PROCEEDINGS OF THE
MERCHANT MARINE COUNCIL

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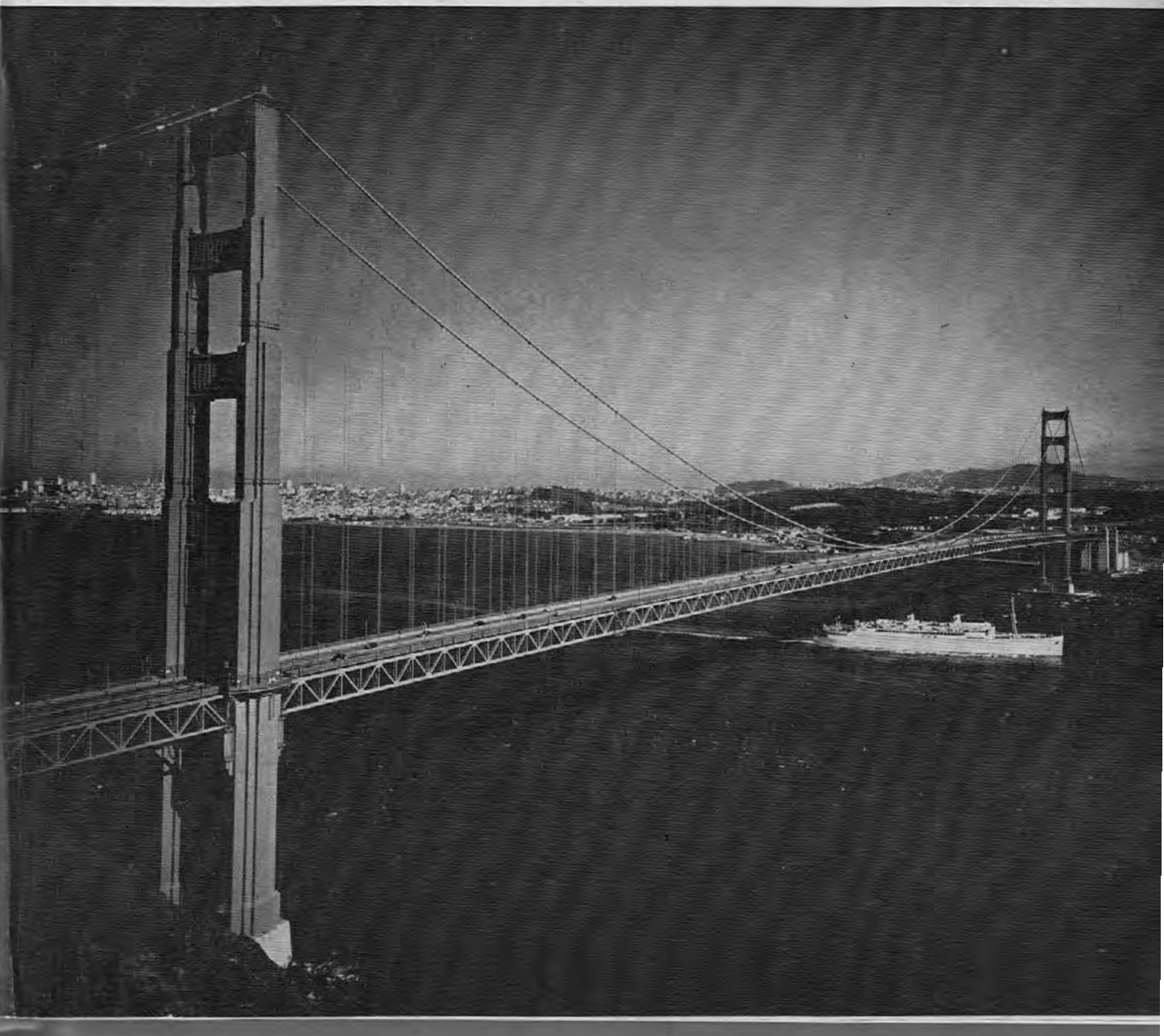

Proceedings of the

MERCHANT MARINE COUNCIL

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The Merchant Marine Council of the United States Coast Guard

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PHOTO CREDIT: Front cover courtesy of Matson Lines, showing the *SS Lurline* departing the Golden Gate bound for Honolulu, T. H.

NATIONAL MARITIME DAY 1955

On May 22d of this year, the nation will once again pause and pay tribute to the men and ships of its Merchant Marine. The achievements of the American Merchant Marine in peace as well as in war stand as indelible testimony to its vital importance to our national defense and foreign commerce.

In this year of 1955, with the world torn by strife and tension, the potential of a strong Merchant Marine is limitless. The Coast Guard, knowing this potential from daily association, is proud to take part in the national acclaim that will be rendered the American Merchant Marine.

A. C. Richmond

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

The Congress of the United States by a joint resolution approved May 20, 1933 (48 Stat. 73), designated May 22 as National Maritime Day, thus honoring our Merchant Marine by commemorating the departure from Savannah, Georgia, on May 22, 1819, of the *Savannah* on the first transoceanic voyage by any steamship, and requested the President to issue a proclamation annually calling for the observance of that day.

SAFETY IS PRESENCE OF PLAN

By Captain Vernon E. Day, U. S. Coast Guard. Excerpts from a paper presented to the Society of Naval Architects and Marine Engineers on August 28, 1954, in Gerhart, Oregon.

We can avoid danger by staying away from cliffs, keeping off the highways, or retreating to the cloisters. But most of us don't choose such a pattern. We want to live full and interesting lives and have fun and excitement on the way. John Paul Jones said: "Give me a fast ship, for I intend to get in harm's way." He did pretty well, too, and came back alive. In a tight situation he was noted for his presence of mind. About 50 years ago, Thomas Fleming Day wrote: "Presence of mind might better be called, presence of plan." Today, many of us find ourselves in harm's way whether we intend it or not. But there is a way to survive. We can face danger safely if we do either one of these two things. Keep our minds on what we are doing, or keep a guard between us and the danger to protect us when our minds are blank. Both systems require thinking, a presence of plan.

There are thousands of applications of guards in use today, and more are coming. There is no end to man's ingenuity along this line, the results of this planning, thinking things through. It would seem then that we ought to be pretty safe, and we are, all things considered, but there is still room for improvement. If you don't think so, consider that in fiscal 1953 there were 2,571 marine casualties of sufficient importance to require reporting to the Coast Guard. In 138 of them 280 lives were lost. The direct and indirect costs make a staggering figure. There is one inescapable conclusion: The injuries and the losses stem predominantly from human failures, and these failures are mostly because people don't think before or while they act. They lack presence of plan!

I honestly believe, that, as important as physical safety devices are, we will never reach our safety Mecca until we attain as individuals a safety consciousness. So long as men are less than angels, it is improbable that we will ever attain it down to the last man, woman, and child. But we must always face east! Our happiness, and even our survival, in this fast expanding world of ours requires it. As members of an enlightened group we should have presence of plan for safety. It is my sole purpose to stimulate your thinking about it.

The thing which distinguishes a seaman from a landlubber is his awareness to danger and his skill in the face of it. Intelligent analysis and subsequent instruction and enforcement are the essential ingredients of a safety plan; good seamanship, too. Does it appear I am getting off the subject of safety by talking about seamanship? By no means! *You cannot separate good seamanship from safety.* Accidents have been repeated countless numbers of times since Sampson pulled the props from under the temple, and they will keep right on happening until we as individuals learn to think things through.

While I was serving on the Cutter *Saranac* down in the Gulf of Mexico years ago, we received a distress call from a tanker. Her boilers were on fire, the machinery disabled, and the vessel was wallowing helplessly in the winter seas. After we arrived, I was sent aboard to get the facts for our official report. Being an engineer I naturally went below for a first-hand look. The fire was out, but the handrails were still hot, and the whole place was a blackened mess. Had a gang of vandals boarded the ship with acetylene torches they couldn't have done a better job of wrecking the upper sections of the boilers. You didn't need to take off the air heater casings or remove the breechings. You just looked in where they used to be. The air heater tubes were at least 50 per cent consumed, and the burned tube ends hung down like wet macaroni.

This tanker was on her initial trip after complete reconditioning, during which the engineering plant was improved by the installation of air preheaters. Soot blowers were installed, and might have done the job intended, *but the operating personnel were not instructed in their use.* In fact, no instructions were given concerning the new responsibility of maintaining the air preheaters. It did not occur to the engineers, or those who had the papers to prove it, that there might be a soot fire hazard until the roar of the fire and the red hot casings drove them out of the machinery space.

I do not know what the repair bill for this job came to. But we towed the tanker to Todds, Galveston, and Todds didn't work for peanuts, even back in 1938. The vessel was laid up for several weeks. Instead of making money on that first trip, she cost her owners a pretty penny. Now where would you place primary responsibility for that casualty? On the design engineers? Hardly. On the Chief Engineer on board? Perhaps. On the company's port engineer? We are getting closer. On the top management who decided to add the economy units to the vessel? That's the place! Sort of a drastic conclusion, you think? Well, let's look at the *whole* problem. Instead of high level policy to insure safety in operations, one that included an instructional and training program right on down the line, it was assumed that everyone knew his job, and that he would do it without any particular supervision or special instructions. From the information I obtained, there appeared to be no effective program, recognizable as such. There was no presence of plan. It was every man for himself.

Lord Nelson said: "England expects every man to do his duty." This is high level policy, all right, and acceptable in principle, too. But when you pin down a fireman, the engineer watch officer, and the Chief Engineer as I did aboard that tanker, and ask each, "What is your duty?", and he answers, "I don't know; nobody told me", the high sounding phrase has very little meaning.

Unless management understands that pressure for safety must be made effective at all levels by supervision, instruction, persuasion, discipline, and enthusiasm, it should be no surprise when "operation fiasco" becomes by default, the order of the day.

