

PROCEEDINGS

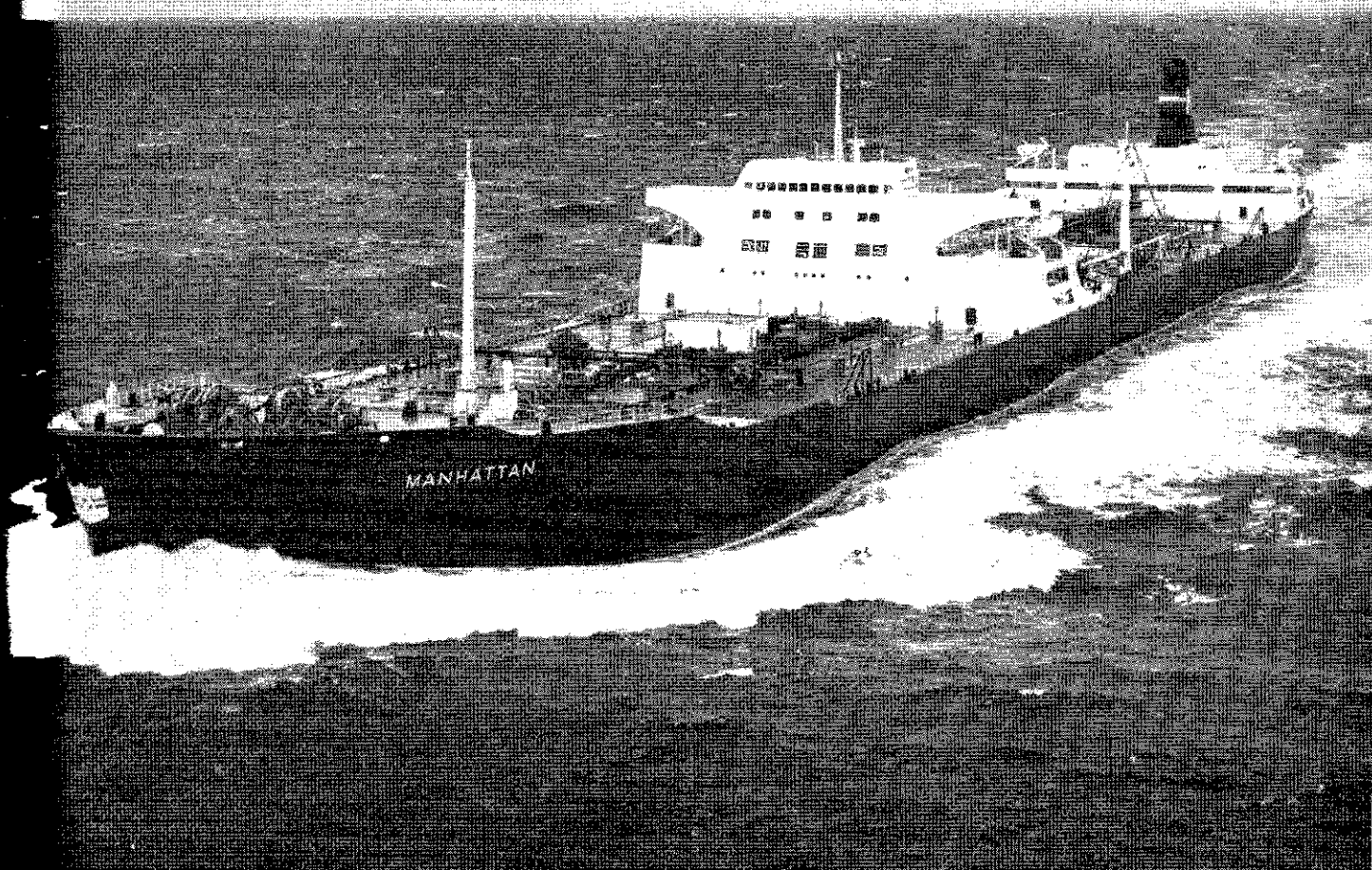
OF THE MERCHANT MARINE COUNCIL



UNITED STATES COAST GUARD

Vol. 19, No. 6 • June 1962

CG-129



PROCEEDINGS

OF THE MERCHANT MARINE COUNCIL

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

The Merchant Marine Council of
The United States Coast Guard

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CONTENTS

FEATURES

The "General Slocum" Disaster.....	1
Chlorine	1
Equipment Approved by the Commandant.....	1
Maritime Sidelights.....	1
Nautical Queries.....	1
Merchant Marine Personnel Statistics.....	1
Amendments to Regulations.....	1
Articles of Ships' Stores and Supplies.....	1

FRONT COVER

SS *Manhattan*, largest merchant vessel built in the United States, shown on her underway deep draft sea trials. The super tanker was constructed by Bethlehem Steel Co. for Manhattan Tankers Co., Inc.

BACK COVER

Safety Sense by G. Seal, *Pacific Maritime Association*.

TOWBOAT SKIPPER RECEIVES COMMENDATION



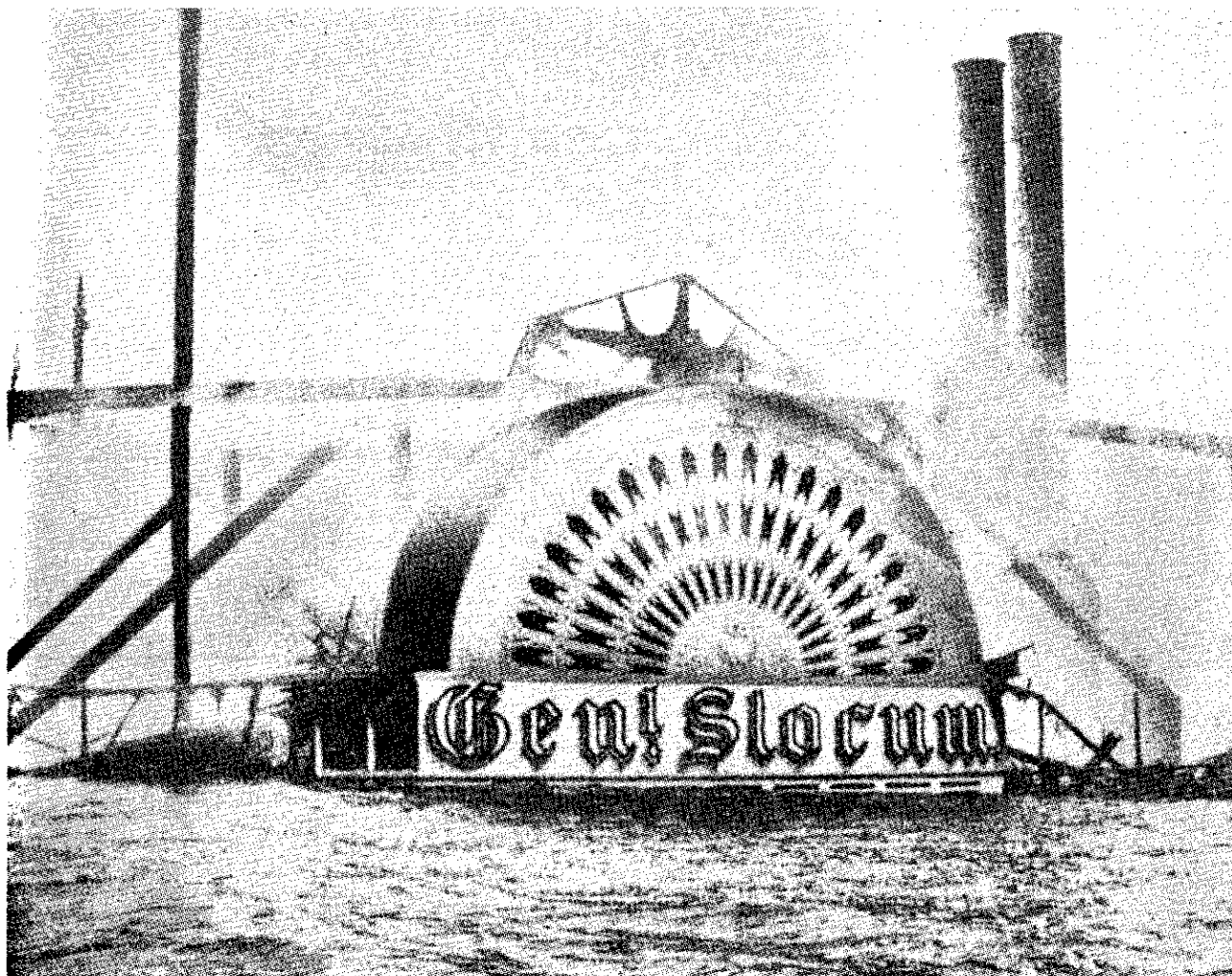
THE COAST GUARD has honored Capt. Charles Y. Duncan, Jr., of Louisville, Ky., master of the towboat *Southland*, for the rescue of one of his crewmen from the cold Ohio River last fall. Captain Duncan was presented a letter of commendation from Rear Adm. O. C. Rohnke, Commander of the Second Coast Guard District, at a ceremony in Louisville. Lt. Comdr. William C. Jefferies, USCG, Officer in Charge of Marine Inspection, Louisville, made the presentation, with Mrs. Pat Duncan, Jr., looking on.

