes in regulations.

The licensing and certificating of merchant marine personnel included the issue of a total of 91,591 documents, of which 22,453 were issued to men with no previous service in the merchant marine. In the interests of national defense, 315 individual waivers of manning requirements for merchant vessels were issued. Shipping commissioners supervised the execution of 14,532 sets of shipping articles.

Merchant Marine Investigating Units in major domestic ports and Merchant Marine Details in certain foreign ports continued to operate in the administration of discipline in the merchant marine as required by the act of February 28, 1871, as amended (46 U. S. C. 239). Merchant Marine Details operated in London, Antwerp, Bremerhaven, Naples, Trieste, and Piraeus throughout the year. A total of 7,026 investigations of cases involving negligence, incompetence, and misconduct were made, and as a result of these investigations, charges were preferred and hearings held by civilian examiners in 808 cases.

Continued on page 181

Digest of certain phases of marine inspection activities	Number of vessels	Gross tonnage of vessels
Annual inspection completed (includes 248 vessels totaling 323,176 gross tons which were conversions or new construction completed).....	6,535	20,486,010
Drydock examinations.....	5,763	22,615,000
Reinspections.....	2,682	9,093,355
Special surveys (passenger vessels).....	102
Special examinations by travelling inspectors on passenger vessels and ferries.....	172
Undocumented vessels numbered under provisions of the act of June 7, 1918, as amended (46 U. S. C. 288).....	461,535
Miscellaneous inspections.....	13,469

enumerated above, may be truly said to be beyond the preventive power or control of the engineer. He cannot tell, when called to the management of an engine on board of a steamboat, that there has been a fault in the construction of the boilers—a defect in the material out of which they are composed—or that, by its too long use, the original strength has been so far impaired as not to be capable of sustaining the ordinary pressure of steam which belongs to the capacity of the boiler. He may not know how long the boilers or boat have been in use; consequently, no skill of his, thus situated, is, or can be, competent to guard against explosions produced by any or all of these causes.

The committee propose to furnish him and the community the means, by legislative enactments, of testing the strength of boilers, ascertaining their age, and determining whether the boat is fit for navigation.

It is proposed that there shall be appointed by the President of the United States, or by the Secretary of the Treasury, at suitable and convenient points upon the navigable rivers, and bays, and lakes of the United States, competent persons, whose duty it shall be to inspect the boats and boilers thereof, and test the strength of the boilers by hydraulic pressure. To require this to be done at least once in every 3 months, as a condition upon which a registry shall be made, or license granted, to a steamboat or vessel under the laws of the United States.

In this way, it is believed, these hidden and secret defects in boilers—injuries arising by incrustations in their bottoms, and the effects of use and time—can and will be detected.

It has been ascertained in the west,



Courtesy Maritime Reporter.

that a steamboat, after 6 or 7 years' use, is unfit for safe navigation.

The many trials and tests to which the metal and strength of a boiler is exposed every year of this 6 or 7, must reduce its original strength and capacity for resisting the power of steam.

So far as the committee are informed, there exists, at this time, no system or practice in any portion of the Union, by which the strength of a steam boiler is tried after it has passed the first ordeal in the hands of the original maker; and, generally, the first evidence which is afforded of its unfitness for use, is by its explosion, thereby destroying the lives and fortunes of many of our wealthy and enterprising citizens.

It is when one or more of these causes exist, and exert a separate or combined influence, that explosions have taken place, when there was no deficit of water in the boiler, and no unusual pressure of steam upon the engine; and in many cases, when the pressure of steam at the time was less than had ordinarily been given. Without an inspection and trial of strength in some such mode as that herein indicated, how is it possible to guard against, or prevent explosions, by any skill or vigilance on the part of the engineer. All the plans of safety valves, and improvements recommended in their construction or management, cannot, will not, prevent explosions from one or all of the three first causes stated. They may appear plausible in theory, but would be unavailing in practice.

Those explosions, produced by the sixth cause, viz a defect of water in the boilers, etc., may, more or less, if not altogether, be guarded against by the vigilance and skill of the engineer, when the engine is properly constructed, so that the force pump shall be competent, by its action, to supply the water as fast as it may be converted into steam. Sometimes the functions of this pump are suspended by accident, at others, by design on the part of the engineer. If by accident, then the skill of the engineer may be competent to detect and avert the evil.

It often happens, when a steamboat is stopped to take in, or let out passengers or loading, when detained for the purpose of "wooding," that the engineer neglects or fails to ungear his wheels or paddles, and keep his engine in motion, by which the steam would be worked off regularly, and the boiler supplied with water, he trusts too long and too fatally to his safety valve and the strength of the boiler. The fires are kept up, the water is converted into steam that becomes heated, the water sinks below the flues, which becomes heated to excess; and when the engine is

started, the water is thrown into the boilers in an increased quantity, which, coming in contact with the flues heated to a red heat, is instantly converted into a steam in greater quantities than can be worked off by the engine, or escape through the safety valve. Thus it is, almost all of the explosions which have taken place from this cause have occurred while the boat was stationary, or immediately after getting underway.

To guard against accidents of this description, the committee propose to make it the duty, under a heavy penalty, of a master of a boat and the engineer, whenever his boat is stationary, for any cause, to ungear the wheels, keep the engine in motion, supply the boilers with water, and work off the steam.

Neither of these regulations can prove burdensome or inconvenient to the navigation of steamboats. It is believed they will furnish some security to the lives of passengers. To obviate all possible objection to the first regulation proposed, upon the score of expense, and as an inducement to a compliance with the requirements proposed by the bill, the expense of making the inspection of the boat, and of testing the valve as proposed, the bill provides that the cost shall be paid by the United States.

The time necessary to make the inspection and trial cannot exceed 6 hours in every 6 months. The apprehension of having their boilers condemned, will excite men to vigilance and care on the part of their masters and engineers. They will be induced more frequently to remove the incrustations of salt or lime, which are constantly forming in the boilers, and, in progress of time will, more or less affect their strength.

In connection with this subject, the committee have been induced to consider and inquire into other causes of danger to the lives and property on board of steamboats, and have ventured to propose, for the consideration of the House, the possible means of preventing them; at least, of mitigating the extent of the evil consequences incident to them. The first to which your committee will advert, is the destruction of steamboats by fire. Three cases of this description have recently occurred, one in the waters of New York, and two on the Mississippi and Ohio Rivers. On board one of the boats recently destroyed on the Ohio River, there were 174 passengers, 100 of whom were burned to death or drowned in attempting to escape from the flames. When a steamboat takes fire in the upper deck or cabin, the flames spread with such rapidity, it often happens that she is consumed before she reaches the shore.

Every boat should be provided with a competent number of long boats and yawls, to enable the passengers to seek safety in flight in case of fire or sudden destruction by sinking. Such was not the case in the instance alluded to, and in other cases of a similar kind, when the passengers have been compelled to choose between the dread alternatives of either remaining on the boat, and be consumed by fire, or jumping into the river, and be drowned.

Every steamboat, before she is licensed or registered, the owner or master should be required to provide, as a part of her furniture, a suitable fire engine and hose, also a competent number of long boats or yawls, to be regulated in proportion to her tonnage, and she should be bound to carry the same, in good order, upon every voyage. The additional expense would be trifling. With the aid of a fire engine, it is believed that the fire of any steamboat, taken in time, might be extinguished, certainly checked, so far as to enable the passengers to escape.

The next cause of danger, to which your committee would invite the attention of the House, and invoke for it, as for the others, its legislative interposition, is, that of steamboats, moving in opposite directions in the night coming in contact. This often happens when both are using every exertion to avoid such contact.