You've all heard of the man who sits on the far side of the limb and saws next to the trunk, and the one who paints himself into the corner away from the door. We chuckle over these comic happenings. But this one is not so comic. Two seamen, with air hammers were chipping paint on the boat platform of a tanker during nice weather at sea. A safety line had been stretched along the ship's side just in case. Instead of chipping from the ship's side inward, one of the men was working outward. His partner spoke to him about it, and suggested that he turn around, but the work went on as before, the two men working back to back. Shortly, the noise of the second hammer stopped, and upon getting to his feet, the man who was working inboard saw the other in the water, fast dropping astern. He had backed himself right over the side, under the safety line. Despite a prompt "MAN OVERBOARD" and a six-hour search, he was not recovered.

Our examples show, and statistics prove, that most accidents are caused by our failure to think; that is, to think deeply enough; to see more of the whole picture. Even when we

think we are thinking we are often just daydreaming or toying with the realities of our situation. The man who backed over the side surely must have thought about his situation after his partner called it to his attention, if not before. But his thoughts probably ran like this: "Oh, I'll be all right. I'll know when I come to the edge and I'll stop. Besides, there's a safety line there. I know what I'm doing; why does he have to butt in? I'll make my own decisions! Anyway, it won't happen to me." Famous last words!

Do you think people actually resist safety measures and instructions? I do. We resist for exactly the same reasons we resist other things and ideas which are presented for our betterment. It's not that we have anything against safety. It's just that we are not able or willing to think things through. As with religion, we lack understanding of the goals, and are reluctant to be bothered with the uphill climb to reach them. And it's an uphill climb to achieve presence of plan for safety.

Mahatma Gandhi said: "God himself dare not appear to a hungry man except in the form of bread." The pearly gates and the streets of gold do not satisfy the immediate demand for food. The need is for something he can sink his teeth into, and right now. He rejects everything else. So it is with safety. Those of us who would carry the safety message to Garcia must learn that unless we present ideas in terms of the other man's needs, his immediate needs, he will reject them as inapplicable. He may admit they are fine for the other fellow, and maybe for him in the vague tomorrow, but for today, he can't be bothered. Kipling put it this way:

God and the shipbuilder we adore
In time of danger, not before.
With the danger past, and all things righted
God is forgotten, and the shipbuilder slighted.

The list of reasons why we resist safety is long and involved because it is a cross section of human behavior. For our purpose here, I think I can sum it up in the one reason which suggests its own remedy: Safety is not understood. It has been said, there is no such a thing as a dull subject, only dull teachers. Until we sharpen up our teachers and our teaching methods, we need expect no miracles in overcoming these resistances.

One of the reasons why safety is not understood is that it is frequently presented in terms of statistics . . . so many killed, so many injured, the fire loss was so many dollars, and so on. A blow by blow description is more stimulating and will be remembered longer than the single announcement that there was a knock-out in the seventh round. Statistics are announcements. To make them effective in our teaching, we have to go behind the neat columns and give a blow by blow description of what they mean in terms of less meat on the table, the short vacation, or none at all, the hospital suffering, the graveside grief, the struggle for a livelihood of the widow and the orphans. Until statistics can be seen in this light, we will never get very wrought up over safety and we will never be able to put it across to others. This is an important link in our presence of plan.

Several years ago my daughter was learning to express herself with crayons. She had drawn a ship, sort of up-ended in the water, and I said, "Why Dottie, your ship is sinking." She took her crayon and scribbled in the water line higher and higher and higher, cried, "I know it, look at it go down! Whee!" I remonstrated, "You wouldn't want to lose your pretty ship, would you?" "Sure I would!", she cried, as she crumpled up the drawing and threw it high over head with both hands. Her little face, set among black curls, was beaming with satisfaction. She was guarded, cared for, and loved. All her little world was filled with a continuing flow of new things and experiences thrust upon her without effort on her part. She could not encompass the tragedy you and I would see in the sinking of a ship. It would have taken a supersalesman to sell her the merits of a safety-at-sea program.

Well, what are we going to do about it? Just what part can we as individuals play to prevent tragedy at sea? This is the question which must be answered, or our time will be all but wasted. I am not going to try to introduce any new safety codes, nor am I going to tell you how to avoid this and that danger. These things are pretty well documented already. There is a military maxim which says: "Know your enemy." We have also been taught: "Forewarned is forearmed." But, don't you believe it! *Forewarned is forearmed only when your presence of plan is an action plan.*

The promotion of safety *does* concern *you*. First of all, because others are depending upon you, look up to you for leadership and guidance, and in the performance of your jobs for them they are trusting that you have their interests at heart. You may not have thought about it in this way before, but you are your brother's keeper when you send him out to sea on a ship that you have designed, or built, or repaired, or inspected, or insured, or for which you have furnished equipment. And the training he receives, and the shipmates you choose for him have a definite bearing on his safety, as we have seen. Most of us are managers in one sense or another. The responsibiilty is ours; we cannot dodge it. Safety *is our* concern!

"The accident is over and done with, forget it and go on!" But should we? Hardly! With your experience your analysis is essential to proper solutions, and many of you are in positions where your pressure for safe practices is worth its weight in gold. We should not let sleeping dogs lie!

It is true, especially in handling personnel, that the professional safety man can make the major contributions, at least those which produce the greatest showings. But he requires your backing. And then, there are many of you who work in organizations which are too small to afford a full time safety specialist. Since you are not hound by him, the sky is the limit for your efforts. Let's not seek shelter behind the backstop while the professional people play. Let's get in there and pitch and bat and run with them. If you think you are too old for all that exertion at least you can umpire the game, and that in fact is where the manager best fits in safety planning.

A portable ship's rail consisted of a steel cable, and was entirely satisfactory as to height and strength. But the day came when it was badly rusted, and the inspecting officer ordered it renewed because the broken strands were a definite hazard to the hands. The word was passed. The supervisor considered he had done his part. The section was removed so as to transfer the fittings and secure the measurement for the new piece. No relief span was strung, and within an hour a man fell overboard. Fortunately, he was fished out, surprised, but unhurt. He had depended upon the little rail that wasn't there. There are hundreds of cases on record analogous to this. Supervisors must supervise. They must follow through if they would supply the missing links in the safety chain. That is literally as well as figuratively true in our case of the rail!

The mechanical engineering problem of stopping the boat hoists just short of two-blocked was nicely solved by the installation of limit switches, or so the designer, the manufacturer, the installing shipyard, the purchasing authority, the master and the mate all thought. A vessel tied up at an East Coast pier had completed testing

her lifeboats by lowering them to the water, and had raised them up to the davit heads again. One boat needed to be handcranked an inch or two to bring it to its proper nesting place. The chief electrician happened by on deck, and the A. B. asked him to lend a hand on the crank a moment. "Sure, I'll help," he said, but instead of taking hold of the crank, he stepped to the electric control box, opened it, and with his trusty screwdriver shorted out the limit switch. The hoisting motor took off; the boat came up until the blocks met; the falls parted; and the boat fell into the water. His screwdriver fused so firmly from the overload current that the electrician was unable to release it in time.

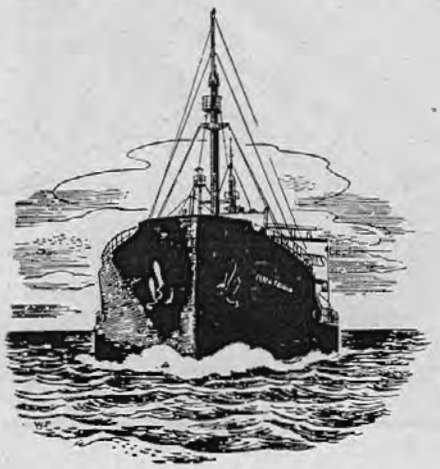
The repairs to the boat, to the electric circuits, and the renewal of the boat falls cost quite a bit. How fortunate there was no one in the boat at the moment, as there might have been. You would think that you could depend upon your safety devices, and leave the matter there, but the fact is, you cannot. Mechanical engineering has got to be aided by a lot of human engineering before we can begin to rest easy. Failing to recognize this puts the manager in the same position as the ostrich with his head in the sand. If he doesn't learn, after a rude awakening or two, we may suspect that his head may not be in the sand after all, but that the sand is in his head!

Following the usual pattern, this accident was man-caused. Unlike most accidents, it was caused by one who knew better. A TRAITOR, that's what he was. This chief electrician was no small change workman. He was a well-paid supervisor, and in his line was well versed in safety. Unfortunately, not well enough! Barnum told us: "There's one born every minute," and our continuing concern, our presence of plan, must be to indoctrinate them as they grow up, and when they get to be supervisors, *we still must not stop,* lest we fall short of: Well enough.

After every catastrophe, you always hear the cry: "There ought to be a law against it!" It is truly said, "the regulations are written in blood." But if you think legislation to supply well-proved needs comes easily, consider this: On July 24, 1915 the *Eastland,* lying at her dock at Clark Street in Chicago, rolled over. Eight hundred and eleven passengers and one crewman lost their lives. The *Morro Castle* burned off the New Jersey coast the night of September 8, 1934, with 124 dead. The *Mohawk* sank, also off the New Jersey coast, on January 24, 1935 and carried 45 to their doom. The Congress, spurred on by the last two disasters, finally got around to passing enabling legislation to require the approval of plans and specifications for passenger vessels before alterations or new construction was begun. What was the date? May 27, 1936. What was the bill? It was word for word with the bill originally introduced following the *Eastland* disaster. The delay was 21 years —a whole generation!