On November 16, 1951, deckhand Roy Buchanan slipped and fell overboard into the chilly and fast-flowing Ohio River. Deckhand Herbert Hoskinson alerted Captain Duncan, who sounded general alarm and reversed the tow. Buchanan bobbed up in the water after passing under one barge. He was unconscious and unable to help himself.

Duncan grabbed a life ring, jumped into the river, and saved Buchanan. Rear Admiral Rohnke, in his letter, noted: "But for the timely and effective efforts of yourself and Mr. Hoskinson, the accident would have resulted in the loss of Mr. Buchanan's life. This achievement, which should afford you a large measure of personal satisfaction, is deserving of the highest praise."

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THE SS "GENERAL SLOCUM," her voyage of death at an end, lies smoldering in the mud flats off North Brother Island.

THE "GENERAL SLOCUM" DISASTER

MARITIME DISASTERS have occurred frequently during the many years that man has been transporting himself by water. Some have been much more consequential than others, but none had more repercussions or caused a greater effect on shipping than did the *General Slocum* disaster of 58 years ago.

The *General Slocum* was a 250-foot-long, 7½-foot-draft, paddle-wheel excursion steamer of wooden construction, and with a walking-beam engine. The vessel had been built in 1891 and was licensed to carry 2,500 passengers on certain sheltered waters near New York City. The *Slocum* was similar in construction to many other excursion vessels operating on the waters of the United States at that time.

The vessel had three decks—main, promenade, and hurricane. Below the main deck (starting from the bow) there was a small compartment separated from the next compartment aft by a light wooden bulkhead. In the second compartment immediately abaft this bulkhead were the crew's quarters, fitted with bunks, and separated from the compartment next astern by a wooden bulkhead with light pine and thin iron sheathing.

The third compartment from forward was the "forward cabin." This compartment was quite large and was separated from the engineroom space, immediately aft, by a wooden bulkhead. Although originally intended for passengers, this space had been utilized in later years as a storeroom and lamproom, and also contained

the steering engine and dynamo.

The *General Slocum* had been chartered for a Sunday School outing on 15 June 1904. The excursion was to be a round trip from Third Street, East River, New York, to Locust Grove on the sound. The vessel left as scheduled at 9:30 a.m. on that date and proceeded up the East River toward the sound. Aboard were 1,358 passengers, the vast majority of whom were women and children.

While still outbound and in the general vicinity of the eastern end of Ward Island, a fire broke out in the below decks "forward cabin." Included among the combustible "stores" in this space at the time of the fire were several drums of oil, a large quantity of paint, charcoal, canvas, hay, and rubbish.

The mate notified the pilothouse of the fire and, together with several crewmembers, proceeded to scene. Pressure was put on the fire main and a hose was led to the fire, which was still more or less confined to the lamp-room. The hose burst in several places and blew off of its coupling as soon as pressure was applied. Another hose was led out but couldn't be attached to the hydrant, the old coupling apparently not having been removed. Efforts to control the fire were then abandoned with the crew dispersing in various directions, the majority looking to their own safety.

The steam fire pump, standpipes, and valves were in good order. The fire hose was probably of the cheapest grade—and several years old. There were some lengths of new hose on board, but these were connected to an aft standpipe and were not used here. No attempt was made by the crew to use any hose or buckets except the hose on the forward standpipe and the aforesaid rubber hose, which was not connected.

The only fire buckets on the main deck were out of reach, and had no water in them anyway—nor was it customary to keep water in the buckets. No fire drills or boat drills had taken place on the vessel during the season, and only one of the current deckhands had been on the boat on prior seasons.

The *Slocum* was headed at maximum speed past Sunken Meadow, Lawrence Point, and Stony Point, toward North Brother Island. The draft created by the forward movement of the vessel swept the flames aft through the highly varnished woodwork with astonishing speed.

Sheer confusion reigned among the passengers. With the flames racing aft, many jumped to safety, or death, from the fast-moving vessel. Attempts to launch lifeboats met with no success and many found that the *Slocum's* lifejackets were rotten beyond serviceability.

The lifeboats and rafts were in fairly good condition, but as no successful attempt was made to lower them they were of no use at all.

Most, if not all, of the life preservers were rotten; however, since no more than 68 persons were able to obtain lifejackets, the fact that most of them were rotten becomes somewhat academic. This fact, of course, was due to panic, unfamiliarity with either the location of or how to don lifejackets, and the fact that so many of the passengers were children.

The crew, having had little or no training, in effect left the terror-

struck passengers to fend for themselves. The *Slocum* was beached, head on and at almost full speed, on North Brother Island. The bow of the vessel was in about 7 feet of water and 10 to 20 feet from the shore. The stern was 40 to 60 feet from shore and in 10 to 30 feet of water. Although some few individuals were able to leave the ship over the bow, the majority were forced to abandon from the stern. It is estimated that between 400 and 600 persons were drowned in the tidal current after the vessel was beached. Mortality would have been even higher had not several nearby vessels such as the tugs *John L. Wade* and *Walter Tracy*, and a number of townspeople from ashore rushed to the area and evacuated some hundreds of the helpless passengers.

The total loss of life among the 1,358 passengers was 955 persons, with an additional 175 injured. Among the crew, two were killed with an additional five injured. The death toll, in excess of 70 percent, occurred on one of the Nation's most highly trafficked rivers.

Some of the salient points to be noted from the casualty are:

1. Marked inefficiency of the crew, in all probability due to the total lack of fire drills, boat drills, and a system of established discipline and routine.
2. Extremely dangerous stowage condition of the various cabins; i.e., trash and combustibles stowed with flammable liquids.
3. Badly defective life preservers.
4. The peculiar helplessness of an excursion crowd—particularly one with a large proportion of women and children.
5. Improper manner in which the vessel was maneuvered and beached after the fire had broken out.

Major reforms in vessel inspection procedures and a greater public interest in maritime safety were the direct result of this casualty, which stands as a tragic example of the loss of human life that results from the combination of an unsafe vessel and untrained officers and crew.

SHORTCUT TO ETERNITY

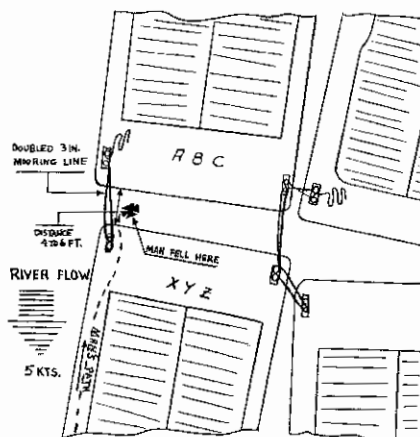
Early one morning on the Mississippi River a group of seamen were engaged in cleaning out the holds of several moored hopper barges preparatory to loading cargo. The men were crossing between the moored barges and reached the port bow of barge XYZ, as shown in the sketch above. Upon arriving at the port forward corner, the men all stopped, with the exception of the deceased, to await the arrival of a crewboat which was assigned to ferry them across the 6-foot stretch of open water to the ABC.

The deceased, who was very much alive at that point, ignored the explicit order of his supervisor to wait for the boat and proceeded to try and jump to the other barge, using the doubled 3-inch mooring lines between the barges as a footing. As the man put his weight on the doubled lines, he lost his balance and fell between the two barges. The man sank and was swept beneath the XYZ.

The deceased seaman was not wearing a lifejacket. Dragging operations were unsuccessful.

This case, of course, is a classic illustration of a man who "couldn't wait

for safety"—who couldn't take time off from carelessness to be careful. No lifejacket plus direct disregard of a safety instruction plus a foolish, unsafe act equals death or serious injury when working around or over the water; it's as simple as that and yet apparently too complicated for some people to understand.



CHLORINE

(A Technical Bulletin for Stevedores and Ship's Officers)

By Edward C. March

Division of Safety Bureau of Labor Standards

INTRODUCTION

KNOWLEDGE of the nature and particulars of many hazardous packaged cargoes should, in theory at least, be of little importance to the stevedore or the ship's officer. Regulations which provide adequate and safe packaging and stowage generally are followed and do, in fact, prevent accidents or other difficulties involving such commodities.

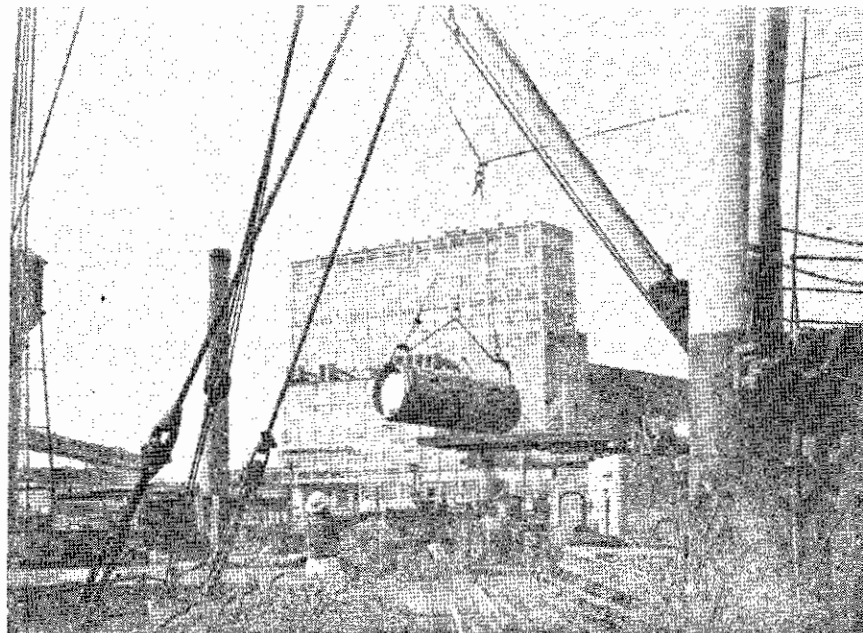
Chlorine is a case in point. It is recognized that a leaking chlorine cylinder or container should not be shipped as cargo. However, there is no guarantee that one will not be shipped or that leaks will not develop. This has happened in the past and may happen again. The purpose of this bulletin is to advise the stevedore and the ship's officer of some facts concerning chlorine and of the steps that should be taken if a leak does show up in a shipment.