It is often impossible for the pilot of one boat to tell the direction of the other; and frequently, at the moment when least expected, they come in contact, producing disasters most fatal to the lives of passengers on board. This difficulty has been felt on the rivers of the west, and injuries to such an extent sustained, that some regulation by Congress is imperiously demanded.

Upon advising with a gentleman whose experience entitles him to great consideration, he recommended that it should be made the duty of the commandant of the boat descending the river, to shut off his steam, and permit his boat to float with the current, whenever the two boats came within one-half mile of each other; the ascending boat would then assume the responsibility of steering clear of the descending boat. The master or pilot on board the ascending boat, in that event, would labor under no mistake as to the particular direction of the one descending, as he must know that her direction was regulated by the current of the stream. This regulation, it is true, would not apply to boats navigating the bays, lakes, and tidewater rivers of the United States; but it is equally true that, in these waters, such regu-

lation is not so much required, because of the greater width and depth of channel; it is otherwise in the rivers, and particularly in the rivers of the west, where the channels are narrow, and in places very shoal.

To guard against accidents on tide-waters, the bill makes it the duty of the master and owner of the boat to keep suspended, in the bow and stern of his boat, a light at least 3 feet above the deck of his vessel, whenever the same shall be navigated at night.

If it be asked of the committee whence is the power of Congress derived to enact these regulations, and impose these conditions upon the navigators of steam vessels? They respond to the inquiry, by referring to the same general grant of power under which Congress has undertaken to regulate navigation, and to prescribe the duties and responsibilities of masters of ships and vessels at sea, or engaged in the coasting trade.

If Congress possess the power to compel the master or owner of a vessel sailing from the United States to a foreign port or country, to provide for the use and benefit of his crew a medical chest, or to prescribe the quantity and kind of provisions and water he shall take on board, (and surely no one will be found, at this day, to question this power so long exercised by the Congress of the United States,) then it is respectfully contended by the committee, that the like power exists, and should be exerted, to enact and enforce all the regulations which they have recommended and embodied in the bill reported. If Congress have power to require the captain of a ship to provide his crew with the means of preserving health on board, the like power exist to compel the masters and owners of steamboats engaged in carrying on the internal commerce "among the several States," to provide the means of preserving the lives of those on board from danger of steam, of fire, or of water.

The conditions which the committee propose to add to those already imposed on the fulfillment of which steam vessels are enrolled and obtain licenses to navigate the waters of the United States, are not burdensome or inconvenient: they are reasonable and proper, and, if enforced, will give additional security to the lives and property of the most enterprising citizens.

The committee, therefore, report a bill, and earnestly entreat the House to give to it that consideration which the nature and importance of the subject demand; and, if the same shall be approved, that the House will

pass upon it at the present session, and, as far as possible, give quiet and repose to the public mind, which has been so long and so anxiously directed to this subject.

A BILL

To provide for the better security of the lives of passengers on board of vessels propelled in whole or in part by steam.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That it shall be the duty of all owners of steamboats, or vessels propelled in whole or in part by steam, on or before the first day of October, one thousand eight hundred and thirty-two, to make a new enrollment of the same under the existing laws of the United States, and take out from the collector or surveyor of the port, as the case may be, where such vessel is enrolled, a new license, under such conditions as are now imposed by law, and as shall be imposed by this act.

SEC. 2. And be it further enacted, That it shall not be lawful for the owner, master, or captain of any steamboat, or vessel propelled in whole or in part by steam, to transport any goods, wares, and merchandise, or passengers, in or upon the bays, lakes, rivers, or other navigable waters of the United States, from and after the said first day of October, one thousand eight hundred and thirty-two, without having first obtained from the proper officer a license under the existing laws, and without having complied with the conditions imposed by this act; and for each and every violation of this section, the owner or owners of said vessel shall forfeit and pay to the United States the sum of five hundred dollars, one-half for the



Courtesy Maritime Reporter.

use of the informer; and for which sum or sums the steamboat or vessel so engaged shall be liable, and may be seized and proceeded in against summarily, by way of libel, in any district court of the United States having jurisdiction of the offence.

SEC. 3. *And be it further enacted,* That it shall be the duty of the President to appoint, at such ports on the navigable waters, bays, lakes, and rivers of the United States, as in his judgement will be most convenient to the owners and masters of steamboats and vessels propelled in whole or in part by steam, one or more persons skilled or competent to make inspections of such boats and vessels, and of the boilers and machinery employed in the same, whose duty it shall be to make such inspection when called upon for that purpose, and to give to the owner or master of such boat or vessel duplicate certificates of such inspection.

SEC. 4. *And be it further enacted,* That the person who shall be called upon to inspect the hull of any steamboat or vessel under the provisions of this act, shall, after a thorough examination of the same, give to the owner or master, as the case may be, a certificate, in which shall be stated the age of said boat or vessel, when and where originally built, and the length of time the same has been running. And he shall also state whether, in his opinion, the said boat or vessel is sound and fit to be used for the transportation of freight or passengers; for which service so performed on every boat or vessel, the inspector shall be paid and allowed by the Secretary of the Treasury, the sum of 3 dollars.

SEC. 5. *And be it further enacted,* That it shall be the duty of the person or persons who shall be called upon to inspect the boilers and machinery, under the third section of this act, fully and thoroughly to inspect and examine the engine and machinery of said boat, and state his opinion of its soundness; and he shall, moreover, provide himself with a suitable hydraulic pump, and, after examining into the state and condition of the boiler or boilers of such boat or vessel, it shall be his duty to test the strength and soundness of said boilers by applying to the same an "hydraulic pressure, equal to three times the pressure that the boilers are allowed to carry in steam;" and if he shall be of opinion, after such examination and test, that the said machinery and boiler are sound and fit for use, he shall deliver to the owner or master of such vessel or boat duplicate certificates to that effect, stating therein the age of the said boilers; one of which it shall be the duty of the said master and owner to deliver to the collector or surveyor of the port wherever he shall apply for

license, or for a renewal of a license, the other he shall cause to be posted up, and kept in some conspicuous part of the said boat for the information of the public; and for each and every inspection and test of the boiler so made, the inspector shall be paid, by the Secretary of the Treasury, the sum of ten dollars.

SEC. 6. *And be it further enacted,* That it shall be the duty of the owners and masters of steamboats to cause the inspection, provided under the fourth section of this act, to be made at least once in every 12 months; and the examination and trial of the strength of the boilers of his boat, required by the fifth section, at least once in every 3 months, and deliver to the collector or surveyor of the port where his boat or vessel has been enrolled or licensed, the certificate of such inspection; and on a failure thereof, he or they shall forfeit the license granted to such boat or vessel, and be subject to the same penalty as though he had run said boat or vessel without having obtained such license, to be recovered in like manner.



Courtesy Maritime Reporter.

SEC. 7. *And be it further enacted,* That whenever the master of any boat or vessel, or the person or persons charged with the navigating said boat or vessel, which is propelled in whole or in part by steam, shall stop the motion or headway of said boat or vessel, or when the said boat or vessel shall be stopped for the purpose of discharging or taking in cargo or passengers, or when "wooding," and the steam in said boiler shall be equal to one ———, the ascertained strength of said boiler, he or they shall keep the engine of said boat or vessel in motion sufficient to work the pump, give the necessary supply of water, and to keep the steam down in said boiler to what it is when the said boat is underway, at the same time lessening the weight upon the safety

valve, so that it shall give way when the steam in said boiler is equal to one ——— of its ascertained strength, under the penalty of two hundred dollars for each and every offense.

SEC. 8. *And be it further enacted,* That the penalties imposed by this act may be sued for, and recovered in the name of the United States, in the district court of such district or circuit where the offense shall have been committed or the forfeiture incurred, one-half to the use of the informer, and the other to the use of the United States.