We recognize that men are ignorant, petty, selfish, greedy, and downright cussed, and so we rightfully must have laws to protect us from their depredations, but one of the great difficulties our society is facing today is the increasing complexity of those laws, our government. Although we often say, there ought to be a law against it; should there be? Do you know how much it will cost? Can it be truly enforced? Do we want to abide by it ourselves, or are we just proposing it for the other fellow? Can government take the place of individual responsibility? No, it cannot, if we are to remain a free people. It's up to us to regulate ourselves more and our neighbors less. The advantages of this system are many. Among them: it takes no legislators, no policemen, no lawyers, no courts, no jails. The opposite is true with the "There ought to be a law against it" philosophy. I am not advocating that we ought to do away with punitive laws, nor that we should pass no new ones. But I would like to point out that merely having laws on the books does not insure obedience, and even punitive measures fall far short of accomplishing safety.

Let me repeat: you cannot secure by legislation, nor by fear of punishment alone, obedience to safety laws. You can only approach that goal by safety education, and more of it, and by a general increase in moral stature which benefits us all around. It keeps us facing EAST.



TRADITIONS OF THE SEA

The roll of American Seafarers who have performed their duties in an outstanding and meritorious manner in accordance with the highest traditions of the sea is long but never completed. Another name to be placed on this distinguished roll is that of WILLIAM J. CLERMONT, JR.

On a recent trans-Pacific voyage of the *SS Hoosier State,* Mr. Clermont, while serving as Chief Mate, aided an injured seaman in a manner that reflects to the credit of the American Merchant Marine.

On March 17, 1955, the Commandant of the United States Coast Guard commended Mr. William J. Clermont, Jr. The Commendation is as follows:

> The Commandant is pleased to commend you for your self-reliance and the capable manner in which you aided an injured seaman on the high seas.
>
> Having been advised that the Boatswain was seriously injured when a stack of timbers fell on him, you immediately went to his aid. On examination you determined that he suffered a broken leg, the tibia and fibula being broken between the knee and foot. Without recourse to medical advice, you set the leg and applied traction in such a professional manner that when the seaman was subsequently hospitalized ashore, the attending doctor said that there was no need to reset the leg as it had been set perfectly. Following the accident you tended the Boatswain for 10 days on a 24 hour basis, until the vessel arrived in a domestic port.
>
> The prompt and efficient manner in which you aided a seaman on your ship is worthy of the highest praise and is in keeping with the finest traditions of seafaring Americans.

A JURY RUDDER PLUS FOUR SAILS

On a recent trans-Pacific voyage, the Captain and crew of the *SS Marine Runner* added a new chapter to seamanship text books on how to rig jury rudders and how to sail a C–4 freighter.

This vessel departed Yokohama in ballast on April 13, 1953 bound for San Francisco. On April 20, 1953, while in the Gulf of Alaska, approximately 1,500 miles north-east of San Francisco, the helmsman suddenly found the wheel loose in his hands. He notified the mate and a quick investigation disclosed that the rudder had carried away.

Rough weather had been encountered throughout the voyage and apparently the yawing and pitching of the vessel, in her light load condition, contributed to a structural failure of the rudder post.

This unexpected loss occurred at 0830 hours and the master, Captain Henrik E. Sievers, was suddenly confronted with a most perplexing prospect, that of steering his 10,000 ton, 522 foot ship to San Francisco without benefit of rudder. With the ship broadside in a heavy trough, taking 45 degree rolls, he wasted no time blaming fate but gave orders to rig a jury rudder.

It was decided to construct the rudder out of three pontoon-type hatch covers. This would make a rudder 20 feet by 12 feet with an approximate weight of 4 tons. The booms were topped at No. 7 hatch and the hatch pontoons were removed.

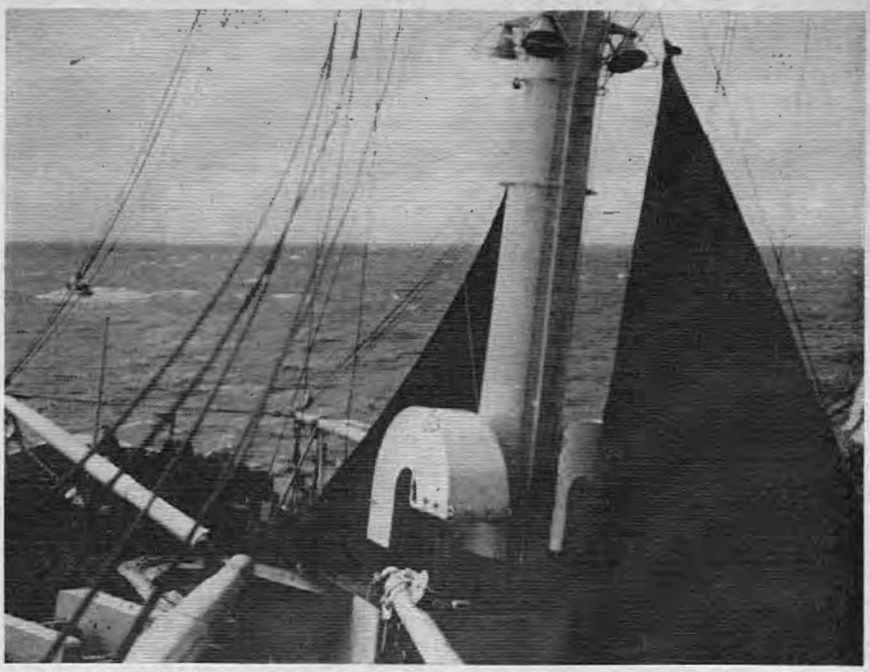


Figure 2

Cement was poured in the bottoms of the pontoons for added weight. While the cement set, the engineers burned holes in the sides so that they could be bolted together. Holes were also burned for suspension chains and control cables. Hatch boards were cut up to fill the pontoon over the cement. After the pontoons were bolted together, the whole was banded with steel banding tape and clips. It was then wrapped with ¾ inch winch runners and set up with turnbuckles (*see fig. 1*).

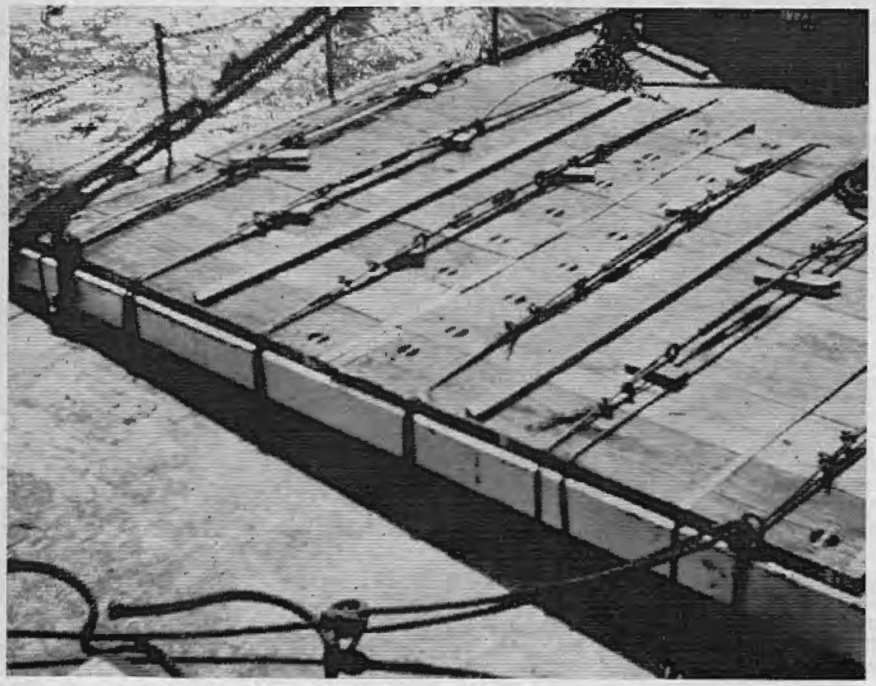


Figure 1

While this work was progressing at No. 7 hatch, part of the deck gang under the direction of the Chief Mate, Mr. J. W. Ledford, was forward rigging sails. The Captain figured that with a head sail, by increasing and decreasing the propeller rpm he could maneuver the ship out of the trough and make a north-easterly course. The sails were made from hatch tarpaulins. An inner and outer jib were set at the foremast with the sheets taken to No. 1 and 2 hatch winches. As was hoped, the ship was able to get underway with a few rpm on a north-easterly course (*see fig. 2*).

To support the rudder weight an eight part chain lashing suspension was made with several wire pendants. This was led outboard, aft, and then back through the stern center chock to a capstan. Two other pendants were secured to the after end of the rudder, bent to winch runners and led from No. 7 boom heads to the winches. These pendants would serve as tiller ropes. The booms were winged out, wing and wing (*see fig. 3*).

When all was ready the propeller was stopped and the jury rudder was

eased over the starboard quarter. The vessel was still rolling heavily and it was necessary to drop it at just the right period of roll so it would not hit and damage the propeller. After it was released, the tiller ropes to the boom heads supported the weight until the capstan could take a strain on the suspension chain. Unfortunately, one of the tiller ropes fouled under the rudder. The Captain's own words well describe the difficulties encountered: "To clear the fouled tiller line, we attempted to lift the rudder with the chain suspension .... the chains started snapping like rubber bands. The stern went up and down 30 feet on every swell and each time the rudder would jerk and snap a chain. We finally cleared the tiller line without damaging the propeller, dropping the booms, or killing anybody. We then all went to a late lunch."

The vessel continued to pitch heavily and the Captain, fearing that the suspension chain might carry away allowing the rudder to damage the propeller, ordered it brought back aboard. In his official report the Captain remarked that this type of jury rudder would undoubtedly have been very effective in moderate or smooth seas. The heavy pitching of his vessel, however, prevented its effective use, but in the short time it was used it changed the vessel's head 15 degrees in the right direction. He also recommended, if possible, to suspend the rudder from the jumbo topping lift led aft through the stern center chock rather than by a chain suspension to the capstan.