FACTS ABOUT CHLORINE

Chlorine is one of the chemical elements. In commerce, it appears as a liquified gas under pressure in cylinders or containers, having in the container both a liquid and a gas phase.

In its liquid form (not to be confused with water solutions of chlorine gas) at atmospheric pressure it boils at the very low temperature of -30°F . and strong metal containers are required to withstand the high pressures developed at ordinary temperatures. For example, at 70°F . it has a vapor pressure of 85 pounds per square inch gage. At 100°F . the pressure increases to 140 pounds per square inch gage. The pressure is dependent upon the temperature of the liquid chlorine in the container—not on the amount of liquid in the container, under normal conditions of operation. This point is especially important when it is considered that, even though shipped as empty, a chlorine container will always contain some chlorine gas and probably contain some liquid chlorine. Thus, these containers are always under pressure which they are designed to withstand. Their strength is intended for this purpose—not for the purpose of withstanding hard knocks.

Neither chlorine gas nor liquid chlorine is explosive or flammable



A ONE-TON chlorine container being properly handled by ship's gear.

but, like oxygen, will support the combustion of certain substances. Chlorine is only slightly soluble in water. The gas has a characteristic odor and greenish yellow color and is about $2\frac{1}{2}$ times as heavy as air. Thus, if it escapes from a container, it will seek the lowest level in the area in which the leak occurs. Liquid chlorine is clear amber in color and about $1\frac{1}{2}$ times as heavy as water. One volume of liquid chlorine, when vaporized, at atmospheric pressure at 32°F ., will yield about 450 volumes of gas.

Chlorine has a very strong chemical affinity for many substances. It will react with almost all the elements and with many inorganic and organic compounds, usually with the evolution of heat. The reaction with some organic chemicals can be with explosive violence.

At ordinary temperatures, dry chlorine, either liquid or gas, does not corrode steel. In the presence of moisture, however, highly corrosive conditions exist as a result of the formation of hydrochloric and hypochlorous acids. This explains why the use of water on a chlorine leak

or the presence of moisture always makes the leak worse.

HEALTH HAZARDS

Liquid chlorine is a dangerous skin irritant; contact will produce freezing and chemical burns of the skin. In the eyes, it will cause severe damage. When exposed to normal atmospheric pressure and temperature it vaporizes to gas.

Chlorine gas is primarily a respiratory irritant. It is so intensely irritating that concentrations above 3 to 5 parts per million (by volume) in air are readily detectable by the normal person. In higher concentrations the severely irritating effect of the gas makes it unlikely that any person will remain in a chlorine contaminated atmosphere unless he is unconscious or trapped. Concentrations exceeding 15 ppm. will irritate the mucous membranes, the respiratory system and the skin. In extreme cases, the difficulty of breathing may increase to the point where death can occur from suffocation.

Its color makes it visible if high concentrations are present.

SHIPPING CONTAINERS

Interstate and foreign shipments originating in the United States must comply with Interstate Commerce Commission regulations. Shipments by water must also comply with U.S. Coast Guard regulations. Except for tank barges, all chlorine shipping containers used must comply with ICC specifications. The barges must meet U.S. Coast Guard requirements.

The containers with which the stevedore or ship's officer most likely would be concerned are either cylinders or ton containers. The following points are common to both:

1. They are steel.
2. The maximum permitted filling density is 125 percent. In part, the filling density is defined by ICC as "the percent ratio of the weight of gas in the tank to the weight of water that the tank will hold . . ."
3. They are equipped with safety devices which will melt in the presence of sufficient heat and release pressure which could otherwise result in rupture of the container.
4. They are pressure tested at regular intervals as required by applicable regulations.

Cylinders are of seamless construction, having capacities of from 1 to 150 pounds, with those of 100 and 150 pound capacities predominating. ICC Regulations limit the maximum filling to 150 pounds of chlorine for all cylinders purchased since November 1, 1935. The only opening permitted in the cylinder is the valve connection at the top.

ABOUT THE AUTHOR



Edward C. March holds a master's license and has had considerable service in the U.S. Merchant Marine. He is presently Assistant Chief, Maritime Branch, of the Bureau of Labor Standards, U.S. Department of Labor, where he is in charge of the stevedoring program. Mr. March was formerly an Instructor and Assistant Head, Deck Division, of the U.S. Maritime Service Institute.

Cylinders may be of the foot ring or bumped-bottom types. A steel valve protection hood is provided to cover the valve and must always be kept in place during shipment.

Cylinder valves are equipped with either of two types of safety devices. One has fusible metal cast directly into a threaded hole in the valve body; the other has a threaded bronze plug containing the fusible metal screwed into a tapped hole in the valve body.

The fusible plug is designed to melt between 158° F. and 165° F., releasing pressure and preventing rupture of the container in case of fire or other exposure to high temperature. Because the opening for the plug is below the valve seat, the contents of the cylinder will be vented if the plug is loosened. In spite of these safety devices cylinders occasionally burst when in fires, and pieces of metal may be hurled several hundred yards, a possibility that should be kept in mind in the event of exposure to fire on the ship or the dock. Never tamper with the fusible plug and never expose cylinders to heat.

The ton (capacity) container is a welded tank having a loaded weight as much as 3,700 pounds. The heads are convex inward (concave), and the sides are crimped inward to form chimes which provide a substantial grip for lifting clamps (a few containers have compound curvature on the head opposite the valves).

The ton container is equipped with two identical valves near the center of one end. Each valve is connected inside the container to an eduction pipe. The valves are protected by a removable steel valve protection hood which must always be kept in place during shipment.

Each ton container is equipped with six fusible metal plugs, three in each end, spaced 120° apart. (A few have eight plugs, four in each end.) These plugs are safety devices designed to melt between 158° F. and 165° F. thus

releasing the pressure and preventing rupture of the container in case of fire or other exposure to high temperature. The Chlorine Institute has a standard ¾-inch Fusible Plug and a special 1-inch Fusible Plug for repairing containers. Never tamper with the fusible plugs and never expose ton containers to heat.

It is illegal to ship a leaking chlorine container or a container which has been exposed to fire, whether full or partially full.

HANDLING

Many of our industrial activities are based on the intelligent use of potentially hazardous substances. Chlorine is such a hazardous substance and care must be used in handling cylinders and containers. When improperly handled by persons unfamiliar with the hazards, serious injuries may result. It is, therefore, important that those handling chlorine become well informed regarding its properties, applicable regulations and recognized precautions in its handling. Accidents have been due to carelessness and lack of knowledge.

When cylinders or containers are shipped, the valve protective hoods must be in place. Containers or cylinders should not be dropped and no object should be allowed to strike them with force. This is particularly important with the cylinders which, because of their size and greater numbers, are more easily subject to careless handling.

Lifting gear used for cylinders must positively ensure proper handling and eliminate any possibility of dropping. Never use a chain, ropesling, or magnetic device. Never lift a cylinder by means of the valve protection hood, which is not designed to carry the weight of the cylinder.

Ton containers should be handled with suitable lifting clamps or chime hooks, making sure that those used

DIMENSIONS AND WEIGHTS OF CYLINDERS AND TON CONTAINERS

Capacity, pounds	Weight class	Weight (1) empty, pounds	Outside diameter, inches	Overall height (2) or length, inches
100	Heavy.....	80- 115	8¼- 8½	53 -59
100	Light.....	63- 79	8¼- 8½	53 -55
100	Heavy.....	95- 105	10½-10¾	40 -43
100	Light.....	63- 76	10½-10¾	39¼-43
105	Heavy.....	85	10½-10¾	41½
105	Light.....	72- 77	10½-10¾	40 -41
105	Light.....	72- 77	8¼- 8½	57 -58
150	Heavy.....	120- 140	10½-10¾	53 -56
150	Light.....	85- 105	10½-10¾	53 -56
2,000		1,300-1,650	30	79¼-82½

NOTES: (1) Weight includes protection hood and valve(s). (2) Height to top of valve protection hood; height to center line of valve outlet is about 3½ inches less.

are adequate for the job and have a safe lifting capacity of two tons or more.

Containers being moved to or from shipside or to or from the terminal should be carefully chocked or secured to prevent shifting and rolling.

STOWAGE OF CHLORINE CONTAINERS

U.S. Coast Guard regulations require that chlorine containers shall not be stowed in the same compartment with sodium metallic, potassium metallic, phosphorus, copper or brass leaf or sheets, powdered antimony, turpentine, ammonia, finely divided organic material, nor with the following compressed gases: coal gas, hydrogen, or acetylene.