SEC. 9. *And be it further enacted,* That it shall be the duty of the owner and master of every steam vessel engaged in the transportation of freight or passengers, to provide, and to carry with the said boat or vessel upon each and every voyage, one long boat or yawl for each 50 tons of said boat or vessel, which long boat or yawl shall be competent to carry at least 12 persons; and for every failure in this particular, the said master and owner shall forfeit and pay three hundred dollars.

SEC. 10. *And be it further enacted,* That it shall be the duty of the master and owner of every steam vessel to provide, as a part of the necessary furniture, suction hose, and fire engine and hose, suitable to be worked on said boat in case of fire, and carry the same upon each and every voyage in good order, and for a failure to do which they, and each of them, shall forfeit and pay the sum of three hundred dollars.

SEC. 11. *And be it further enacted,* That it shall be the duty of a master and pilot of a steamboat, except those navigating tide water, when descending any river or stream in the night, where the descending boat shall come within one-half mile of an ascending steamboat, to shut off steam, and permit his boat to float upon the current of the river until the ascending boat shall have passed, and the master and owner of the ascending boat shall then assume the responsibility of steering clear of the descending boat, and be liable, in damages, to the extent of the injury which may be sustained.

SEC. 12. *And be it further enacted,* That it shall be the duty of the master and owner of every steamboat, running in the night, to suspend two lights (at least 3 feet above the deck of his boat), the one at the bow and the other at the stern, under the penalty of \$200.

The committee report you just read prefaced H. R. 478, which was proposed in the first session of the Twenty-second Congress, May 18, 1832. This was 6 years before any legislation governing marine transportation was enacted.

DENMARK RATIFIES 1948 CONVENTION

The Danish Law Gazette (Lovtidende C) recently published an Announcement from the Ministry for Commerce, Industry and Navigation, dated February 27, 1952, to the effect that Denmark has ratified the International Convention for the Safety of Life at Sea, of 1948.

The ratification was accomplished by virtue of a Danish Royal Decree dated September 15, 1951, and will enter into force on November 19, 1952. However, the Danish Government simultaneously declared that its ratification does not, so far, apply to Greenland.

May 18, 1952

Continued from page 177

In compliance with the President's Executive Order 10173, a program of security clearance was begun for licensed and certificated personnel. A total of 207,194 merchant mariners were checked for security under this Executive order, and 92,154 merchant mariners' documents bearing evidence of security clearance were issued. A total of 967 security appeal hearings were granted to persons classed as poor security risks.

Considerable assistance was rendered to marine commerce on the Great Lakes in the breaking of ice for the passage of vessels. Ice breaking operations were started on March 12, 1951, by the cutters *Mackinaw*, *Mesquite*, *Wodbine*, *Acacia*, and *Woodrush*. The first commercial vessels traversed the Straits of Mackinaw on March 30. Ice breaking assistance was afforded in over 700 cases.

In carrying out responsibilities with respect to the saving of life and property, the service maintained an established organization of inshore and offshore surface rescue vessels, aircraft, lifeboat stations, and radio stations, together with rescue coordination centers in each Coast Guard district. The assistance rendered by stations, vessels, and aircraft during the year is indicated by the following statistics.

A considerable increase in assistance operations resulted from the great increase in the number of American shrimp fishermen in the waters of the lower Gulf of Mexico and the Gulf of Campeche.

Number of assistance calls responded to.....	12,974
Number of instances of major assistance.....	5,275
Number of instances of minor assistance.....	4,469
Value of vessels and aircraft assisted (including cargo).....	\$403,382,286
Lives saved or persons rescued from peril.....	4,996
Vessels refloated.....	1,035
Disabled vessels towed to port.....	5,882

Your Fact Forum

Q. What is the proper manner of placing passengers in a lifeboat?

A. They should be placed so that the boat is on an even keel and the weight is equally distributed fore and aft. In doing this, care should be taken that the seating of the passengers does not interfere with the handling of the oars. Generally, women and children should be in the center of the boat so as to protect them as much as possible from spray or from falling out.

Q. Describe the oxygen-breathing apparatus.

A. It is a self-contained oxygen-generating breathing apparatus designed to protect the wearer in any atmosphere which is oxygen deficient. Its operation is independent of any outside air. The wearer breathes in a closed system that forms a circuit within the apparatus. Exhaled air, which contains carbon dioxide, is purified and replenished with oxygen by passing through a chemical and is then rebreathed. The oxygen cylinders or canisters contain sufficient oxygen to supply the wearer under normal conditions for a period of one-half or 1 hour, depending on the type.

Q. What is the only way to enter an oil tank that is full of gas?

A. Persons entering such tanks should be equipped with fresh air-breathing apparatus and a life line. Two men should be in attendance on deck.

Q. What would you do, if, while at sea, you broke the lowest screw on the back of the horizon mirror on the sextant?

A. If the screw breaks it's impossible to have the horizon glass properly adjusted; therefore, it is necessary to find the index error. To do this, hold the sextant vertically and look at the horizon; then move the tangent screw until the true and reflected horizons appear in a straight line in the horizon glass. The result will be the index error. The index error is subtracted when the error is on the arc and added when the error is off the arc.

Q. What is the difference between a chronometer and an ordinary watch?

A. There are two major differentiations. The chronometer differs from ordinary watches in that the force of its mainspring is made uniform by means of a lever. It also has an expansion balance consisting of various metals to compensate for temperature changes.

Q. How should you take care of binoculars?

A. They should be kept in a case when not in use and stowed in a safe place. When they are in use on the bridge, they should be carried by their leather straps in such a fashion that the glasses are hanging on the chest. They should not be placed on window sills, rails or other objects from which they might drop to the deck.

Q. How can one tell whether a chart has been corrected?

A. Charts issued by the Hydrographic Office are corrected to the date of issue and stamped to that effect on the chart. Corrections beyond the date of issue have to be made from Notices to Mariners. Each vessel should keep a record of Notices to Mariners entered on the charts.

Q. How are distances of visibility computed in the light list?

A. The distances of visibility are the distances at which a light is visible on a clear night, computed in nautical miles for a height of the observer's eye of 15 feet above sea level.

Q. What are neap tides?

A. They are those which appear when the sun and moon are in quadrature and are smaller in range than spring tides.

Q. To "fake down" is to do what?

A. To coil a line so that each length of line overlaps the next one underneath, and hence the line is clear for running.

Q. What is the most immediate danger to a man falling overboard from a steamer?

A. The most immediate danger is that of being struck by the propeller. The first thought of a man falling overboard should be to swim outward from the ship.

Q. Can you describe a "wreck buoy"?

A. A wreck buoy is one painted with red and black horizontal stripes and marks a wreck.

LESSONS FROM CASUALTIES

DEATH BY FREON

This casualty has to do with the death of three crew members on a refrigerated cargo ship who lost their lives by suffocation when the refrigerating machinery space in which they were working became filled with monofluorotrichloromethane, or Freon 11. The lesson to be learned is that there are few known substitutes for fresh air. When it is apparent that the supply of fresh air is diminishing or is becoming contaminated, the smartest move is to remove oneself from the vicinity.

The facts: The vessel was a C-2 type refrigerated cargo ship. There were two Freon 11 refrigeration plants on the third deck which were located in a U-shaped compartment. On February 26, 1952, this vessel was at sea in the Pacific Ocean, underway in mountainous seas. The ship was consistently rolling 30 to 40 degrees. The port refrigerating machine was in operation. The starboard refrigerating machine was under repair and inoperative. There was a ventilation blower on each side of the cargo refrigeration flat. Each blower had three overhead outlets in the vicinity of the refrigeration machinery on its respective side.