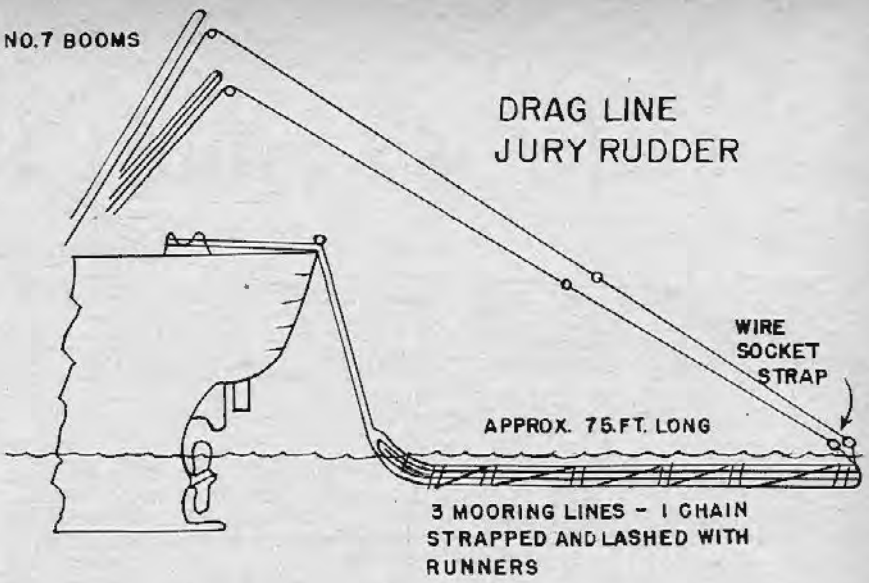


Figure 4

While the vessel was still underway, making some easterly, a more effective means of steering was needed. As soon as the first jury rudder was secured on deck, work commenced on the second (*see fig. 4*). The Fourth Mate, Mr. W. E. Bradley, designed the second jury rudder so the Captain referred to it in his report as the "Bradley Line Drag". It consisted of three, 9 inch, 120 fathom, manila hawsers, flaked into a 75 foot flake, and weighted with chain at the after end. The whole was banded together with banding straps and clips, and half hitched with a winch runner. Tiller lines were secured to the after end and taken through the No. 7 boom heads to the winches. When all was ready it was eased over the stern. A wire pendant, secured to the forward end, was taken through the stern chock to a capstan. This rig was a decided improvement and the ship was able to come around 45 degrees, to an easterly heading. The Captain commented on this rig in his report, as follows: "If I had to construct one like this again, I would use a length of 6 inch pipe for a stiffener."

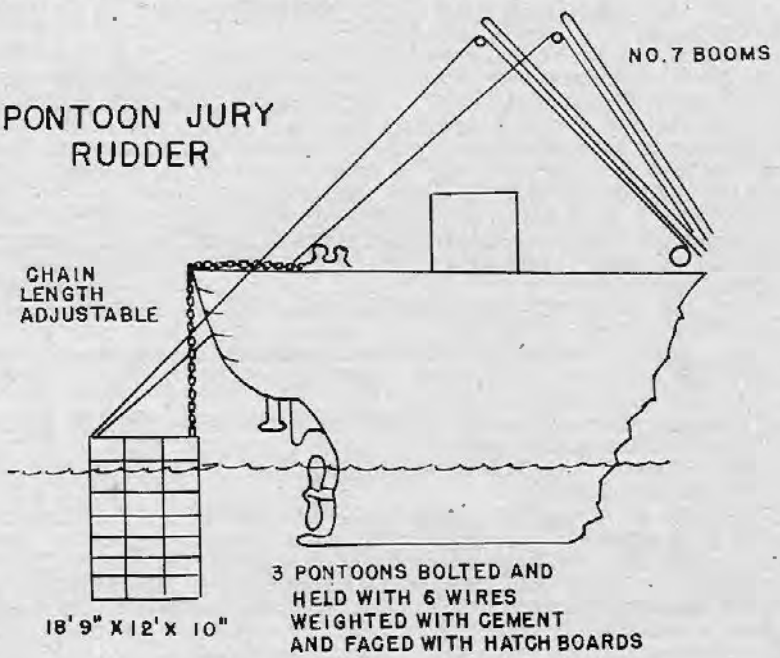


Figure 3

Radio contact had been made with the home office and the instructions were to rendezvous with a Seattle tug *Wando*, which would tow the *Runner* to San Francisco. A sister ship, the *SS Marine Flier*, was in the vicinity and it was agreed that she would proceed in company with the *Runner* until the tug was picked up. Throughout April 21 the *Runner* proceeded east steering by sail and "Bradley Line Drag." An entry in the deck log describes a portion of this passage as follows: "1445 Wind shifted to SW—attempting to change heading to SE by tacking. 1510 Heading changed to 335° unable to bring through wind. 1515 Commenced wearing. 1550 Heading changed to 140° stopped wearing and put engine ahead on new course."

At 0915 hours, on April 22, 1953, the *Runner* and *Flier* met. A celestial fix showed that the *Runner* had *sailed 197 miles under power and sail at an average speed of 4.25 knots.* Average rpm for this passage was

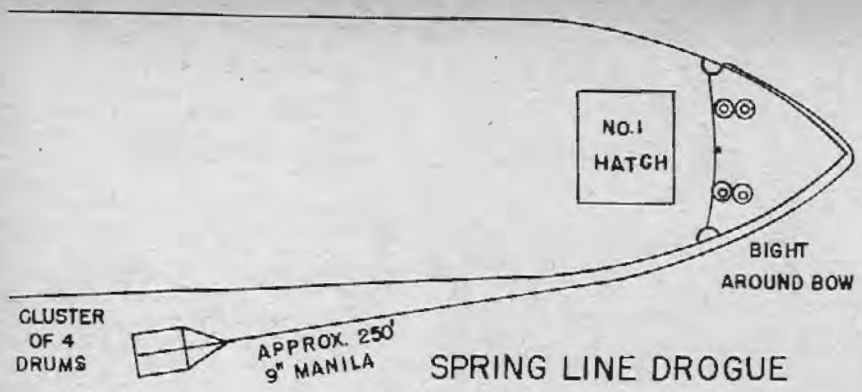


Figure 5

20.56. It was then decided that the *Flier* would take the *Runner* in tow. The official report contains the Captain's comment on this decision: "The *Flier's* tow was taken because of impending bad weather . . . we had made good progress to the eastward and could have made rendezvous with the tug if the weather held out . . . it is my firm conviction we could have sailed her to the Farallones on her own in 30 days or less . . . we were very close to the sailing route from Unimak Pass to San Francisco . . . the first sail from 1820, April 20, to 1200, April 22, 1953, proves that . . ."

That afternoon the two ships got underway in tow. The towline consisted of a 9 inch hawser shackled to an insurance wire which was shackled to the *Runner's* starboard anchor chain. The chain was slacked to 3 shackles for a proper catenary. By 1500 hours, the deck log shows that the *Flier* was turning 76 rpm and the *Runner* 57 rpm.

To further improve the *Runner's* steering ability a spanker sail was set at No. 7 hatch and a fore topmast staysail at the foremast. This made a total of four sails. The crew soon were quite proficient at trimming the sheets and renewing the sails lost in passing squalls.

The weather conditions worsened, however, and on the following morning the towline parted. The total distance made in tow was 162 miles at an average speed of 9.00 knots. Because of the gale conditions it was decided that the *Runner* would proceed on her own until the weather moderated enough to pick up a tow in safety. As the gale increased the *Runner* found it difficult to maintain an easterly course even with the sails and the "Bradley Line Rig," and it was decided to improvise something else.

There were four, 55 gallon, garbage cans on the fan tail made out of oil drums. The Chief Engineer cut holes in the sides for suspension shackles and reinforced the drums with angle iron. Holes were cut in the bottom for a funnel effect. The drums were made fast by wire bridles to a 9 inch manila hawser. The drums and hawser were then streamed off the starboard bow (*see fig. 5*). This drogue was very successful and the vessel was able to maintain an easterly course the rest of the day and through the night. In his report the Captain noted, "This is the first time I ever steered with garbage cans."!

The following morning, April 24, 1953, weather improved enough to permit the ships to pass a towline and by 0855 hours they were again underway. A fix showed that for the second passage on her own, the *Runner* had averaged 10.7 knots!

Meanwhile the tug *Wando* was making heavy weather of it as she headed west for the rendezvous. On the morning of April 25, 1953, she was finally able to locate the *Runner*, assisted by Captain Sievers' novel method of playing his searchlight on low lying clouds. During the second, *Flier*-assisted passage, 225 miles were logged at an average speed of 7.73 knots. In the afternoon the towline was finally rigged and the *Wando* and the *Runner* got underway bound for San Francisco.

On May 1, 1953, they arrived off the Golden Gate having steamed 990 miles at an average speed of 10 knots. Thus ended the most unusual voyage of the *SS Marine Runner*, the only C-4 to ever navigate the Pacific under sail! The Captain, officers and crew can well be proud of bringing their ship home in record time and can consider themselves the modern authorities on the use of jury rudders and how to sail 10,000 ton freighters.

Ships that pass in the night, and speak each other in passing,
Only a signal shown and a distant voice in the darkness.
So on the ocean of life we pass and speak one another,
Only a look and a voice, then darkness again and a silence.

Henry Wadsworth Longfellow.

MAILING LIST FOR PROCEEDINGS

It is required by the regulations of the Joint Committee on Printing, dated July 1, 1954, that the mailing list for the Proceedings of the Merchant Marine Council be circularized to determine whether this publication is still desired by the persons to whom it is addressed.

All addressees on the mailing list for the Proceedings will be sent a card requesting that an affirmative reply be returned to the Commandant (CMC), United States Coast Guard, by no later than July 1, 1955.