TERMINAL STORAGE

All containers, empty or full, should be stored in a dry area and protected from external heat sources. If outdoors, they should be protected from direct sunlight and rain or snow. Fireproof storage areas are recommended. Chlorine containers should be segregated from other compressed gas containers. Never store containers near turpentine, ether, anhydrous ammonia, finely divided metals, and hydrocarbons or other flammable materials. The storage area should be clean so that trash will not provide a fire hazard.

The storage area should be well ventilated.

Containers should not be stored near elevators, gangways or similar locations where, in the event of a leak, dangerous concentrations may spread rapidly to other areas. Locations should be avoided where containers may drop or where heavy objects or vehicles may strike or fall on them.

Cylinders should be stored in an upright position. Ton containers should be stored on their sides on supports. Ton containers should not be stacked more than one high unless special provision is made for easy access and removal.

LEAKERS IN STOWAGE

In the event a chlorine cylinder or container develops a leak while stowed in the hold of a vessel, it is most important that necessary emergency procedures be followed.

The highly irritating and penetrating odor of chlorine gas usually gives warning of its presence before it attains dangerous concentrations. Since it is $2\frac{1}{2}$ times as heavy as air it will tend to stay in the bottom of the hold. As soon as there is any indication of the presence of chlorine

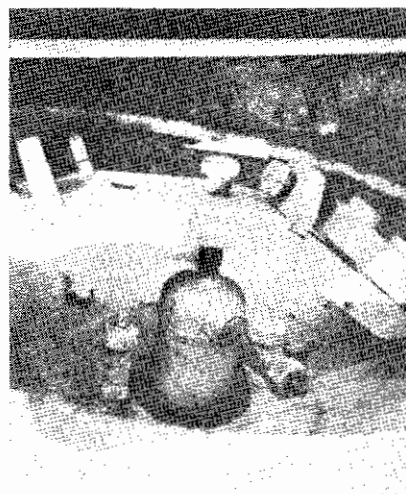
in the air, immediate steps should be taken to correct the condition. Chlorine leaks never get better. They always get worse if not corrected promptly.

In any event, the first step should be to remove all persons from the hold and contact the nearest available organization possessing a chlorine emergency kit. These kits are made available by the manufacturers and are usually located with their branch offices, or in the custody of users, fire departments, and similar organizations. The nearest local office of the Bureau of Labor Standards maintains an up to date list of local locations of the kits. The kits provide emergency means for controlling chlorine leaks.

Meanwhile, means should be taken to disperse the chlorine fumes by ventilation. The hatch should be completely open if possible. The ship's ventilating system should be in operation taking care to see that it is not recirculating, and portable blowers should be used.

Upon arrival of a trained person and a chlorine emergency kit, the situation in the hold should be investigated by the person with special training using a chlorine gas mask of a design approved by the Bureau of Mines, an airline respirator (a respirator utilizing air supplied through a hose), or a self-contained breathing apparatus. Except in cases of emergency, any space where the air is contaminated with chlorine gas should not be entered until an accurate determination of the chlorine concentration has been made unless the person is protected with an oxygen breathing apparatus or a fresh air breathing apparatus. It must be remembered that the canister-type gas mask will not protect the wearer where the chlorine concentration is in excess of 1 percent. If the leaking container is overstowed with other cargo and cannot immediately be located or reached, it will be necessary to work out enough cargo to reach the leaker. If the ventilation is insufficient to keep the concentration below detectable limits during this operation, the men must be provided with the above mentioned respiratory protective equipment and should be "spelled" at frequent intervals.

When the leaking cylinder or container is accessible, or when it is reached, the trained person should be in charge. If he is not yet there and the situation is such that something can be done to locate or minimize the leak in the meanwhile, the following steps are recommended and respiratory protective equipment (also protecting the eyes) should be used:



CLOSE-UP showing the hood and gag used for emergency capping of leaking valves in one-ton containers.

1. Locate the leak. To do this, tie a cloth to the end of a stick, soak it with strong ammonia water (containing at least 5 percent ammonia) and hold close to the suspected area. A white smoke will show the location of the leak. (For this purpose household ammonia is not strong enough.)

2. Turn the leaker so that gas instead of liquid escapes. The quantity of chlorine that escapes from a gas leak is about one-fifteenth the amount that escapes from a liquid leak through the same size hole. If it is a cylinder, and the leak is around the valve, stand it upright. If it is a ton container, roll it so that the leak or the one of the two valves which is leaking is on top. This will assure that gas rather than liquid will come out.

3. Leaks around valve stems can usually be stopped by tightening the packing nut or gland by turning clockwise.

SOME DON'TS IN CASE OF LEAKS

1. Don't lift leakers until the leak is stopped. The leak can only get worse.

2. Don't move the cylinder or container other than to reduce the leakage as mentioned above.

3. Never throw a leaker into the water. It will float when still partly full of liquid chlorine and gas is, therefore, evolved near the surface. Water is, moreover, not an efficient absorbent for chlorine gas.

4. Since chlorine gas is only slightly soluble in water, turning a stream of water on a leaking container or fitting will only aggravate the situation by supplying heat to the

liquid chlorine confined in the container, causing it to evaporate faster and thus increasing the gas flow. Further, the highly corrosive conditions created by the use of water on a chlorine leak always make the leak worse. The evolution of gas from unconfined liquid chlorine, as when spilled on the ground, can be reduced by spraying with water or snow, as at the low temperature of unconfined (freely evaporating) liquid chlorine it forms crystals of chlorine hydrate with water. These crystals, although formed at temperatures up to 49° F., evolve chlorine gas readily even at 32° F. and are, therefore, of negligible advantage in warm weather.

5. Do not expose men to chlorine gas without suitable protection.

REPORT OF LEAKING OR DAMAGED CYLINDERS

U.S. Coast Guard regulations require that the owner, charterer, agent, master or person in charge of a vessel shall report in writing each occurrence of leaking or damaged cylinders of compressed gas to the District Commander of the U.S. Coast Guard or his authorized representative, for the district in which the substance was taken on board the vessel, setting forth a description of the container, and specification markings appearing thereon, the damage sustained, when possible a reason for the damage, the name and address of the consignor and consignee (or shipping mark) and a statement relative to the disposition of the container.

A WORD ABOUT FIRE

In case of fire, chlorine containers should be removed from the fire zone immediately. If no chlorine is escaping, water should be applied to cool containers that cannot be moved. All unauthorized persons should be kept at a safe distance.

RESPIRATORY PROTECTION

We have mentioned that employees exposed to chlorine should be protected with a chlorine gas mask of a design approved by the Bureau of Mines. It should be remembered, however, that the common industrial canister-type gas mask is unsafe when the chlorine concentration in the air exceeds 1 percent and when the oxygen content is less than 16 percent by volume.

In cases of higher chlorine concentrations, or where the oxygen content may be less than 16 percent, "supplied-air" respiratory equipment or a self-contained breathing apparatus will be required. United States vessels, and probably many foreign ves-

sels, have this equipment aboard but the user should be properly trained in its use. In all cases where the concentration of chlorine gas is not

definitely known, it should be assumed that the concentration is in excess of 1 percent and the "supplied air" type breathing apparatus should be used.

LEGAL OPINION

COMMANDANT'S APPEAL DECISION

The Commandant recently upheld the order of a Coast Guard examiner suspending a master's documents upon finding him guilty of misconduct. The specifications alleged that appellant, while serving under the authority of his master's papers, caused his vessel to depart a U.S. port with the applicable load line submerged, and without having entered the vessel's draft in the official log book. The documents were suspended for a period of 1 month outright, plus 3 months' suspension on 12 months' probation.

STEVEDORE'S INJURY ON BOARD

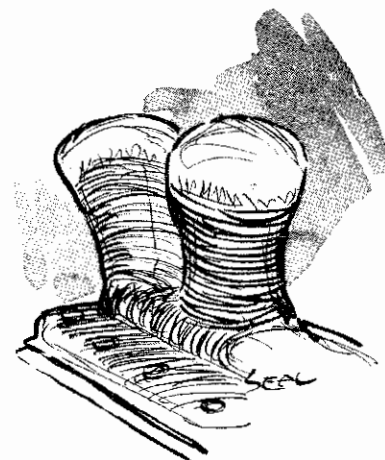
A ruling of some interest to owners of vessels trading to the United States was delivered in the recently reported case of *Marshall v. SS Lake Atlin* before the U.S. district court (1960: American Maritime Cases, 2024). The vessel concerned was owned by Sir R. Ropner & Co., who was sued by a stevedore in respect of injuries received when he suffered a fall due to an insecure hatch cover sliding from under him. The usual allegation of unseaworthiness of the vessel was submitted and, in this case, accepted by the court; but, in addition, the court ruled that the owners of the vessel must be denied the right of indemnity from the stevedoring contractors who were the employers of the stevedore concerned.

In the first place, the court ruled that they had jurisdiction over the matter in that at the time of the accident the vessel was in U.S. waters. In ruling that the vessel was unseaworthy, the court remarked that dunnage and hatch boards were piled in an unsafe, insecure, and haphazard manner in the passageway, and that the deck where the stevedores were required to walk was also cluttered in this manner. In the view of the court, the owners of the vessel were negligent in piling dunnage and hatch boards in a loose, insecure, and haphazard manner on the deck and passageway.

UNSEAWORTHINESS RULING

Further, it was ruled that the vessel was unseaworthy in that insufficient clearance was allowed between the dunnage and hatch boards and the hatch, and that the owners of the vessel were negligent in failing to provide adequate space for a passageway between the hatch boards and dunnage and the hatch. Although the stevedore concerned was found guilty of contributory negligence, the allowance made in this respect was only 5 percent.