Early in the morning of the 26th, following a severe roll, water entered the suction of the port ventilation blower and shorted out the motor. The starboard blower motor was immediately started. With the starboard blower in operation, the flow of air was from the vicinity of the starboard refrigeration plant, through a door on the after port side, then through a manhole opening on the after starboard side. This left a dead air space in the vicinity of the still operating port refrigeration plant.

At 0250, the port refrigeration compressor started surging, indicating to the oiler on watch that something was seriously wrong with the plant. The oiler, Bert, immediately called the Chief Refrigeration Engineer, Al, and asked for assistance. The other oiler, Sam, reached the flat at about the same time as Bert and Al. They all smelled an odor of gas similar to carbon tetrachloride, but at this time it was not too strong. When Sam walked behind the plant, he noticed liquid refrigerant pouring from a hole in the line leading from the intercooler to the evaporator. A charging connection had broken off and was lying on the deck. While Sam called the chief engineer, Al examined

the leak and ordered Bert to get a plug, but Bert was unable to find one of the proper size. After securing the compressor, Bert attempted to plug the hole with rags, but at about this time, began to feel effects of asphyxiation and decided to leave the space. The chief engineer helped Bert up the ladder after ordering all hands out of the space. Sam went back and told Al of the Chief Engineer's orders, but Al told Sam to go ahead, that he would follow.

The chief engineer called his refrigeration engineers together in the messroom at about 0330. At this time it was found that Al was missing. Tony, the second refrigeration engineer, ran immediately to the refrigeration flat in search of him. There, Al was found unconscious, and from his position it appeared that he had made no effort to leave the space. Tony and Sam attempted to drag Al to the ladder, but Tony passed out, and Sam had to seek fresh air. The first assistant engineer and oiler and a seaman managed to remove Tony from the cargo refrigeration flat, and a wiper, equipped with a life line, made the line fast to Al, who was pulled out of the contaminated compartment. Artificial respiration was started immediately on the two unconscious crew members.

An oiler, in calling the relieving watch at 0325, was exposed to the fumes of the escaping Freon 11. He was observed running from the refrigeration flat, down the passageway, and out onto the open main deck where he collapsed and died. Since he was exposed to the fumes for a much shorter period than many of the other crew members, his death was attributed to age and poor physical condition or a heart attack brought on by the excitement and exertion caused by the casualty.

Artificial respiration was continued on the three men by the prone pressure method for 4 hours, a length of time considered adequate. They were officially pronounced dead upon the ship's arrival at a foreign port.

We can sit back and reflect on the various aspects of this casualty. The facts of this casualty were presented above. Here are what we believe to be the mistakes.

(1) Al was ordered to leave the space and was in control of his faculties when told to do so. He remained because of his sense of responsibility for the refrigeration machinery.

(2) Tony lost his life in an attempt to save Al. His sincerity cannot be

doubted for a minute, but his procedure was all off. Being right on hand, and knowing of the presence and the nature of the suffocating vapor, he was in a good position to don the rescue breathing apparatus stowed at the entrance to the compartment or at least attach to himself a life line. He probably felt that saving time was more important than using these safety devices.

(3) The first assistant engineer made an attempt during the rescue operation to use a gas mask. A gas mask is designed to filter or dissociate certain harmful particles or irritants from the atmosphere. It cannot supply oxygen in an atmosphere where there is no oxygen.

(4) Due to the publicity on the relative safety of Freon refrigerants, the crew of this vessel failed to consider its danger. A contributor to refrigerating engineering has found that the vapors of all of the Freon refrigerants are odorless at concentrations of less than 20 percent by volume in air. In the case of Freon 11, this is equivalent to the release of 72 pounds into a confined space of 1,000 cubic feet. At concentrations higher than 20 percent, the odors are very mild, being similar to carbon tetrachloride. It will be recalled that this odor was noticed by the crew members. The full charge, 1,700 pounds of Freon 11, had leaked out into the cargo refrigeration flat and had drained off. In the dead air space in the vicinity of the port refrigeration plant, there was, perhaps, a concentration of vapors far exceeding 20 percent. The oxygen content of this mixture of air and Freon 11 vapors was reduced below the normal 21 percent and must have been reduced below the minimum 8 to 11 percent necessary to support life.

SUDDEN DEATH

All hatches on this vessel were being worked by longshoremen. On the dock opposite No. 3 hold, a gang of longshoremen were securing pallets to be hoisted aboard, when the hook on the whip caught the coat of one, picked him up and carried him 15 feet into the air before he was dropped. He landed on the hatch boards, which were lying on the dock, sustaining head injuries, fractured ribs and wrist, and, although rushed immediately to the hospital, he died 2 days later.

LAND, HO!

The picture was too good to leave out of the "Proceedings." Like other good pictures, it tells a story. This one tells the story of a grounding. The story is in greater detail than can be developed by the use of mere words, but it is restricted, however, to the fact that the vessel did ground (but good). How the vessel grounded is another story.

Prior to the grounding the subject vessel was proceeding from an unpronounceable port in India to Bombay on a run of about 380 miles. The speed had been reduced in order to make port during the early daylight hours and also because a heavy sea was running. On the evening of the first day at sea a fix was obtained on an aid to navigation. The next noon, the master obtained a meridian altitude and corrected his D. R. position. Following this sight, the skies became overcast, and in the evening, heavy rain squalls substantially reduced visibility. By midnight, weather conditions consisted of moderate beam seas, partly clouded skies, rain squalls and wind of force 5. As the vessel proceeded on its course, the master and mate took bearings on Khanderi Island radiobeacon. Several bearings indicating Khanderi Island to be ahead were plotted, but an equal number indicating Khanderi Island to be on the starboard hand were discarded as being unreliable.

At 0423, during a period of increased visibility, a light was sighted, its period determined, and the light identified as Prongs Reef. Its bearing was plotted and crossed with a DF bearing. The light then became obscured.

Subsequent "fixes" were obtained by the indiscriminate use of DF bearings and an improperly advanced Prongs Reef line. Only those DF bearings that looked good were crossed with an "advanced" Prongs Reef line. On the other hand, the Prongs Reef line was advanced in a most irregular manner, being rotated with Prongs Reef as its center.