If you desire to continue to receive the Proceedings and you do not receive a card by June 1, 1955, it is suggested that you send a card to the Commandant (CMC), United States Coast Guard, Washington 25, D. C., setting forth the following information:

(a) The nature of your profession or business in relation to marine safety.
(b) Name and address to which the Proceedings are now sent.
(c) Quantity now received.
(d) Quantity desired.
(e) The new postal address, if different from that to which the Proceedings are now sent.
(f) Name of the firm, company, corporation, or individual requesting the Proceedings.

Only a limited number of copies of the Proceedings are published each month. Its distribution is accordingly limited to those concerned with marine safety or engaged in activities under the cognizance of the Coast Guard. To insure that the Proceedings receives the widest possible dissemination, it is requested that recipients of this periodical make it available to as many other people as is feasible.

If no affirmative reply requesting continuance is received by July 1, 1955, the addressees named will be removed from the mailing list.

SIDE LIGHTS ON THE RULES

In this, the 18th, article in the *Side Lights on the Rules* series, we shall continue the comparison of the International Rules with the corresponding provisions in the local rules applicable to Inland Waters, Western Rivers, and the Great Lakes by turning to Rule 20 (a), International Rules, dealing with the right-of-way of a sailing vessel over a power-driven vessel.

Rule 20 (a), International Rules, states:

Rule 20 (a) When a power-driven vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, except as provided in Rules 24 and 26, the power-driven vessel shall keep out of the way of the sailing vessel.

The meaning of the rule is more complete when considered in relation to the rules referred to in Rule 20 (a), International Rules, and Rules 21, 22, 23, 28 (a), and 28 (b), International Rules.

Rules 24 and 26, International Rules, provide:

Rule 24 (a) Notwithstanding anything contained in these Rules, every vessel overtaking any other shall keep out of the way of the overtaken vessel.

(b) Every vessel coming up with another vessel from any direction more than 2 points (22½ degrees) abaft her beam, i. e., in such a position, with reference to the vessel which she is overtaking, that at night she would be unable to see either of that vessel's sidelights, shall be deemed to be an overtaking vessel; and no subsequent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these Rules, or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

(c) If the overtaking vessel cannot determine with certainty whether she is forward of or abaft this direction from the other vessel, she shall assume that she is an overtaking vessel and keep out of the way.

Rule 26 All vessels not engaged in fishing shall, when under way, keep out of the way of any vessels fishing with nets or lines or trawls. This Rule shall not give to any vessel engaged in fishing the right of obstructing a fairway used by vessels other than fishing vessels.

Rules 21, 22, 23, 28 (a), and 28 (b), International Rules, provide, in turn:

Rule 21. Where by any of these Rules one of two vessels is to keep out of the way, the other shall keep her course and speed. When, from any cause the latter vessel finds herself so close that collision cannot be avoided by the action of the giving-way vessel alone, she also shall take such action as will best aid to avert collision (see Rules 27 and 29).

Rule 22. Every vessel which is directed by these Rules to keep out of the way of another vessel shall, if the circumstances of the case admit, avoid crossing ahead of the other.

Rule 23. Every power-driven vessel which is directed by these Rules to keep out of the way of another vessel shall, on approaching her, if necessary, slacken her speed or stop or reverse.

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

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

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

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

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

(b) Whenever a power-driven vessel which, under these Rules, is to keep her course and speed, is in sight of another vessel and is in doubt whether sufficient action is being taken by the other vessel to avert collision, she may indicate such doubt by giving at least five short and rapid blasts on the whistle. The giving of such a signal shall not relieve a vessel of her obligations under Rules 27 and 29 or any other Rule, or of her duty to indicate any action taken under these Rules by giving the appropriate sound signals laid down in this Rule.

Under the quoted wording of Rules 20 (a), 21, 22, 23, 24, 26, 28 (a), and 28 (b), International Rules, when a sailing vessel is approaching a power-driven vessel, or vice versa:

(1) The sailing vessel has the right of way in the meeting and crossing situations.

(2) In the overtaking situation, the overtaken vessel has the right of way, whether she is a power-driven or sailing vessel.

(3) If either vessel is fishing, Rule 26, International Rules, gives that vessel the right of way, regardless of whether the vessel engaged in fishing is a power-driven or sailing vessel, or an overtaking vessel.

(4) Should the power-driven vessel change course or reverse her engines, Rule 28 (a), International Rules, requires her to sound the proper whistle signals.

Art. 20, Inland Rules, is equivalent to Rule 20 (a), International Rules:

Art. 20. When a steam vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, the steam vessel shall keep out of the way of the sailing vessel.

It is supported in a similar manner by Arts. 24, 26, 21, 22, 23, and 28, Inland Rules:

Art. 24. Notwithstanding anything contained in these rules every vessel, overtaking any other, shall keep out of the way of the overtaken vessel.

Every vessel coming up with another vessel from any direction more than two points abaft her beam, that is, in such a position, with reference to the vessel which she is overtaking that at night she would be unable to see either of that vessel's side lights, shall be deemed to be an overtaking vessel; and no subsequent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these rules, or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

As by day the overtaking vessel can not always know with certainty whether she is forward of or abaft this direction from the other vessels she should, if in doubt, assume that she is an overtaking vessel and keep out of the way.

Art. 26. Sailing vessels under way shall keep out of the way of sailing vessels or boats fishing with nets, lines, or trawls. This rule shall not give to any vessel or boat engaged in fishing the right of obstructing a fairway used by vessels other than fishing vessels or boats.

Art. 21. Where, by any of these rules, one of the two vessels is to keep out of

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the way, the other shall keep her course and speed.

[See Articles 27 and 29.]

Art. 22. Every vessel which is directed by these rules to keep out of the way of another vessel shall, if the circumstances of the case admit, avoid crossing ahead of the other.

Art 23. Every steam vessel which is directed by these rules to keep out of the way of another vessel shall, on approaching her, if necessary, slacken her speed or stop or reverse.

Art 28. When vessels are in sight of one another a steam vessel under way whose engines are going at full speed astern shall indicate that fact by three short blasts on the whistle.

It will be noted, however, that Art. 26, Inland Rules, refers only to sailing vessels and that Art. 28, Inland Rules, is limited to the three short blast signal depicting a reversal of the engines.

In Inland Waters, the one-and-two short blast signals are signals of intention and are used only between approaching power-driven vessels to agree upon a safe passage—with or without a change in course. The four short blast danger signal is similarly restricted. The Pilot Rules for Inland Waters delve into the right of way of a sailing vessel over a power-driven vessel, but not with respect to whistle signals. Sec. 80.8, Pilot Rules for Inland Waters, merely reiterates Art 20, Inland Rules:

80.8 Meeting of steam and sailing vessels; right of way.—When a steam vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, the steam vessel shall keep out of the way of the sailing vessel.

Turning to the Western Rivers Rules, it can be seen that Rule Numbered 20 is equivalent to Rule 20 (a), International Rules:

Rule Numbered 20. When a steam vessel and a sailing vessel are proceeding in such directions as to involve risk of collision, except when the sailing vessel is overtaking the steam vessel, the steam vessel shall keep out of the way of the sailing vessel.

It is supported by Rules Numbered 22 (a), 21, and 23, Western Rivers Rules:

Rule Numbered 22. (a) Notwithstanding anything contained in these rules, every vessel, overtaking any other, shall keep out of the way of the overtaken vessel.

Every vessel coming up with another vessel from any direction more than two points abaft her beam shall be deemed to be an overtaking vessel; and no subsequent alteration of the bearing between the two vessels shall make the overtaking vessel a crossing vessel within the meaning of these rules, or relieve her of the duty of keeping clear of the overtaken vessel until she is finally past and clear.

As the overtaking vessel cannot always know with certainty whether she is forward of or abaft this direction from the other vessels, she should, if in doubt, assume that she is an overtaking vessel and keep out of the way.

Rule Numbered 21. Every steam vessel, when approaching another vessel so as to involve risk of collision, shall slacken her speed, or, if necessary, stop and reverse.

Rule Numbered 23. Where by rules 17, 19, 20, and 22 one of two vessels shall keep out of the way, the other shall keep her course, subject to the qualifications of rule 25.

Here, it will be noted, the supporting rules fail to provide for fishing vessels and are completely silent as to whistle signals.

The Western Rivers Rules do not have a signal depicting a reversal of the engines. On the other hand, as in Inland Waters, the one-and-two blast signals are signals of intention and are used only between approaching power-driven vessels to agree upon a safe passage—with or without a change in course. The four short blast danger signal is also similarly restricted.

The Pilot Rules for the Western Rivers do not apply to a sailing vessel approaching a power-driven vessel, or vice versa. In these waters, the statutory provisions pertaining to such approaching vessels stand by themselves.

Further differences are to be noted in the rules applicable to the Great Lakes.

Rule 19, Great Lakes Rules, is equivalent to Rule 20 (a), International Rules:

Rule 19. When a steam vessel and a sailing vessel are proceeding in such directions as to involve risk of collision the steam vessel shall keep out of the way of the sailing vessel.

It is supported in a like manner by Rules 22, 20, 21, and 23, Great Lakes Rules:

Rule 22. Notwithstanding anything contained in these rules every vessel overtaking any other shall keep out of the way of the overtaken vessel.

Rule 20. Where, by any of the rules herein prescribed, one of two vessels shall keep out of the way, the other shall keep her course and speed.

Rule 21. Every steam vessel which is directed by these rules to keep out of the way of another vessel shall, on approaching her, if necessary, slacken her speed or stop or reverse.

Rule 23. In all weathers every steam vessel under way in taking any course authorized or required by these rules shall indicate that course by the following signals on her whistle, to be accompanied whenever required by corresponding alteration of her helm; and every steam vessel receiving a signal from another shall promptly respond with the same signal or, as provided in rule twenty-six:

One blast to mean, "I am directing my course to starboard."

Two blasts to mean, "I am directing my course to port." But the giving or answering signals by a vessel required to keep her course shall not vary the duties and obligations of the respective vessels.