So far as concerned the claim of the owners against the stevedoring company, the court said that the unseaworthy condition of the vessel, which was the cause of the accident, and the consequent injury suffered by the stevedore concerned, was created by loose dunnage on which hatch boards had been piled in an unstable condition and that the unseaworthy condition had not been created by the stevedores. In delivering judgment in favor of the claimant, the court said that the accident and the injuries were caused solely by the owners and operators of the vessel, and by the unseaworthiness of the vessel and its appurtenances. Special damages were awarded in the sum of \$2,903.35, and general damages in an amount of \$7,500, less 5 percent, in respect of the man's own contributory negligence.



SPLASH! LIFE JACKET?

By Arthur E. Wills
United States P. & I. Agency



At the last convention of the National Safety Council, *Commander Hawley, U.S. Coast Guard*, reported that "The major cause of death from personal accidents aboard uninspected commercial vessels was falling overboard. A total of 70 lives were accounted for in this category, of which 28 were crew members off fishing vessels and 27 were crew members off tugs and tows . . . When the Coast Guard issued its first approval on the work vest type preserver it was hoped that deaths due to falling overboard would be materially reduced. They haven't.

"It would appear that more forcible leadership on the part of ships' officers and other designated supervisors among the unlicensed persons can go a long way toward correcting the unsafe conditions and preventing unsafe practices which cause casualties . . . If the Masters or supervisors required that life-jackets or lifevests be worn and accepted with no deviation it is reasonable to assume that many of those who died would still be with us."

In reply to a request, the Coast Guard sent us copies of reports on ten investigations into deaths due to accidents involving tugs and tows where failure to wear a lifevest or jacket was a factor. There were other common factors also. Most such accidents occurred in cold water. Most, if not all, the victims could swim—some were experts. In 9 out of 10 cases the men were seen after falling in the water but efforts to save them were unsuccessful. 8 out of the 10 fell from barges, usually while being

shifted. All the men were line tenders.

None of these men wore lifevests or lifejackets although they were available in all cases and in most instances it was customary to wear them on barges. Here are digests of a few of the reports which varied a little from the usual pattern of these sad accidents:

At 1330 on an April afternoon, a 46-year-old deckhand fell off a coal barge into the Ohio River. The current was running about 5 knots due to recent rains and the water temperature was 47° F. When last seen, the unfortunate man was being swept under a cluster of barges. He was not wearing a lifejacket although he did so usually. His body was found 17 days later.

At 0625 last May, a deckhand aged 26 fell overboard from a deck cargo barge in the Industrial Canal at New Orleans. He was tending lines from a walkway around the barge that was only 2 feet wide, intercepted every 2 feet by angled supports and a couple of raised manholes. He missed the lifering thrown him by the tug's Master and drifted under a barge. His body was recovered an hour and ten minutes after the accident. It was found that a length of line which he had been carrying when he fell, was wrapped around the body three or four times. Apparently, he had become entangled in it in the water. He did not wear a lifejacket or vest.

At 2 o'clock on a December afternoon, a 28-year-old deckhand fell in the International Waterway in Louisiana. He was standing on the starboard side of the hawser rack of the tug which was shifting the barges to take them on short tow astern. The tug was heading into the wind and lying at a 45° angle with the channel. As the Mate straightened her out in the channel, the towing line swept across the stern and struck the man behind the knees, sweeping him into the water. After being carried under the barge by the propeller stream, he was seen swimming—then disappeared. He wore no life belt or jacket. His body was recovered next day.

One bright September day about 1630, the 31-year-old Mate of a tug in Sitka Sound, Alaska, attempted with a deckhand to board a barge from a skiff in order to inspect the bilge pump engine. The weather was fair, sea calm, but when the skiff attempted to cross ahead of a barge, the barge sheered and caused its towing bridle to tauten, capsizing the

skiff and throwing the two men into the water. Water temperature was 54° F. Although both men were recovered rather promptly, the Mate was found to have died by drowning.

As Commander Hawley said, speaking of lifevests, "How can we get people to wear them? . . . The problem seems to lie in the same basic weakness that keeps us from taking our doctor's advice." Are you one of those who refuses to learn from experience? If so, YOUR TURN MAY BE NEXT!



EQUIPMENT APPROVED BY THE COMMANDANT

[EDITOR'S NOTE.—Due to space limitations, it is not possible to publish the documents regarding approvals and terminations of approvals of equipment published in the Federal Register dated April 17, 1962 (CGFR 62-6), and Federal Register dated April 25, 1962 (CGFR 62-12, 62-14.) Copies of these documents may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.]



TAKE CARE OF NUMBER ONE

A certain category of accident occurs over and over again; the accident reports list seamen who are "Conked" while walking back to the ship late at night. Take a cab if at all possible. A seaman is just inviting trouble by cutting through back alleys near the waterfront in the dead of night.

If you have been paid off with a wad, either get traveler's checks (if a seller is present at payoff) or leave most of it in the ship's safe until ready to bank it. Many men lose their hard-earned wages by the simple act of flashing large bills.



MARITIME SIDELIGHTS

PUBLIC HEALTH AWARD



THE SPECIAL CITATION of the Public Health Service for maintenance of high level of sanitation aboard all vessels has been awarded the Weyerhaeuser Steamship Co.

A plaque, symbolical of the sanitation award, was presented by Assistant Surgeon General Richard C. Arnold (left) to Capt. J. D. Knox, Weyerhaeuser Co. vice president.

Eligibility for the award is based on the results of periodic inspection of every vessel by the Public Health Service to see that high levels of sanitation are maintained.

Fourteen engineers from vessels in the Great Lakes area have completed a course in modern ship propulsion at the U.S. Merchant Marine Academy at Kings Point, Long Island.

The special 4-week course is offered annually at the Academy under the sponsorship of the Lake Carriers' Association.

The United States aims to cut down on oil pollution of the seas by developing a device to separate water and oil before discharge of the ballast water from a vessel.

The Maritime Administration has awarded a research contract in an effort to develop a device that can discharge ballast water with oil content of less than 50 parts per million.

The candlepower of Boston Light is being increased from 110,000 to 2 million to make it the most brilliant aid along the Massachusetts coast. The light, located on Little Brewster Island in Boston Harbor, was originally built in 1716.

✂ ✂ ✂

Selected Cadets from the U.S. Merchant Marine Academy and the State marine schools will be trained on board the Nuclear Ship *Savannah*, it was announced recently by the Maritime Administration.

Space for two cadets has been reserved on the *Savannah*, which is expected to enter service some time this summer, carrying cargo and passengers between ports on various trade routes. States Marine Lines will operate the ship as general agent for the Maritime Administration.

One position will be for a deck trainee and one for an engineer trainee. One of the two positions will be reserved for a cadet to be selected from the U.S. Merchant Marine Academy at Kings Point, L.I., N.Y., and the other will be rotated among the four state schools—the Maine Maritime Academy, Massachusetts Maritime Academy, California Maritime Academy, and the New York State Maritime College.

✂ ✂ ✂

The National Safety Council will celebrate its 50th anniversary during 1962. Originally called the National Council for Industrial Safety, the organization was given its present name in 1914.

✂ ✂ ✂

Announcement of the first permanent radar installation on San Francisco Bay was recently made by Henry R. Rolph, president of the San Francisco Marine Exchange. The unit is located on Pier 45, San Francisco and has a maximum range of 40 miles. Effective coverage will extend beyond the Golden Gate Bridge, as far south as the Bay Bridge, to Berkeley on the east and north to Raccoon Strait and Richmond's Long Wharf.



nautical queries

DECK

Q. A carling is:

- (a) A line for clewing up square-rigged sails.
- (b) A fore-and-aft jumper stay.

(c) A small car generally used for hauling coal to the fire room.

(d) A longitudinal beam in the inner bottom.

(e) A short fore-and-aft timber or girder under a deck to stiffen it.

A. (e) A short fore-and-aft timber or girder under a deck to stiffen it.

Q. Explain the difference between general average and particular average.

A. General average is the sacrifice of part of the ship or cargo for the benefit of all concerned in order to avoid some common imminent peril and the venture must be successful. The owners of the property benefited must make contributions to the owners of the sacrificed property up to a point where all losses are in the same proportion.

Particular average is the loss or damage to ship or cargo due to unavoidable accident, rather than to a voluntary sacrifice.