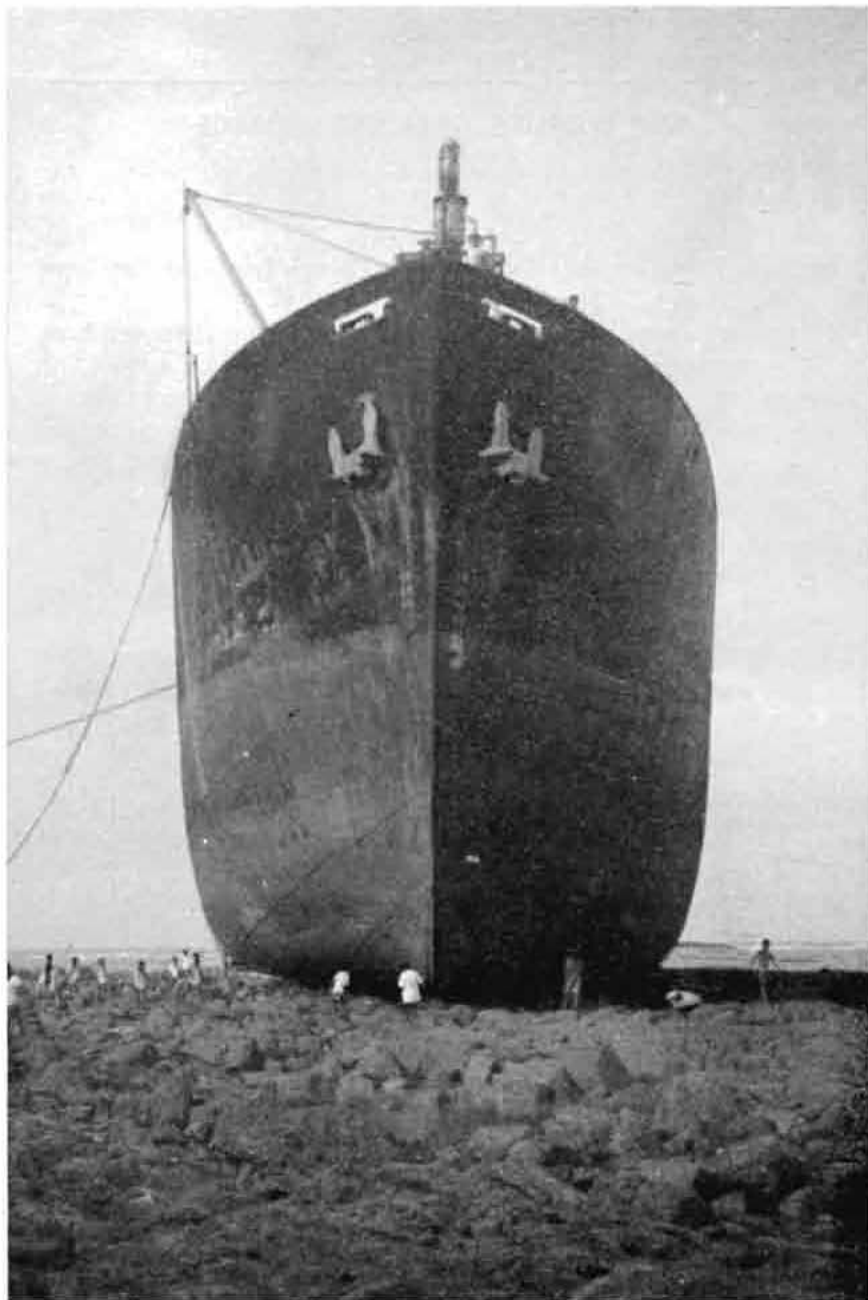
At 0430 the course was changed and from that time on the vessel was navigated on reciprocal courses in a general east-west direction while awaiting daylight. An 0520 "running fix" was plotted in a manner similar to that described above, but since it didn't look good to master and mate, they "got together" and decided on a new 0520 position which they placed on the chart. They then drew in a line (095° T-275° T) as the line on which they had been running the reversed courses.

Later, while on the 095° T heading, the master sighted the loom of lights dead ahead, assumed they were the lights of Bombay, and elected to continue on the 095° T heading on the assumption that he was headed right up the channel south of Prongs Reef. This was at approximately 0540.

At 0607, the lookout sighted land on the starboard hand, close to. At

0610, the vessel grounded 18 miles north of the channel.

Reconstructing events and courses and distances run from the log and testimony, and working back from the vessel's grounded position, we find that the vessel, for considerable periods of time, must have been maneuvered on the volcanic terrain of that part of the coast of India.



Lack of proper navigation was clearly exhibited by the following discrepancies:

(a) No D. R. position was kept as the ship approached its destination.

(b) Leeway was allowed in the wrong direction.

(c) Radiobeacon bearings were arbitrarily plotted or discarded without reason.

(d) The "advancing" of the 0423 bearing on Prongs Reef was not done according to the accepted practice of piloting.

(e) The decision to place a new

0520 position was entirely without reason.

(f) Lacking a proper position, the vessel should have been kept outside the 10-fathom line and certainly at a greater distance than 2 miles from shore, especially under the condition of next to zero visibility which prevailed prior to the grounding.

Now that you know the story of how it happened, rather than comment further, we refer you once again to the picture. In one sense it is the story of a grounding. In another sense, it is a visual witness to careless navigation.

DEATH COMES IN A BUCKET

Death can come to the seaman in many ways. Accidents which might only result in bruises ashore often cause loss of life afloat. In this case, the weapon of destruction seems to have been an ordinary 2½-gallon water bucket. As is usually the case, both negligence and carelessness are apparent in this mishap.

A small, Diesel-propelled, single screw, river towboat was pushing an empty gravel barge downstream on an inland waterway one bright sunny morning. The crew of this "pusher" consisted of the pilot and two deckhands. The pilot was at his station in the pilothouse steering the vessel and manipulating the engine controls. Both deckhands were engaged in scrubbing down the main deck of the vessel.

The exposed portion of the main deck which they were scrubbing consisted of a 30-inch space extending from the deckhouse to the gunwales on each side of the vessel, and the small stern sheets, or fantail, and foredeck. This exposed steel deck was coated with an antiskid paint. There were no outboard life lines or grab rails. The only safety device of this sort consisted of a pipe grab rail mounted on the deckhouse.

One of the deckhands was drawing water from the river in a 2½-gallon water bucket and sloshing down the deck with it, then scattering "Soilax" on the deck. The other deckhand followed behind with a swab, scrubbing down the deck. Despite the fact that the vessel was making approximately 9 knots, no line was attached to the water bucket for additional safety in drawing water from the river.

The surviving deckhand states that he last saw his partner at approximately 10:25 a. m., and that he first discovered his absence at approximately 10:30 a. m., when he worked his way around from the starboard side to the port side of the vessel and found that the "Soilax" ended. He looked in the cabin and in the engine room and, when he failed to locate his partner, he asked the pilot what had happened to him.

The pilot immediately made a thorough search of the vessel and upon discovering that the deckhand had apparently fallen overboard, dropped his tow at a terminal and made an unsuccessful search of the river in the vicinity where it was believed that he had fallen overboard.

This unfortunate seaman's body was recovered approximately 1 week later.

The absence of both the seaman and the water bucket clearly leads to one

THE WORLD'S GREATEST MENACE

By R. Coygill



I've killed more men than all the wars, though frightful they have been,

I've ruined more lives, and wrecked more homes than drink or plague has seen.

I've spared no one, the rich, the poor, they're all alike to me,
The young, the old, the weak, the strong, whatever they may be.

I cast my shadow everywhere, in city, town or farm,
You'll always find me lurking round where I can do most harm;
Even the little tots at school, so innocent and gay,
I've stricken by my power, because they crossed my way.

In aeroplanes, in motor cars, or on the ships at sea,
At home, or in some foreign land—it's all the same to me.
Widows and orphans know me well, I've caused them many a pain,
And you can take my word for it, I'll do the same again.

Yet, strange to say, my strength is known, they've printed signs
"BEWARE!"

"LOOK OUT!" for me and other things, *but no one seems to care;*
So I go on my merry way, whilst others pay the cost,
And every day, and every hour, through me some lives are lost.

A prince of robbers too I am, in fact I have no peer,
I steal more than three hundred million dollars every year.
I give to none, I take from all, I crush, I maim, I kill,
And do my work relentlessly and also with much skill.

Millions of cripples have I made, to ALL I bring distress,
This is my daily work in life—my name is

CARELESSNESS!

Courtesy Lykes Fleet Flashes

conclusion. While leaning outboard to draw a bucket of water from the river as the vessel was making approximately 9 knots through the water, he must have been dragged into the river by the strong force of the water in the bucket. The absence of an outboard life line or guard rail deprived him of the protection which might have helped save his life. This casualty clearly demonstrates that where an outboard life line or guard rail is not provided, persons drawing water from over the side while the vessel is under way should exercise extreme caution and sound judgment.

By LCDR S. K.
Broussard, USCG.