It may be readily noted that these supporting rules fail to provide for fishing vessels. However, special attention should be paid to Rule 23, Great Lakes, which may cause untold confusion if not read carefully.

By its wording and relation to the rules pertaining to two power-driven vessels approaching each other, Rule 23, Great Lakes Rules, requires power-driven vessels approaching each other to use the one-and-two blast signals as signals of intention in order that they may agree on a safe passage—with or without a change in course. To this extent the use of the one-and-two blast signals is similar to that in Inland Waters and the Western Rivers. But, by the virtue of its wording, Rule 23, Great Lakes Rules, also requires a power-driven vessel changing course in the vicinity of a sailing vessel to use the one-and-two blast signals as rudder signals. To this extent the use of the one-and-two blast signals is similar to that in waters subject to International Rules.

It should also be noted that the Great Lakes Rules fail to provide a signal to indicate a reversal of the engines, and that the use of five blast danger signal is limited to instances when power-driven vessels are approaching each other.

As in the case of the Pilot Rules for the Western Rivers, the Pilot Rules for the Great Lakes do not pertain to approaching situations involving a sailing vessel and a power-driven vessel.

In the next article in this series, it will be seen that similar differences in signals and required procedures face approaching vessels in situations where more than two vessels are approaching each other.

HIGHLIGHTS ON THE RULES

The following interesting observations were made by a United States district court in deciding collision liability—

> Ordinarily, it is the rule of law that where a moving vessel collides with an anchored vessel, the burden is on the moving vessel to explain the collision.
>
> * * * * *
>
> Where, however, it appears that the cause of collision was lack of lights on the anchored vessel, the anchored vessel then has the burden of showing that it did have proper lights at and immediately prior to the time of collision.

nautical queries

Q. Must fire hose remain connected to the hydrants at all times? If not, under what conditions may it be disconnected and where must it be stowed?

A. Fire hose shall be connected to the outlets at all times. However, on open decks where no protection is afforded to the hose in heavy weather, or where the hose may be liable to damage from the handling of cargo, the hose may be temporarily removed from the hydrant and stowed in an accessible nearby location.

Q. Is it permissible to use fire hose for washing down the decks?

A. No. Fire hose shall not be used for any other purpose than fire extinguishing and fire drills.

Q. What is the maximum temperature that should be permitted in the compartment where carbon dioxide cylinders are stowed?

A. 130°

Q. How would you flush out the strainer used with an All Purpose Nozzle?

A. Push the clean-out valve to the "open" position which allows the flushing outlet to discharge the stream to the deck.

Q. What are the advantages of using an applicator with the All Purpose Nozzle?

A. By use of 4-, 10-, and 12-foot applicators with curved tips it is possible to reach over and around obstructions to place a cooling smothering blanket of fog on the fire. In cases of extreme heat it is beneficial to project a water curtain between the nozzle men and the fire which will serve as a shield and permit them to approach the seat of the fire.

Q. How can a fire in a closed compartment be blocked off if the adjacent bulkheads and decks are accessible?

A. A fire may be blocked off by using a fog spray as a water curtain against the heat.

Q. What is the minimum diameter of any steam fire-extinguishing pipe to a cargo hold?

A. The minimum diameter of any steam fire-extinguishing pipe to a cargo hold shall be one inch.

Q. What are the dangers of using the carbon tetrachloride and CO_2 type of extinguishers?

A. The carbon tetrachloride extinguisher, when coming in contact with a fire of more than 140 degrees, turns into a gas (phosgene gas) which is strangulating and is, therefore, dangerous to human life in enclosed spaces.

The CO_2 extinguisher contains a smothering gas and, in enclosed spaces, is dangerous to human life.

Q. State three methods by which fire spreads and what should be done to prevent this in combatting fires on board vessels.

A. Fire is spread by conduction of heat to adjacent surfaces, by direct radiation, and by convection.

The spread of fire is prevented on ships by cooling of surfaces adjacent to the fire or in some cases moving combustibles, by cooling off the burning material or shutting off its supply of oxygen, and by shutting down so far as possible any ventilation.

Q. When must a supervised patrol be maintained aboard ocean passenger vessels on an international voyage?

A. Between the hours of 10 p. m. and 6 a. m. when passengers are on board.

Q. (a) How many complete recharges must be carried for each gas mask required to be carried aboard ocean passenger vessels?

(b) Where must the spare charges be stowed?

A. (a) One.

(b) In the same location as the equipment it is to reactivate.

Q. Name three types of fire detecting systems.

A. Smoke pipe detecting system, electrical system, pneumatic system, and automatic sprinkling system.

Q. What is the "Oil Pollution Act"? What penalties may be applied upon conviction of violating this Act?

A. Except in the case of emergency it shall be unlawful for any person to discharge or permit the discharge of oil by any method into or upon the coastal navigable waters of the United States from any vessel using oil as fuel for the generation of propulsion power, or any vessel carrying or having oil thereon in excess of that necessary for its lubricating requirements. Any person who violates the Oil Pollution Act is guilty of a misdemeanor, and upon conviction shall be punished by a fine not exceeding $2,500 nor less than $500, and/or by imprisonment not exceeding 1 year nor less than 30 days for each offense.

ILO CONVENTION ON MEDICAL EXAMINATIONS FOR SEAFARERS

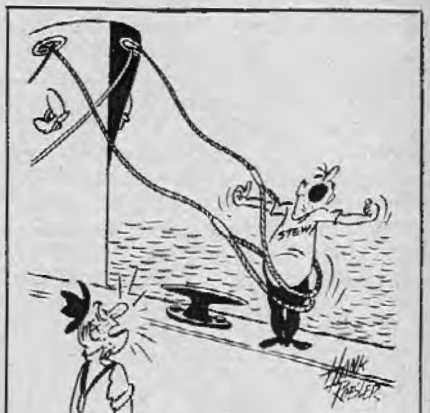
GENEVA (ILO News) March 16, 1955—The International Labor Organization of the United Nations has announced that an International agreement on medical examinations for seafarers would come into force in August 1955.

This agreement requires all persons employed on sea-going vessels to have medical examinations before being signed on and periodically thereafter. It does not apply to vessels of less than 200 gross tons, small wooden vessels, or fishing vessels.

The Maritime Session of the International Labor Organization met in Seattle, in 1946, at which time this agreement was adopted. It was agreed that it would go into force when ratified by seven of the world's principal maritime countries. It was also stipulated that at least four of these countries should have a million tons of shipping each.

These conditions have now been more than fulfilled with ratification by the following countries: Argentina, Belgium, Bulgaria, Canada, France, Italy, Norway, Poland, Portugal and Uruguay. (According to Lloyd's Register, these countries had between them a total of more than 18 million tons of merchant shipping in 1953).

Although the United States Senate, on July 4, 1952, recommended ratification of ILO Convention No. 73 concerning medical examination of seafarers, no further action has been taken by this country to become signatory to this instrument. Consequently, the coming into force of this agreement has no effect on the United States Merchant Marine.



"I WARNED YOU ABOUT STRETCHING OUT TO YAWN AROUND THE DOCKS!"

Courtesy Maritime Reporter

MARRIED FALLS

Cargo booms are usually tested singly and based on these tests they are given a lifting rating. Thus a boom that can lift and withstand stresses of 25% greater than 5 long tons is rated as a 5-ton boom. One that can lift and withstand stresses of 5 tons in excess of 50 long tons is rated as a 50-ton boom. So you know that a 5-ton boom can safely lift 5 long tons and a 50-ton boom can safely lift 50 long tons.

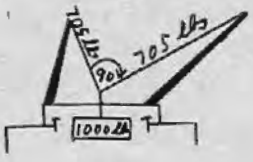
Although cargo booms are tested singly they are often rigged paired (married falls—see sketches). In this method one boom is usually rigged so that it is directly over the cargo hold and the other is over the dock or lighter. The falls of the two booms are secured together and at their junction a sling is attached. Using this arrangement by properly regulating the length of the falls of each boom with the winches it is a relatively simple matter to lift cargo

A

with the sling out of the hold, move it over the deck, and lower it over the side to the dock or lighter. Of course, by reversing the procedure, cargo can be moved from the dock or lighter to the deck or hold.

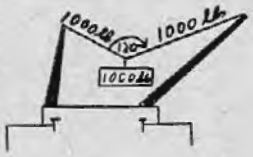
This is so familiar a procedure that almost no one gives it a second thought—until a guy, preventer, or one of the falls carries away and the load being lifted crashes to the deck. Then the first reaction is that the cargo gear was below rated capacity. Especially if the load being lifted was less than the rated load for the boom. It appears that it almost never occurs to the average seaman that the accident might have been caused by improper use of the gear which put unnecessarily great strains on the falls and guys.

Here is a test you can make yourself which will give you the idea of the types of stresses involved. Take



B

a bucket of water. Place it alongside your right leg. Grab the handle and lift. You can easily lift it. Now, still holding the bucket of water in your right hand, extend your right arm, stiff armed, so that it is parallel with the deck. That is not so easy and



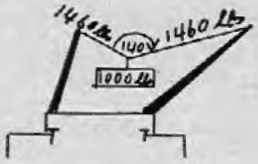
C

there are many who cannot do it. Why? Because the angle of leverage is extreme and the weight of the bucket exerts a force out of proportion to its normal weight.

The same sort of situation may develop with the married fall rig.

When the load is directly under a boom (sketch A) the weight acts straight down and its effect is equal to its weight. This is the same as when you lifted the bucket straight up from your right foot.