Q. The metal mouthpiece of an oxygen breathing apparatus consists of:

(a) Inhalation, exhalation, saliva and relief valves

(b) Inhalation, exhaust, relief reducing valves

(c) Intake, exhalation, saliva, admission valves

(d) Inhalation, exhalation, compression, and relief valves

A. (a) Inhalation, exhalation, saliva and relief valves

Q. One of the following valves is not contained in the oxygen breathing apparatus mouthpiece:

(a) Inhalation

(b) Reducing

(c) Saliva

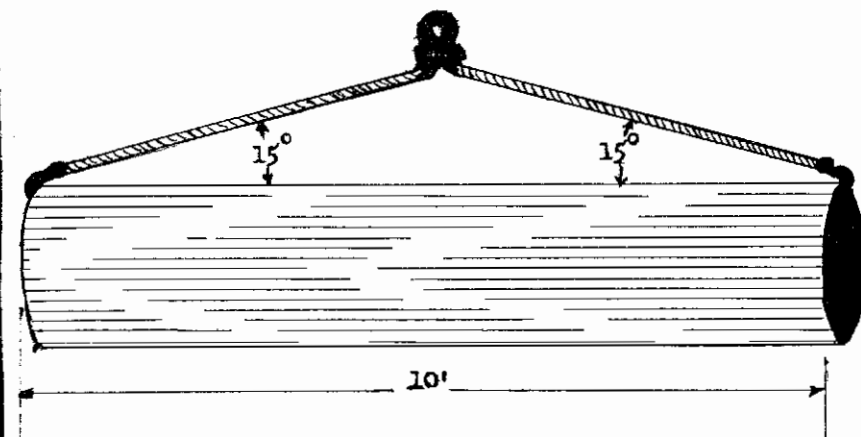
(d) Relief

(e) Exhalation

A. (b) Reducing

BLOCKS AND TACKLES

Q. A piece of pipe 10 feet long weighing 2,000 pounds is to be lifted by a sling whose two legs form an angle of 15° with the top of the pipe as indicated on the sketch below. What is the stress on each leg of the sling with the weight suspended?



A. Computed solution:

$$\frac{2000}{2 \times \sin 15^\circ} = \frac{2000}{2 \times .25882} = 3,863.6 \text{ lbs. each leg}$$

Graphic solution: 3,860 lbs. each leg.

ENGINE

Q. What is meant by normalizing steel after forging?

A. Normalizing consists of allowing the steel to cool after forging to a temperature below the critical range, then reheating it to a proper temperature to refine the grain and allowing it to cool in still air.

Q. Describe the operation of the telemotor system and state its purpose.

A. The telemotor system consists of a forward telemotor hydraulically connected to an after telemotor. The forward telemotor has a pair of cylinders, each fitted with a piston or plunger. Each plunger has a rack gear connected to it engaging a pinion gear which is driven by the steering wheel. Thus, when the steering wheel is turned, one plunger moves down, forcing the oil down and aft to the after telemotor, while the other plunger moves upward in its cylinder, drawing oil from the after telemotor. The motion thus caused in the after telemotor, corresponds to the movement of the plunger in the forward telemotor. The plunger of the after telemotor is connected by linkage to the control mechanism of the steering engine and its purpose is to control the movement of the rudder by controlling the operation of the steering engine.

Q. Cargo vessels of 1,000 gross tons or over on an international voyage are required to have on board a minimum of:

(a) One fresh air breathing apparatus

(b) One all purpose mask

(c) One self contained breathing apparatus

(d) Two gas masks

A. (c) One self contained breathing apparatus

Q. Fresh air breathing apparatus can be used only in a compartment:

(a) Having at least 10 percent oxygen

(b) Having at least 16 percent oxygen

(c) Having at least 21 percent oxygen

(d) That has been certified gas-free

(e) None of the above

A. (e) None of the above

TABULATION OF UNSAFE PRACTICES

July through December 1961

	Atlantic	Great Lakes and rivers	Gulf	Pacific	Total		Atlantic	Great Lakes and rivers	Gulf	Pacific	Total
A. Access to Vessel						I. Electrical					
Gangways, accommodation ladders, etc.			5		5	57. Extension cords defective	25	26	11	13	75
1. Length, width, strength, etc., inadequate	14	37	9		60	58. Portable equipment not grounded	35	30	10	31	106
2. Rigged or secured improperly	9	31	18	15	73	59. Overfused circuits	60	7	10	2	79
3. Angle too steep	13	35	4		52	60. Jury rigged circuits	63	39	22	23	147
4. Not clear at either end	1	8	2	1	12	61. Caps for receptacle outlets not in place	106	42	61	107	314
5. Water discharging onto	1				1	62. Switch and fuse box panels in passenger spaces left unlocked	3	3	1	11	18
6. Hand ropes or rails not provided or inadequate	5	26	14	7	52	63. General alarm bells muffled or dampened	32	7	26	15	80
7. Insufficient number	2	1			3	64. Vapor globes and guards not in place	127	70	49	90	336
8. Lifeboat or other object suspended over access				1	1	65. Use of defective equipment in hazardous spaces	19	9	9	5	42
9. Ring life buoy with lanyard not provided or inadequate	13	34	23	7	77	66. Other	49	23	35	7	114
10. Other	9	12	8	5	34						
B. Access to Spaces on Board Vessel						J. Machinery					
Ladders						67. Failure to take safety precautions in lighting-off boiler	3	1	6	1	11
11. Rigged improperly	6	1	6		13	68. Spring loaded valves on sounding pipes secured in open position or not in place	18		6	27	51
12. Rungs, steps or treads missing or loose	32	7	12	18	69	69. Machinery guards not in place or defective	33	12	18	26	89
13. Deteriorated or weakened	16	10	22	9	57	70. Failure to block or safeguard steam valves when working on steam lines or inside a boiler, evaporator, etc.	1		1		2
14. Hand rails missing or inadequate	8	1	13	4	26	71. Other	43	19	27	6	95
15. Doors or passages cluttered	17	4	11	7	39						
16. Escape means blocked or locked	6	3	4	7	20	K. Welding, Burning, Heating or Riveting					
17. Other	5	8	3	2	18	72. No gas-free certificate for "hot work" where required	1		2	5	8
C. Deck and Hull Openings						73. Inadequate fire watch		2	4	4	10
18. Hatch covers, dangerously piled or placed	2			2	4	74. Ventilation insufficient	1		2		3
19. Hatch covers, missing or defective	10	11	8	5	34	75. Personnel protective equipment inadequate	3	1	1		5
20. Hatch covers, securing means defective	4	8	8	8	28	76. Other			1	1	2
21. Hatch beam locking lugs missing or defective	2	2	1	1	6						
22. Lifelines, chains, rails or guards missing or inadequate	23	6	15	5	49	L. Tank Vessels					
23. Other	17	8	12		37	77. Ullage holes or expansion trunk openings open without flame screens	18	46	24	1	89
D. Decks and Platforms						78. Vent header drains left open		1		2	3
24. Slippery due to oil, grease, etc.	34	50	22	14	120	79. Deck battens or wooden gratings not provided where needed		12			12
25. Cluttered	15	17	14	19	65	80. Failure to comply with "Declaration of Inspection Prior to Bulk Cargo Transfer"	1				1
26. Floor plates or gratings loose or not in place	32	2	7	2	43	81. Other	15	81	32	3	131
27. Rails and guards missing or inadequate	20	9	8	7	44						
28. Other	4	14	5	5	28	M. Ferry and Excursion Vessels					
E. Cargo Handling						82. Vehicles not properly secured during navigation	1	1			2
29. Safe load not marked on booms	6		3		9	83. Vehicle motors not turned off during navigation					
30. Guys, falls, booms, etc. improperly rigged	1				1	84. Insufficient clearance between vehicles for egress of passengers in emergency				2	2
31. Overloading gear						85. Barriades and gates opened prior to docking			3	2	5
32. Jury rig winch controls				1	1	86. Passenger supervision inadequate					
33. Failure to use guards and gates of cargo elevators and escalators				2	2	87. Other	4	4	1	3	12
34. Using defective cargo gear		2	1	1	4						
35. Smoking prohibition disregarded	7		3	6	16	N. Miscellaneous					
36. Stowage or handling of cargo or gear	1		1		2	88. Job supervision inadequate	11	2		5	18
37. Other	4	2	2	4	12	89. Lack of supervision in maintenance of equipment	35	7	1	8	51
F. Lifesaving Equipment						90. Lack of supervision in conducting drills	1	17			18
38. Not ready for use	42	7	15	11	75	91. Lack of sufficient personnel	6	2	5		13
Lifeboats						92. Oil, fuel and/or debris in bilges	51	13	22	36	122
39. Hoisting fully loaded		1	6		7	93. Stoves, ranges, heaters, hot plates, lanterns, etc., not secured against vessel's movement		2	1	1	4
40. Personnel riding to fully stowed position			2		2	94. Inadequate deck, gangway, passageway, lighting	2	2	5	2	11
41. Preventive lashings not used when work in boat			3		3	95. Unsanitary conditions	10	4	2	3	19
42. Winch power not shut off when using hand-crank or performing maintenance			1		1	96. Chain falls improperly used	1			1	2
43. Starting engine without ventilating						97. Lack of precautions while effecting repairs (including warning notices, etc.)	8	3	1	5	17
44. Bypassed safety devices	4				4	98. First Aid equipment not ready for use (medicine chest, litter)	1		1		2
45. Tying and frapping lines improperly used			1	2	3	99. Stowage of ship's stores improper	2	2	1	3	8
46. Davit span lifelines not ready for use	3	2	2	4	11	100. Access over deckloads	3	3			6
47. Other	35	15	40	12	102	101. Other	20	26	18	16	80
G. Fire Fighting Equipment						Grand total	1,382	971	825	765	3,943
48. Not ready for use	57	39	29	68	193						
49. Fire screen doors blocked	4			3	7						
50. Other	39	17	15	8	79						
H. Ventilation											
51. Neglect to observe safety precautions prior to entering			1		1						
52. Use of toxic solvent in confined spaces	3			2	5						
53. Grease, dust, litter in ventilation system	9	7	3	4	23						
54. Cows, mushrooms, etc., frozen	12	3	5	7	27						
55. Insufficient ventilation	4	2	1	3	10						
56. Other	19	10	18	1	48						