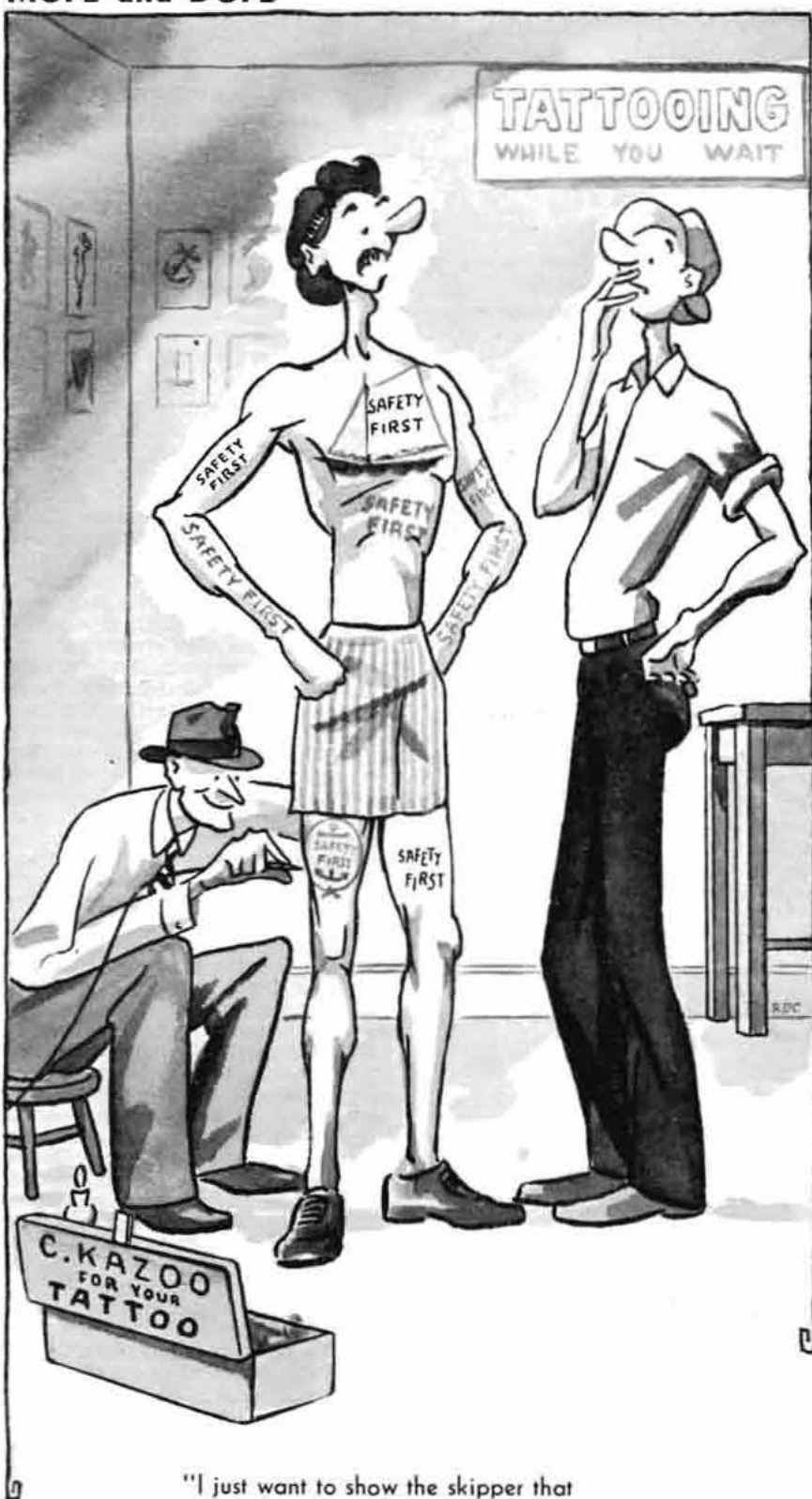
SIX SCALDED

The vessel was undergoing repairs at an east coast ship repair yard. Shore power was supplied to the vessel since the ship's generators were secured. The port boiler was being cleaned; the starboard boiler, two-drum, "D"-type, was supplying steam for auxiliary purposes, and as the demand for steam was small, one burner was all that was necessary to maintain steam pressure. To make repairs to a 160-pound steam line, the fire in the starboard boiler was secured, and the line was isolated. About 1 hour after the oil fire was secured, a fire was discovered in the economizer, manifested by a local overheated area in the uptake. The soot blower in the economizer was cut in and steam cooled the overheated area until the red glow in the uptake disappeared. The inspection door in the uptake was opened and a steam lance directed on the economizer.

Due to the smoke and steam in the vicinity of the economizer, considerable time elapsed before the extent of the fire could be determined. In the meantime, workmen prepared to remove the lower casing door which provides access to the combustion chamber directly beneath the economizer. This door finally became unseated and hot water gushed out, scalding six workmen standing in front of the boiler in the immediate area of the casing door.

It was later determined that several economizer tubes were ruptured, and in addition to the water which escaped from the boiler through these ruptured tubes, condensed steam from the soot blower and steam lance contributed to the large quantity of water which collected below the economizer between the water drum and the sides of the economizer combustion chamber. This scalding hot water was probably at a depth of 18 inches or more and just waiting for someone to open that door.

MOPE and DOPE



"I just want to show the skipper that his little talk made a lasting impression."

APPENDIX

Amendments to Regulations

TITLE 3—THE PRESIDENT

EXECUTIVE ORDER 10361

ESTABLISHING THE WHITTIER DEFENSIVE SEA AREA, ALASKA

By virtue of the authority vested in me by section 2152 of Title 18 of the United States Code, and as President of the United States, the following-described area is established and reserved for purposes of national defense as a defensive sea area to be known as "Whittier Defensive Sea Area":

All territorial waters of Passage Canal, Alaska, lying westward of a line extending from Decision Point true north to the north shore of Passage Canal east of Poe Bay.

1. No persons, other than persons on public vessels of the United States, shall enter the Whittier Defensive Sea Area, and no vessels or other craft, other than public vessels of the United States, shall be navigated into that area, unless authorized by the Secretary of Defense, or such officer as he may designate.

2. While in this defensive sea area vessels or other craft shall obey such instructions as may be issued by the Secretary of Defense, or such officer as he may designate. Movement of vessels or other craft within this area shall be at their own risk and shall be subject to supervision by controlling surface craft or aircraft. Controlling surface craft or aircraft shall be identified by a prominent display of the Union Jack.

3. The Secretary of Defense, or such officer as he may designate, with the cooperation of the local law-enforcement officers of the United States, including the Territory of Alaska, shall enforce the foregoing provisions of this order.

4. The Secretary of Defense, or such officer as he may designate, is hereby authorized to prescribe such regulations as he may consider necessary to carry out the provisions of this order.

5. Any person violating any of the provisions of this order shall be subject to the penalties provided by section 2152 of Title 18 of the United States Code.

HARRY S. TRUMAN,

THE WHITE HOUSE,
June 11, 1952.

[F. R. Doc. 52-6569; Filed, June 12, 1952;
10:37 a. m., 17 F. R. 5357-6/13/52.]

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard Department of the Treasury

[CGFR 52-32]

Subchapter K—Security of Vessels

PART 121—SECURITY CHECK AND CLEARANCE OF MERCHANT MARINE PERSONNEL

REQUIREMENTS FOR DOCUMENTS BEARING SECURITY CLEARANCE INDORSEMENT

The President by Executive Order 10352, dated May 19, 1952, and published in the FEDERAL REGISTER May 21, 1952 (17 F. R. 4607), amended the regulations prescribed by Executive Order 10173 of October 18, 1950, as amended by Executive Order 10277 of August 1, 1951, regarding the issuance of documents and employment of persons aboard vessels. The effect of Executive Order 10352 is to prohibit the employment of any person aboard a merchant vessel of the United States without the Commandant of the United States Coast Guard being satisfied that the character and habits of life of such person are such as to authorize the belief that the presence of the individual on board would not be inimical to the United States. The previous provisions of Executive Order 10173, as amended by Executive Order 10277, were applicable to licensed officers or certificated men and did not apply to replacements taken aboard merchant vessels while in foreign ports.