After the load is raised to the proper height, the winchman sets taut on the falls of the second boom and slacks off on the falls of the first boom. The weight then travels towards the second boom. When the weight is halfway between the first and the second boom, it is in a position very much like the bucket when you held it out with your arm parallel to the deck. Here



D

the strain is at a maximum (sketch B, C, D, or E). The weight may exert a force on each part of the married fall rig which is greater than its actual weight. The force exerted depends upon the angle between the two falls. The greater the angle the greater the strain on each fall and if the angle is extreme (sketch E), almost a 180° the effect is extreme. It may be 3 or 4 times the amount of the load itself. On the other hand, if it is possible to maintain a fairly small angle between the two falls (sketch B), the strain on each fall created by the lift will be much less.

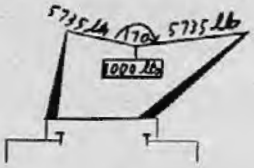
Therefore, when using the married fall rig remember:

(1) that the safe working load stamped on the boom only applies when a single swinging boom is used. It does not apply to the case of married falls.

(2) make every attempt to keep the maximum angle between the falls less than 120° throughout the operation.

(3) when heavy lift winches are being used or the falls are doubled up, be especially careful that you do not exceed an angle of 120° between the falls because the booms and or guys and preventers will usually fail before the winches or falls do.

(4) use as short a sling as possible. Long slings require that the load be lifted exceptionally high to clear the railing or hatch coaming or other cargo on deck and often force the winchman to exceed the safe 120° angle between the falls.



E

(5) where high deck cargo presents an obstacle to loading or discharging, serious consideration should be given to transferring some of such a deck cargo to another location or to utilizing a swinging boom so as to minimize "tight lining" risks.

—Courtesy Safety Bulletin, States Marine Lines

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HOW MUCH IS A TON?

A ton is 2,000 pounds, 2,240 pounds, 40 cubic feet, 42 cubic feet, 100 cubic feet, 35 cubic feet, or 20 bushels of wheat or even a barrel of wine. It's confusing.

Tonnage as applied to ships is confusing because it may refer to either capacity or weight and because several complicated formulas are used to determine the tonnage of different types of ships and of the same ship for various purposes. The subject is further complicated by the fact that the weight unit called a ton may be the short ton of 2,000 pounds or the long ton of 2,240 pounds.

Ton is derived from "tun," the name of a large cask in which wine, ale and other liquids were formerly

transported. A tun contained 42 cubic feet of space, held 252 gallons of wine and weighed about 2,240 pounds. In Henry V's reign (1413–1422), when taxes were levied on ships, a tun was taken as the unit of measurement to determine how much a ship could carry. The tax was fixed at one tun for each ten tuns of cargo capacity. Thus "tunnage" (later spelled "tonnage") came to mean the number of tuns or casks of wine a merchant ship could carry. Later, tonnage was estimated by measurements that gave the cargo space in a vessel. As now applied to the merchant ships of Great Britain, the United States and most other maritime nations, tonnage may refer to any one of several measurements of capacity and weight used as a basis of taxes, port and harbor charges, pilot fees and canal tolls, and to provide a system of classifying, registering and identifying ships.

Gross tonnage (also called space or statutory tonnage) has no connection with the weight of the ship as a whole or with the weight of the cargo she can carry. It is the total capacity of the entire hull and the closed-in spaces on the deck available for cargo, stores, crew and passengers expressed in terms of one "ton" for every 100 cubic feet of space. This "ton" is a purely arbitrary unit of space. Just what material would occupy 100 cubic feet in a ship's hold is not known. (A ton of soft coal occupies about 42 cubic feet.) The 100-cubic-feet-per-ton formula is used in measuring gross tonnage regardless of the type of cargo. Even in computing gross tonnage, certain spaces in a ship may be arbitrarily excluded.

Net tonnage (also called registered tonnage) is the actual cargo-carrying capacity of a ship in terms of 100 cubic feet. It is the gross tonnage less the space occupied by machinery, fuel water tanks, master's cabin, crew's quarters, navigation space and other things representing no earning power.

Dead-weight tonnage, the term generally used in construction statistics, is the weight in long tons of any kind of cargo required to depress the ship from the light water line, when only machinery and equipment are on board, to the load line or the safe limit of loading. It represents the weight of the cargo, fuel, stores, water, crew, passengers and whatever else the vessel is designed to carry with safety. Dead-weight tonnage is measured by the difference in displacement of the ship when light and when loaded.

Displacement tonnage, used in designating the size of warships, is the total weight of the vessel in tons of 2,240 pounds and everything on board measured by the weight of the sea water displaced. This is based on the principle discovered by Archimedes, that a floating body displaces a volume of water or other liquid equal to its own weight. A battleship with a tonnage of 35,000 displaces 35,000 long tons of sea water. A merchant ship with a displacement tonnage of 12,000 might have a dead-weight tonnage of 6,000 and a net (registered) tonnage of 4,000.

And finally, tonnage may refer to the ships collectively in the fleet of a company or of the nation. One can go aweigh off in discussing this subject.

Courtesy of T. Douglas MacMullen, "Marine Engineering".

SODIUM NITRITE NOT HAZARDOUS FOR CORROSION CONTROL

In the September 1954 issue of the *Proceedings of the Merchant Marine Council*, an article appeared entitled "Tanker Arrives Minus Amidships Tanks." This article related the details surrounding an unexplained explosion that occurred off the West Coast aboard a T–2 tanker in ballast.

The Marine Board of Investigation in their official report ventured the hypothesis that the use of sodium nitrite in corrosion control may have contributed to the violence and propagation of the explosion.

It was brought out during the investigation that this tanker, and others owned by the same company, utilized an anti-corrosion control system employing a sodium nitrite and caustic soda wash. In this system those tanks not used as ballast tanks were fitted with a piping system by which they were sprayed with this wash. This spray served as a cleaning agent and provided a protective film against corrosion on the interior surfaces. The two tanks that exploded on this particular tanker were so fitted.

Since the problem of interior corrosion is a costly and serious problem, the owners were anxious to explore thoroughly the possibility that the chemicals used might contribute in anyway to the initiation or violence of an explosion. Accordingly, extensive research and tests were undertaken by a recognized research organization.

The Coast Guard has just received the final technical report on the laboratory analysis and tests. The significant findings in the report are as follows:

1. Sodium nitrite has no effect on the ignition temperature of gasoline.
2. There was no tendency for a sudden impact to cause sparking or detonation of sodium nitrite-rust scale mixtures.
3. Tests to determine if friction can cause a spark with rust and sodium nitrite crystals, alone or in presence of gasoline, indicated that—"no burning or sparking occurred in any of the tests."
4. Qualitative tests were made at very high temperatures—"to determine if pronounced decomposition or oxidation effects would occur under severe conditions." — "No explosive effects were noted."

The report ends: "Results of this investigation indicate that sodium nitrite or Nitrox has no significant effect on flammability properties of hydrocarbons, and that sodium nitrite would not cause sparking or detonation if it were hit by a sudden impact. It is concluded that sodium nitrite as used for corrosion control in cargo compartments does not increase the explosion hazards aboard tankers."

LIBERTY SHIP NEW LOOK

The Maritime Administration has released further details on the $11,000,000 modernization program to convert Liberty ships to various forms of propulsion.

A 6000 hp geared diesel engine will be installed on the *SS Thomas Nelson* and a 6000 hp steam turbine on the *SS Benjamin Chew*. Another vessel is to be converted to a free piston gas-generator turbine and a fourth will be fitted with a 6000 hp gas turbine engine. The gas turbine will operate on low grade fuel oil.

The increase in hp from 2500 to 6000 will require lengthening the ships by 25 feet.

In addition to this modernization, one vessel will be fitted for experimental purposes with a 17 foot, 6 inch controllable-pitch propeller.

The entire propulsion improvement program for Liberty ships was authorized by the 83d Congress.

GOOD HOUSEKEEPING AND MAINTENANCE

Good housekeeping is not restricted to the Steward's Department aboard merchant ships, although a good deal of the time and effort of the members of this department are devoted to such work. Good housekeeping practices are just as important, however, in the engineroom and on deck, for injuries resulting from bad housekeeping practices seldom show partiality to any one department.

A check of the accident statistics will bear this statement out, and will also show that housekeeping is one of the most important factors in accident prevention aboard ship. Seamen are constantly tripping over loose objects on decks, ladders, platforms, etc.; being hit by articles falling from overhead; or are continually slipping on greasy, wet, or dirty decks. Injuries resulting from these sources, especially while handling materials, lead all others numerically aboard ship.

It is obvious therefore that housekeeping is more than cleanliness; it is cleanliness and order. A place is in order when there are no unnecessary things about and those that are necessary are in their proper places. Coming aboard a ship where the gangway is blocked by stores, where scuppers are discharging onto the gangway, or where doorways and passageways are cluttered up, can only mean that poor housekeeping practices are being followed aboard this vessel.

Good housekeeping aboard ship, on the other hand, is indicated by many things. For example, decks and floor plates should be free from grease and oil spillage. Machinery spaces, workrooms—in fact the whole ship—should be neat and orderly, with no excessive material, waste, or debris lying around. Orderliness and good housekeeping are fundamentals of good seamanship. Where these conditions are found there also is found a low injury rate.

An occasional grand cleanup and setting in order, such as sometimes occurs when a new Master or other officer comes aboard, or while undergoing annual inspection, does not necessarily constitute good housekeeping. There is nothing wrong with such cleanups, unless it is the fact that until such action is taken the conditions requiring attention may have actually jeopardized the safety of the personnel aboard. Another possible objection to these periodic cleanups is that unless they are planned and coupled with a reasonable degree of order and system in all operations, conditions will soon be as bad as before. Lasting improvement will result only if in addition to a cleanup, the sources of dirt and disorder are removed systematically by planned operations rather than just haphazard methods.

RESPONSIBILITY

Responsibility for these improved housekeeping practices rests primarily with the supervisory personnel aboard each vessel. They must be constantly on the alert for any and all poor housekeeping practices. In addition they must organize the necessary housekeeping work, and after assigning personnel to do it, must follow up by seeing that the job is done properly. An important factor in this connection is that the head of each department must see that the necessary equipment and materials for such work are maintained on board and stored in an accessible place.