MERCHANT MARINE PERSONNEL STATISTICS

MERCHANT MARINE OFFICER LICENSES ISSUED

QUARTER ENDING 31 MARCH 1962

DECK

Grade	Original	Renewal	Grade	Original	Renewal
Master:			Third mate:		
Ocean.....	47	462	Ocean.....	19	65
Coastwise.....	3	34	Coastwise.....		2
Great Lakes.....	4	151	Pilots:		
B.S. & L.....	8	109	Great Lakes.....	12	103
Rivers.....	23	76	B.S. & L.....	45	32
Radio officer licenses issued.....	8	127	Rivers.....	130	76
Chief mate:			Master: Uninspected vessels.....	15	14
Ocean.....	33	103	Mate: Uninspected vessels.....	2	
Coastwise.....		2	Motorboat operators.....	309	934
Mate:			Total.....	735	2,449
Great Lakes.....	20	2			
B.S. & L.....	4	13	Grand Total.....	3,184	
Rivers.....	10	47			
Second mate:					
Ocean.....	38	96			
Coastwise.....		1			

ENGINEER

Grade	Original	Renewal	Grade	Original	Renewal
STEAM			MOTOR—continued		
Chief engineer:			First assistant engineer:		
Unlimited.....	50	673	Unlimited.....	4	19
Limited.....	1	133	Limited.....	7	17
First assistant engineer:			Second assistant engineer:		
Unlimited.....	32	223	Unlimited.....	5	18
Limited.....	3	15	Limited.....	1	2
Second assistant engineer:			Third assistant engineer:		
Unlimited.....	68	248	Unlimited.....	3	82
Limited.....	3	8	Limited.....	1	2
Third assistant engineer:			Chief engineer: Uninspected		
Unlimited.....	37	256	Vessels.....	16	17
Limited.....	1	6	Assistant engineer: Unin-		
MOTOR			spected Vessels.....	11	7
Chief engineer:			Total.....	274	2,022
Unlimited.....	6	102			
Limited.....	25	194	Grand total.....	2,296	

WAIVER OF MANNING REQUIREMENTS

Waivers	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes	Total
Deck officers substituted for higher ratings.....					
Engineer officers substituted for higher ratings.....					
Ordinary seamen for able seamen.....					
Wiper or coalpassers for qualified member engine department.....					
Total waivers.....					
Number of vessels.....					

INVESTIGATING UNITS

Coast Guard Merchant Marine Investigating Units and Merchant Marine Details investigated a total of 4,030 cases during the first quarter of 1962. From this number, hearings before examiners resulted involving 60 officers and 223 unlicensed men. In the case of officers, 1 license was revoked, 3 were suspended without probation granted, 15 were suspended with probation granted, 6 cases were dismissed after hearing, and 7 hearings were closed with admonition. Of the unlicensed personnel, 15 docu-

ORIGINAL SEAMEN'S DOCUMENTS ISSUED

Type of Document	Atlantic Coast	Gulf Coast	Pacific Coast	Great Lakes and Rivers	Total
Staff Officer.....	27	5	24	1	57
Continuous Discharge Book.....		8			8
Merchant Mariner's Documents.....	1,018	578	647	353	2,596
AB any waters, unlimited.....	76	46	36	33	191
AB any waters, 12 months.....	35	20	11	6	72
AB Great Lakes, 18 months.....	3	1	3	10	17
AB Tugs and Towboats, any waters.....	1	2	3		6
AB Bays and Sounds.....	1				1
AB Seagoing Barges.....					0
Lifeboatman.....	71	5	46	1	123
QMED.....	93	54	56	29	232
Radio Officer.....	1		2	1	4
Certificate of service.....	975	649	612	294	2,430
Tankerman.....	13	57	6	55	131
Total.....	2,314	1,325	1,446	783	5,868

ments were revoked, 15 were suspended without probation granted, 78 were suspended with probation granted, 19 cases were dismissed after hearing, and 14 hearings were closed with admonition. Five licenses and 109 documents were voluntarily surrendered.

AMENDMENTS TO REGULATIONS

[EDITOR'S NOTE.—The following regulations have been promulgated or amended since the last issue of the PROCEEDINGS. A complete text of the regulations may be found in the Federal Register indicated at the end of each article. Copies of the Federal Register containing the material referred to may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.]

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER E—NAVIGATION REQUIREMENTS FOR THE GREAT LAKES AND ST. MARYS RIVER

[CGFR 62-4]

PART 92—ANCHORAGE AND NAVIGATION REGULATIONS; ST. MARYS RIVER, MICHIGAN

West Neebish Channel Reopened

The West Neebish Channel, which had been closed for approximately two years to traffic to permit deepening the channel by dredging, has been reopened. With the reopening of this channel, as well as the realignment of aids to navigation, certain portions of the regulations in 33 CFR Part 92 are no longer necessary nor are certain reference points now correct. The purpose of this document is to revise the regulations to agree with current practices and procedures followed and to bring the references to aids to navigation up to date.

(Federal Register of April 4, 1922)

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER N—ARTIFICIAL ISLANDS AND FIXED STRUCTURES ON THE OUTER CONTINENTAL SHELF

[CGFR 62-9]

PART 143—CONSTRUCTION AND ARRANGEMENT

Subpart 143.05—Means of Escape EMERGENCY MEANS OF ESCAPE FROM PLATFORMS

Pursuant to the notice of proposed rule making published in the Federal Register on January 23, 1962 (27 F.R. 657-665), and the Merchant Marine

COAST GUARD LIGHT LISTS AND OTHER MARINE AIDS

The 1962 editions of the Coast Guard List of Lights and Other Marine Aids now are available to the public. The following publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., or from his sales agents located in the principal ports for the prices indicated:

LIST OF LIGHTS AND OTHER MARINE AIDS

Volume I, Atlantic Coast, from St. Croix River, Maine, to Little River, South Carolina, price \$3.50.

Volume II, Atlantic and Gulf Coasts, from Little River, South Carolina, to Rio Grande, Texas, and the Antilles, price \$3.

Volume III, Pacific Coast and Islands, price \$2.25.

Volume IV, Great Lakes, price \$1.75.

Volume V, Mississippi River System, price \$1.75.

IMPORTANT NOTICE: THE LOCAL LIGHT LISTS FORMERLY PUBLISHED FOR EACH COAST GUARD DISTRICT HAVE BEEN DISCONTINUED.

Council Public Hearings Agenda, dated March 12, 1962 (CG-249), the Merchant Marine Council held a public hearing on March 12, 1962, for the purpose of receiving comments, views, and data. The proposals considered were identified as Items I to IX, inclusive, and Item IX contained proposals regarding emergency means of escape from platforms.

This document is the second of a series covering the regulations and actions considered at this public hearing and annual session of the Merchant Marine Council.

In this document are the actions taken with respect to emergency means of escape which will require two means of escape to be provided from each level to the surface of the water. The proposals in Item IX are accepted. They were also described in the notice published in the Federal Register on January 23, 1962 (27 F.R. 665).

(Federal Register of April 10, 1962.)

TITLE 46—SHIPPING

Chapter I—Coast Guard, Department of the Treasury

SUBCHAPTER M—BULK GRAIN CARGOES

[CGFR 62-13]

PART 144—LOADING AND STOWAGE OF GRAIN CARGOES

Requirements for Stowage of Full Holds and Compartments

The revised requirements for the transportation of loose grain in bulk on board cargo vessels of 500 gross tons or over or passenger vessels, when such vessels are carrying loose grain in bulk on international voyages other than international voyages on the Great Lakes, were published in the Federal Register dated January 18, 1962 (27 F.R. 512-515). Since publication of these revised requirements,

questions were raised concerning the application and intent of the revisions of 46 CFR 144.20-10(b) (1) and (2) and 144.30-1(c) (1). Because the provisions in 46 CFR 144.20-10(b) (1) were interpreted and applied in manners not intended by the Coast Guard, the editorial amendment in this document to 46 CFR 144.20-10(b) corrects this and changes the second sentence in 46 CFR 144.20-10(b) (1) and divides this subparagraph into two subparagraphs. The changes in 46 CFR 144.20-10(b) (2) and 144.20-34(a) (4) are editorial to change a subparagraph designation and a cross reference, respectively. The amendment to 46 CFR 144.30-1(c) (1) in this document changes the language back to its previous wording and deletes the word "one" between the words "any" and "hold." When the original proposals were considered with the comments received, the Merchant Marine Council recommended that this proposal be rejected and no change in the regulation be published. However, when the regulation changes were published this change to 46 CFR 144.30-1(c) (1) was inadvertently included and published in the Federal Register.

(Federal Register of April 13, 1962.)

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from 1 April to 30 April 1962, 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:

CERTIFIED

Chemical Testing Corp., 32-10 37th Ave., Long Island City 1, N.Y., Certifi-

cate No. 328, dated 26 April 1962, ACTIVATED DISOLVITE FUEL OIL TREATMENT.

Aetna Chemical Corp., Wallace St. Extension, East Paterson, N.J., Certificate No. 430, dated 4 April 1962. ACTENE A or FLYING A FUEL SOLVENT A.

Aetna Chemical Corp., Wallace St. Extension, East Paterson, N.J., Certificate No. 520, dated 13 April 1962, AETNA ELECTRIC MOTOR CLEANER or FLYING A ELECTRIC MOTOR CLEANER.