Pursuant to the authority of 33 CFR 6.10-3 in Executive Order 10173, as amended by Executive Order 10277 and Executive Order 10352 (15 F. R. 7007, 3 CFR, 1950 Supp., 16 F. R. 7537, 17 F. R. 4607), the Commandant may require that all licensed officers and certificated men employed on other than exempted designated categories of merchant vessels of the United States shall be holders of specially validated documents. The provisions of 33 CFR 6.10-1 in Executive Order 10173, as amended by Executive Order 10277 and Executive Order 10352 now require that no person may be employed on other than exempted designated categories of merchant vessels unless the Commandant of the United States Coast Guard is satisfied that the character and habits of life of such person are such as to authorize the belief that the presence of the individual on board would not be inimical to the security of the United States. The purpose of the following amendment to 33 CFR 121.16 is to

restate the requirements for documents bearing security clearance indorsement and to add the terms and conditions which shall apply with respect to the employment of persons as replacements in the crews of the designated categories of merchant vessels in foreign ports when persons in possession of documents bearing a special validation indorsement for emergency service are not available. Since the security interests of the United States call for the aforesaid application of the provisions of 33 CFR 6.10-1 and 6.10-3 at the earliest practicable date and because of the national emergency declared by the President, it is found that compliance with the notice of proposed rule making, public rule making procedure thereon, and effective date requirements of the Administrative Procedure Act is impracticable and contrary to the public interest.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order 10173, as amended by Executive Orders 10277 and 10352, § 121.16 is amended to read as follows, which shall become effective on and after the date of publication of this document in the FEDERAL REGISTER.

§ 121.16 *Requirements for documents bearing security clearance indorsement.* (a) Every person shall be required as a condition of employment to be in possession of a document bearing a special validation indorsement for emergency service prior to acceptance of employment as a member of the crew of any vessel coming within any one of the following categories:

(1) All merchant vessels of the United States of 100 gross tons and upward engaged in the foreign trade.

(2) All merchant vessels of the United States of 100 gross tons and upward engaged in trade to the Dominion of Canada, the West Indies, or Mexico.

(3) All merchant vessels of the United States of 100 gross tons and upward engaged in the intercoastal trade.

(4) All merchant vessels of the United States of 100 gross tons and upward engaged in the coastwise trade, including those vessels engaged in trade to Alaska, or the Hawaiian Islands.

(5) All merchant vessels of the United States of 100 gross tons and upward engaged in trade on the Great Lakes.

(b) The issuance of documents bearing security clearance shall be in

the form and manner prescribed by § 121.15.

(c) The categories of vessels listed in paragraph (a) of this section are considered to be engaged in trade whether at anchor or made fast to a dock, loading or unloading passengers or cargo, or merely in an idle status awaiting passengers or cargo, but are not considered to be engaged in trade if laid up or dismantled or out of commission.

(d) By employed is meant the engagement of any person to fill any licensed or certificated berth on board ship whether or not under articles and includes those engaged for standby, relief, or other capacities.

(e) The following terms and conditions shall apply with respect to the employment of any person as a replacement in the crew of any vessel coming within any one of the categories of vessels listed in paragraph (a) of this section at foreign ports when persons in possession of documents bearing a special validation indorsement for emergency service are not available as established to the satisfaction of the United States consular representative of the area:

(1) A person in possession of a United States seaman's document not bearing a special validation indorsement for emergency service may be employed only after approval of the Commandant is obtained by the United States consular representative for the area or by the master of the vessel.

(2) A person who is a United States citizen and who is not in possession of a United States seaman's document may be employed if no person specified in subparagraph (1) of this paragraph is available as established to the satisfaction of the United States consular representative for the area, and then only after approval of the Commandant is obtained by the United States consular representative for the area or by the master of the vessel.

(3) A person who is not a citizen of the United States and who is not in possession of a United States seaman's document may be employed only if no person as specified in subparagraphs (1) and (2) of this paragraph is available as established to the satisfaction of the United States consular representative for the area and then only after the following terms and conditions are met:

(i) No such person shall be employed unless he presents evidence of temporary clearance from the United States consular representative for the area;

(ii) In no case shall the number of such persons employed on any one vessel exceed ten (10) percent of the total complement of the vessel; and,

(iii) No such person shall be em-

ployed to fill the berth of a licensed officer or registered staff officer.

(40 Stat. 220, as amended; 50 U. S. C. 191, E. O. 10173, Oct. 18, 1950, 15 F. R. 7005, 3 CFR, 1950 Supp., E. O. 10277, Aug. 1, 1951, 16 F. R. 7537, E. O. 10352, May 19, 1952, 17 F. R. 4607)

Dated: June 2, 1952.

[SEAL] MERLIN O'NEILL,
Vice Adm., U. S. Coast Guard,
Commandant.

[F. R. Doc. 52-6159; Filed, June 2, 1952;
3:24 p. m., 17 F. R. 5040-6/4/52]

[CGFR 52-30]

Subchapter L—Security of Waterfront Facilities
PART 126—HANDLING OF EXPLOSIVES OR
OTHER DANGEROUS CARGOES WITHIN
OR CONTIGUOUS TO WATERFRONT
FACILITIES

DESIGNATED DANGEROUS CARGO

The purpose for amending 33 CFR 126.09 is to redefine "designated dangerous cargo" in order to remove an inequality between shipments of Classes B and C military explosives and shipments of Classes B and C commercial explosives. At present 33 CFR 126.29 requires that a Captain of the Port will issue a designated waterfront facility permit for each transaction of handling, storing, stowing, loading, or discharging or transporting designated dangerous cargo in amounts exceeding 500 pounds, provided, among other conditions, the facility offers isolation and remoteness from populous areas which compare favorably with the distances required by the American Table of Distances for inhabited buildings, unbaricaded. The amendment to 33 CFR 126.09 will eliminate isolation requirements for the handling of Classes B and C military explosives at designated waterfront facilities and will thereby remove the inequality existing between shipments of Classes B and C military explosives and shipments of Classes B and C commercial explosives. It is hereby found that compliance with the notice of public rule making, public rule making procedure thereon, and effective date requirements of the Administrative Procedure Act is impracticable because it is necessary to expedite the handling of Classes B and C military explosives shipped by, for, or to the United States Armed Forces, or similar types of explosives shipped by, for, or to the government of any country whose defense is deemed vital to the defense of the United States.

By virtue of the authority vested in me as Commandant, United States Coast Guard, by Executive Order 10173, as amended by Executive Order 10277, and Executive Order 10352, the following regulation is prescribed which shall become effective on and

after the date of publication of this document in the FEDERAL REGISTER:

Section 126.09 is amended to read as follows:

§ 126.09 *Designated dangerous cargo.* The term "designated dangerous cargo" shall mean explosives (commercial or military), Class A, as classified in 46 CFR Part 146.

(40 Stat. 220, as amended; 50 U. S. C. 191, E. O. 10173, Oct. 18, 1950, 15 F. R. 7005, 3 CFR, 1950 Supp., as amended by E. O. 10277, Aug. 1, 1951, 16 F. R. 7537, 3 CFR, 1951 Supp., as amended by E. O. 10352, May 19, 1952, 17 F. R. 4607)

Dated: June 9, 1952.

[SEAL] MERLIN O'NEILL,
Vice Admiral, U. S. Coast Guard,
Commandant.

[F. R. Doc. 52-6549; Filed, June 13, 1952;
8:50 a. m., 17 F. R. 5396-6/14/52.]

Chapter II—Corps of Engineers, Department
of the Army

PART 203—BRIDGE REGULATIONS

FOX RIVER AND PORTAGE CANAL, WIS.

Pursuant to the provisions of section 5 of the River and Harbor Act of August 18, 1894 (28 Stat. 362; 33 U. S. C. 499), § 203.643 is amended as follows:

§ 203.643 *Fox River and Portage Canal, Wis.*—(a) *City-owned bridges at Main Street, Walnut Street, and Mason Street, Green Bay, Wis.* (1) Except on Sundays and legal holidays, the owner of or agency controlling these bridges will not be required to open the draws from 7:45 a. m. to 8 a. m., from 12 noon to 12:15 p. m., from 12:50 p. m. to 1:10 p. m., and from 4:55 p. m. to 5:25 p. m.: *Provided*, That the draws shall be opened promptly at all times for the passage of vessels carrying United States mails, vessels belonging to the United States, vessels of 300 short tons or over cargo capacity engaging in commercial transportation and their attendant towing tugs, and tugs or fireboats when responding to emergency calls.

(2) Except as provided in subparagraph (1) of this paragraph, the draws shall be opened promptly upon signals, given by blasts of a horn, steam whistle, or other approved signalling device, as follows: For Main Street bridge, two short blasts followed by one long blast; for Walnut Street bridge, one long blast followed by two short blasts; for Mason Street bridge, one long blast followed by one short blast and one long blast.

(3) In case the draw cannot be opened immediately when the signals are given, a red flag or ball by day, or a red light by night, shall be conspicuously displayed.

(b) *Bridges at or between Berlin and Portage, Wis.* (1) The owners of

or agencies controlling the bridges will not be required to open the draw span for the passage of vessels.

(2) The owners of or agencies controlling the bridges shall keep a legible copy of this section posted conspicuously on both the upstream and downstream sides of the bridges.

(28 Stat. 362; 33 U. S. C. 499) [Regs., May 16, 1952, 823.01-ENGWO]

[SEAL] WM. E. BERGIN,
Major General, U. S. Army,
The Adjutant General.

[F. R. Doc. 52-6173; Filed, June 5, 1952; 8:45 a. m., 17 F. R. 5140-6/6/52.]

PART 203—BRIDGE REGULATIONS

NEW JERSEY INTRACOASTAL WATERWAY AND TRIBUTARIES

Pursuant to the provisions of section 5 of the River and Harbor Act of August 18, 1894 (28 Stat. 362; 33 U. S. C. 499), § 203.220 governing the operation of bridges over the New Jersey Intracoastal Waterway and tributaries is hereby amended as follows:

§ 203.220 *New Jersey Intracoastal Waterway and tributaries; bridges.*

(a) The New Jersey Intracoastal Waterway referred to in this section is defined as that waterway extending through the bays and thoroughfares on the eastern coast of New Jersey from Manasquan Inlet on the north to Cape May on the south, including Cape May Canal to Delaware Bay.

(b) When drawbridges are less than 1,000 feet apart they shall, for the purposes of this section, be considered and operated as a unit. The owners thereof shall provide and install, for uninterrupted service, systems of electric signals on their respective bridges, so connected that the operator of any bridge of the group may thereby simultaneously notify, by signal, the operators of all the other drawbridges of that group of the desire of the master of any vessel or other watercraft to pass through the draws. The operator of the bridge first in any group of bridges to be passed by an approaching vessel or other watercraft shall be responsible for observing the approach of such vessel or other watercraft toward that bridge, also for receiving the signal or notice for passing and for communicating, by means of the electric signals prescribed above, to the operators of the other bridges composing such group the purpose of such vessel or other watercraft to pass.

(c) Whenever any vessel or watercraft approaches a bridge affected by this section, and under which it cannot pass, the lawful signal of the desire of the master of the vessel or craft to pass through the draw open-

ing shall be three blasts of a whistle or horn blown on the vessel or craft. These drawbridges shall not be required to open for craft carrying appurtenances unessential for navigation which extend above the normal superstructure. Upon request, the district engineer in charge of the locality will cause inspection to be made of the superstructure and appurtenances of any craft habitually frequenting those waterways, with a view to adjusting any differences of opinion in this matter between the vessel owner and the bridge owner.

(d) The draws in each and every bridge or group of bridges shall, upon the signal prescribed in paragraph (c) of this section, be promptly opened at any and all hours of the day or night, except as provided in paragraph (m) of this section for the passage of any vessel, vessels, or other watercraft unable to pass safely underneath the draw when closed. For bridges crossing the New Jersey Intracoastal Waterway, failure of the draws to be fully opened within 4 minutes from the signal to open shall be considered a violation of the requirement for prompt opening.

(e) If a car, train of cars, or other vehicle is, at the time of receiving the signal prescribed in paragraph (c) of this section, approaching any draw so closely that it cannot be safely stopped before reaching such draw, two blasts of a whistle or horn shall be blown on the bridge. As soon thereafter as such draw shall be cleared, such draw or all draws comprised in any group of bridges concerned shall be promptly opened, and three blasts of a whistle or horn blown on the bridge to indicate such clearance.

(f) After the draw or draws of any bridge or group of bridges shall have remained open for a period of 10 minutes or for such shorter period as may be necessary for the passage of vessels or other watercraft waiting to pass, the draw or draws may be closed for the crossing of cars, trains, vehicles, or individuals, if any be waiting to cross. After being so closed for a period of 10 minutes or for such shorter times as may be necessary, the draw or draws shall be again promptly opened for the passage of vessels or other watercraft, if there be any desiring to pass.

(g) No vehicle, car, locomotive, or train shall be stopped on the drawspan of any bridge subject to this section; nor shall any such bridges carrying railway or tramway tracks be used for switching purposes, except those bridges for which special regulations are prescribed in paragraph (m) of this section; nor shall locomotives or trains be stopped in bridge

blocks of railroad bridges in such manner as to hinder or delay the operation of any draw, except in cases of urgent necessity. Vessels shall not be so moored nor maneuvered as to delay or hinder unnecessarily closing the draw of any bridge. All passages of vessels and other watercraft through or under the drawbridges and all passage of cars, locomotives, trains, and other vehicles over drawbridges shall be prompt and as rapid as practicable in order to avoid unnecessary delay to either land or water traffic.

(h) The owner or owners of each and every drawbridge covered by this section shall maintain in good and serviceable order the drawspan, together with the machinery and appliances required for operating the same, and the electric signal system prescribed in paragraph (b) of this section; shall provide such number of draw operators or tenders as may be found necessary to open and close the draws promptly; and shall also provide and maintain in good order on the bridge piers or fenders such fixtures as may be necessary for vessels to moor or make fast while waiting for the drawspan to be opened.

(i) The length of time that a draw has been opened shall be computed from the time that the drawspan begins to move in opening, and the length of time that a draw has been closed shall be computed from the time that the drawspan ceases to move in closing.

(j) At each opening of a draw full horizontal and vertical clearances shall be provided, regardless of the size or requirements of the passing vessel or other watercraft.

(k) The owner or owners of each and every bridge covered by this section shall provide and maintain in good legible condition two board gauges, with figures not less than 6 inches high, the figures painted black on a white background, or vice versa, to indicate the vertical clearance under the closed drawspan at all stages of the tide. The gauges shall be so placed on the ends of the drawspan fender that they shall be plainly visible to the master of a vessel or other watercraft approaching such bridge either upstream or downstream.

(l) The owner or owners of each and every bridge covered by this section shall cause to be kept a complete record of all openings of the draw and shall promptly report to the district engineer of the United States in charge of the river and harbor improvements in that vicinity all cases in which the drawspan has been required to remain open for an unreasonable length of time or to remain closed for more than 10 minutes after the pre-