West Chemical Products, Inc., 42-16 West St., Long Island City 1, N.Y., Certificate No. 518, dated 4 April 1962. WESTICIDE.

West Chemical Products, Inc., 42-16 West St., Long Island City 1, N.Y., Certificate No. 519, dated 4 April 1962. WESCODYNE.

AFFIDAVITS

The following affidavits were accepted during the period from 15 March 1962 to 15 April 1962:

Crane Co., 4100 So. Kedzie Ave., Chicago 32, Ill., PIPE & TUBING (ferrous & nonferrous), VALVES, FITTINGS, FLANGES, CASTINGS, FORGINGS & BOLTING.

Chapman Valve Manufacturing Co., 203 Hampshire St., Indian Orchard, Mass., VALVES & CASTINGS.

Alco Products, Inc., 107 Gertrude St., Latrobe, Pa., FLANGES & FORGINGS.

Rogers Foundry, Inc., 1140 Elliott W., Seattle 99, Wash., CASTINGS.

Alloy Flange & Fitting Corp., 39-30 Review Ave., Long Island City 1, N.Y., FITTINGS, FLANGES & FORGINGS.

Titeflex, Inc., 603 Hendee St., Springfield, Mass., FITTINGS.

Acheson Manufacturing Co., Rankin Station, Braddock, Pa., FITTINGS & FLANGES.

FMC Corp., Chiksan Division, P.O. Box 158, Brea, Calif., VALVES, FITTINGS & FLANGES.

Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich., PIPE & TUBING (nonferrous), VALVES, FITTINGS, FLANGES, CASTINGS & FORGINGS.

Taylor-Wharton Co., High Bridge, N.J., CASTINGS.

Kuhns Brothers Co., 1800 McCall St., Dayton 7, Ohio, FITTINGS & FLANGES.

Capitol Manufacturing Co., 153 West Fulton St., Columbus 16, Ohio, FITTINGS & FLANGES.

California Controls Co., 1525 Powell St., Oakland 8, Calif., VALVES.

M. & B. Hardware, 13918 Saticoy St., Van Nuys, Calif., VALVES.

MERCHANT MARINE SAFETY PUBLICATIONS

The following publications that are directly applicable to the Merchant Marine are available and may be obtained upon request from the nearest Marine Inspection Office of the United States Coast Guard. The date of each publication is indicated in parentheses following its title. The dates of the Federal Registers affecting each publication are noted after the date of each edition.

CG No.	TITLE OF PUBLICATION
101	Specimen Examination for Merchant Marine Deck Officers (7-1-58).
108	Rules and Regulations for Military Explosives and Hazardous Munitions (8-1-58).
115	Marine Engineering Regulations and Material Specifications (2-1-61). F.R. 9-30-61.
123	Rules and Regulations for Tank Vessels (1-2-62).
129	Proceedings of the Merchant Marine Council (Monthly).
169	Rules of the Road—International—Inland (5-1-59). F.R. 5-21-59, 6-6-59, 5-20-60, 9-21-60, 4-14-61, 4-25-61.
172	Rules of the Road—Great Lakes (5-1-59). F.R. 1-7-60, 3-17-60, 5-20-60, 9-21-60, 4-4-62.
174	A Manual for the Safe Handling of Inflammable and Combustible Liquids (7-2-51).
175	Manual for Lifeboatman, Able Seamen, and Qualified Members of Engine Department (9-1-60).
176	Load Line Regulation (9-1-61).
182	Specimen Examinations for Merchant Marine Engineer Licenses (12-1-59).
184	Rules of the Road—Western Rivers (5-1-59). F.R. 6-6-59, 5-20-60, 9-21-60, 10-8-60, 12-23-60, 4-14-61, 4-25-61.
190	Equipment Lists (4-1-60). F.R. 6-21-60, 8-16-60, 8-25-60, 8-31-60, 9-21-60, 9-28-60, 10-25-60, 11-17-60, 12-23-60, 12-24-60, 5-2-61, 6-2-61, 6-8-61, 7-21-61, 7-27-61, 8-16-61, 8-29-61, 8-31-61, 9-8-61, 9-9-61, 10-18-61, 11-3-61, 11-18-61, 12-12-61, 2-9-62, 2-17-62, 3-15-62, 4-17-62, 4-25-62.
191	Rules and Regulations for Licensing and Certifying of Merchant Marine Personnel (11-1-60). F.R. 11-30-60, 1-4-61, 4-19-61, 10-25-61.
200	Marine Investigation Regulations and Suspension and Revocation Proceedings (7-1-58). F.R. 3-30-60, 5-6-60, 12-8-60, 7-4-61.
220	Specimen Examination Questions for Licenses as Master, Mate, and Pilot of Central Western Rivers Vessels (4-1-57).
227	Laws Governing Marine Inspection (7-3-50).
239	Security of Vessels and Waterfront Facilities (8-1-61). F.R. 12-12-61.
249	Merchant Marine Council Public Hearing Agenda (Annually).
256	Rules and Regulations for Passenger Vessels (1-2-62).
257	Rules and Regulations for Cargo and Miscellaneous Vessels (3-2-59). F.R. 4-25-59, 6-18-59, 6-20-59, 7-9-59, 7-21-59, 9-5-59, 5-6-60, 5-12-60, 10-25-60, 11-5-60, 11-17-60, 12-8-60, 12-24-60, 7-4-61, 9-30-61, 10-25-61, 12-13-61.
259	Electrical Engineering Regulations (12-1-60). F.R. 9-30-61.
266	Rules and Regulations for Bulk Grain Cargoes (5-1-59). F.R. 1-18-62, 4-13-62.
268	Rules and Regulations for Manning of Vessels (9-1-60). F.R. 5-5-61, 6-28-61, 12-16-61.
269	Rules and Regulations for Nautical Schools (3-1-60). F.R. 3-30-60, 8-18-60, 11-5-60, 7-4-61, 9-30-61, 12-13-61.
270	Rules and Regulations for Marine Engineering Installations Contracted for Prior to July 1, 1935 (11-19-52). F.R. 12-5-53, 12-28-55, 6-20-59, 3-17-60.
293	Miscellaneous Electrical Equipment List (3-7-60).
320	Rules and Regulations for Artificial Islands and Fixed Structures on the Outer Continental Shelf (10-1-59). F.R. 10-25-61, 11-3-61, 4-10-62.
323	Rules and Regulations for Small Passenger Vessels (Not More Than 65 Feet in Length) (7-1-61).
329	Fire Fighting Manual for Tank Vessels (4-1-58).

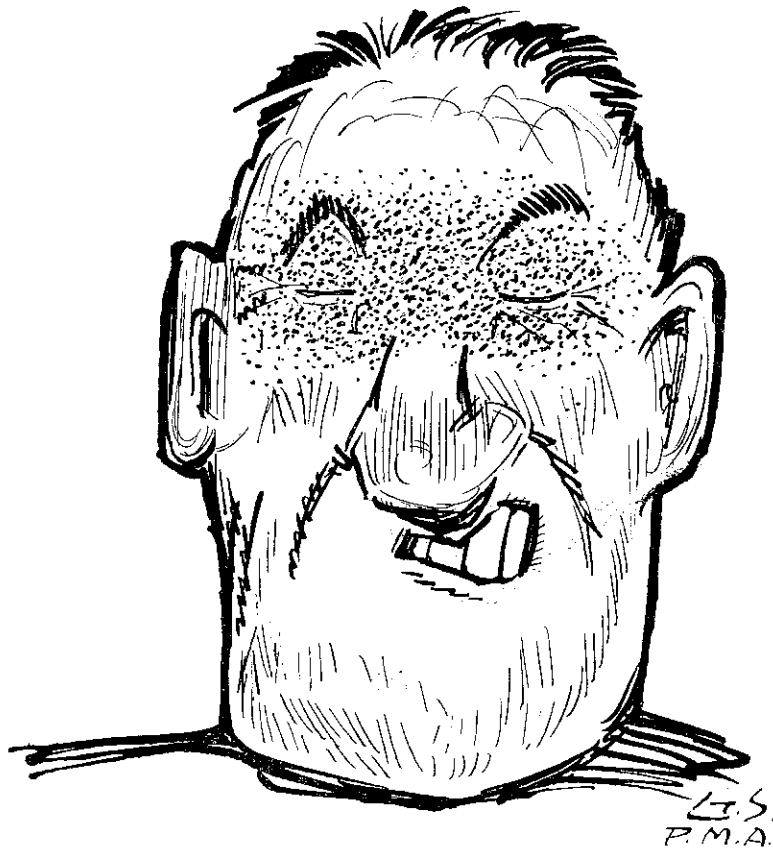
Official changes in rules and regulations are published in the Federal Register, which is printed daily except Sunday, Monday, and days following holidays. The Federal Register is a sales publication and may be obtained from the Superintendent of Documents, Government Printing Office, Washington 25,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

CHANGES PUBLISHED DURING APRIL 1962

The following have been modified by Federal Registers:

- CG-172, Federal Register, April 4, 1962.
- CG-190, Federal Registers, April 17 and April 25, 1962.
- CG-266, Federal Register, April 13, 1962.
- CG-320, Federal Register, April 10, 1962.

SAFETY GLASSES?



"I GOT 'EM BELOW
IN MY LOCKER!
SOMEBODY LEAD ME
DOWN THERE."