Supervisory personnel with the attitude that "accidents are bound to happen," will generally find that accidents do happen—not that they were inevitable but simply because their causes were not sought out. Where such personnel recognize that certain accidents may be the result of inefficient housekeeping practices and attempt to do something about such situations a safety movement has taken hold, and injuries to personnel will surely decrease.

Good housekeeping practices however are not confined to the supervisory personnel aboard ship. For experience in the past has shown that a sizeable percentage of all accidents to marine personnel result from carelessness, negligence, or improper working habits on their part. Too often accident reports indicate seamen are injured by their own poor housekeeping practices. For example, seamen have reported falling twice on the same slippery deck, or have reported injuries caused by objects they personally left lying around.

Another reason why everyone on board should be concerned about good housekeeping practices, particularly with regard to living quarters, is that the ship is both a place of employment and a home. Everyone must cooperate in this matter, for a single bad housekeeper aboard a vessel not only leaves much disorder in his path, but also sets an example which is disruptive to the morale of all the other crew members.

PROPER STOWAGE

Another important feature of good housekeeping on board ship is proper stowage of stores, supplies, spare parts, etc. Improper piling and stowage of such materials is a major cause of poor housekeeping. These items should, therefore, be properly stowed as soon as possible, accessible to where they are used, and kept out of passageways and off decks, where they can cause injuries by being tripped over, etc.

Slips and falls resulting from unsafe working conditions, such as wet or oily decks, obstructions in passageways and on ladders, may produce even more serious disabilities when they occur while carrying or lifting any of the materials mentioned above. Precautions against improper handling methods and poor housekeeping must be taken therefore when personnel are assigned to this work.

Frequently seamen overload themselves with large, bulky items which obstruct their view to such an extent that they could not possibly see a hazard in the form of oil or other object on the deck ahead of them. Many injuries result from such practices, and for this reason some steamship companies reduce manual handling of materials as much as possible. For example, the ship's gear is required to be used whenever possible to bring stores and equipment aboard rather than have them brought over the gangway.

Another precaution for preventing such injuries is to see that materials, such as oil, grease, graphite and other substances which may cause slipping hazards are not permitted to accumulate on deck. Any such materials which find their way to the deck, whether it is in the galley, engineroom, or at the gangway, should be cleaned up immediately.

Cleanliness of machines and other equipment, coupled with proper means of oiling will do much to eliminate the source of such hazards, for bad housekeeping and disorder seldom accompany good maintenance.

Where rags are used to clean up oil from the deck or around machinery

they should be disposed of immediately since they represent a possible source of fire. Rags which become saturated with paint should be handled in the same manner, since they are equally dangerous. For this reason the paint locker should receive particular attention to make sure that no such source of spontaneous combustion is permitted to exist. Good housekeeping in the paint locker also includes seeing that all paint covers are on tight, and that paint is stowed properly to prevent spilling or tipping, even in heavy weather. Such precautions reduce the hazards in the paint locker considerably, since they prevent the escape of vapors into the paint locker and also prevent the paint from coming in contact with the air it needs for combustion.

TOOLS

Tools are often a prolific source of injury to seamen because of poor housekeeping and maintenance practices. Countless injuries occur when defective tools are used, and even greater numbers occur when small hand tools are left lying around on deck waiting for someone to trip over them. Here are two causes of accident which can be readily corrected aboard ship. For example hand tools should not be used unless in good condition. Frequent inspection of such tools followed by immediate replacement of those found to be defective will decrease the number of injuries to shipboard personnel.

Suitable racks and holders should also be provided to hold small tools, and other small objects for that matter such as nuts and bolts, short pieces of pipe, etc., so that they will not become hazards underfoot. Another advantage derived from neat and proper stowage of tools and equipment is that much time is saved in not having to search the ship for various equipment, as is the case when the "helter-skelter" method of stowing tools and equipment is used.

It is possible to go from department to department and job to job enumerating various points of good housekeeping and maintenance in each. Such is not necessary when it is realized that this work is not a one-man job, nor a one-day-a-month job aboard ship. This work must be properly planned and those who are to perform it must be properly trained and supervised, not just occasionally but continuously. Once an organized system for maintaining good housekeeping practices aboard a particular ship is set up, everyone must cooperate to make this program work the year around—for such cooperation is just as essential here as in any other safety work.

Good housekeeping and proper maintenance are responsible in no small way for safe and efficient ship operations. These two factors probably have a closer relation to safety than any other shipboard operation. For this reason they must receive constant attention instead of only occasional thought when conditions become so bad some action is necessary.

LIST OF COUNTRIES WHICH HAVE ACCEPTED THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1948, AND OF TERRITORIES TO WHICH THE CONVENTION HAS BEEN EXTENDED

ACCEPTANCES DEPOSITED

COUNTRY	DATE OF DEPOSIT	EFFECTIVE DATE
United Kingdom	Sept. 30, 1949	Nov. 19, 1952
New Zealand	Dec. 29, 1949	
United States of America	Jan. 5, 1950	
France	Feb. 8, 1950	
Netherlands	Apr. 18, 1950	
Sweden	May 16, 1950	
Norway	June 12, 1950	
Union of South Africa	Aug. 18, 1950	
Iceland	Oct. 19, 1950	
Portugal	Nov. 30, 1950	
Canada	Feb. 1, 1951	
Pakistan	Feb. 1, 1951	
Denmark	Oct. 15, 1951	
Yugoslavia	Nov. 13, 1951	
Italy	Nov. 19, 1951	
Belgium	Dec. 5, 1951	
Israel	July 2, 1952	
Japan	July 23, 1952	
Philippines	Oct. 2, 1952	
India	Nov. 19, 1952	
Spain	Dec. 26, 1952	Mar. 26, 1953
Liberia	Jan. 13, 1953	Apr. 13, 1953
Chile	June 5, 1953	Sept. 5, 1953
Finland	Aug. 13, 1953	Nov. 13, 1953
Irish Republic	Aug. 19, 1953	Nov. 19, 1953
Viet Nam	Sept. 12, 1953	Dec. 12, 1953
Panama	Jan. 8, 1954	Apr. 8, 1954
Greece	Jan. 21, 1954	Apr. 21, 1954
Nicaragua	Feb. 19, 1954	May 19, 1954
Cambodia	Mar. 2, 1954	June 2, 1954
U. S. S. R.	May 10, 1954	Aug. 10, 1954
Switzerland	May 19, 1954	Aug. 19, 1954
Haiti	May 26, 1954	Aug. 26, 1954
Egypt	June 11, 1954	Sept. 11, 1954
Poland	June 11, 1954	Sept. 11, 1954
Federal Republic of Germany	Aug. 19, 1954	Nov. 19, 1954
Cuba	Aug. 26, 1954	Nov. 26, 1954
Roumanian People's Republic	Sept. 30, 1954	Dec. 30, 1954

EXTENSIONS NOTIFIED

TERRITORY	EFFECTIVE DATE
Alaska, Hawaii and Puerto Rico	Nov. 19, 1952
Spanish Protectorate of Morocco and the Spanish Colonies	Mar. 26, 1953
Hong Kong	Apr. 7, 1953
Somaliland	July 6, 1953
Singapore	Aug. 5, 1953
Federation of Malaya	Oct. 21, 1953

LESSONS FROM CASUALTIES

THE CONDUCTOR WAS HUMAN

Death by electrocution struck tragically one afternoon aboard a freighter while a routine electrical repair was being undertaken. The Chief Electrician, an efficient technician, made one mistake which cost him his life almost instantly. However, a major contributing factor to the casualty was a faulty installation which had been made at least two years previously and which was not too apparent to the Chief Electrician.

During the morning the Chief Engineer discovered a ground in the motor of a forced draft blower. He issued orders to secure this blower and place another in operation instead. When this was done, however, it was found that the second blower started to overspeed and could not be controlled by use of its rheostat. The Chief Engineer then instructed the Chief Electrician to disconnect this faulty rheostat and replace it with a new one. A rheostat of the exact size needed could not be located in the vessel's spare parts, so it was decided to disconnect the leads to the faulty rheostat and run these leads through the main gauge board to a smaller rheostat to be temporarily mounted on the front of the main gauge board. The Chief Engineer issued these instructions to the Chief Electrician about midmorning. He did not again see the Chief Electrician alive. The job was considered to be of a purely routine nature and not requiring further supervision by the Chief Engineer.

The main gauge board was located in a thwartships position forward and slightly outboard of the port boiler. The back of this gauge board was a portion of the after boundary of the machine shop. Inside the machine shop and directly forward of the main gauge board was a work bench, the back of which was a tall tool board. The space between the back of the tool board and the back of the main gauge board was about 24 in. fore and aft and about 6 ft. athwartships. Mounted on the back of the work bench were three field rheostats. The original handles on these resistors had been removed and a separate piece of metallic shafting had been added to the short metallic stub which originally held the rheostat handle. This shafting was extended about waist high, across the 24-in. space between the boards, and through the main gauge board, each shaft being insulated by a fibre bushing where it passed through the main board. The original rheostat handles were then attached by set screws to these shafts on the face of the main gauge board. Apparently this arrangement had been installed at some time after the original installation. The rheostats were fitted to the back of the tool board rather than the back of the main gauge board, due to the maze of piping, tubing, and wiring on the back of the main gauge board.

The First Assistant Engineer discussed the job of replacing the faulty rheostat with the Chief Electrician before the job was started. After lunch, the First Assistant Engineer was in the fireroom near the gauge board and was advised by the Chief Electrician that the job was nearing completion. The first Assistant was then called away on another repair job. About two hours later he returned to the gauge board to enlist the assistance of the Chief Electrician in the additional repairs. When he looked behind the gauge board he found the Chief Electrician slumped over the rheostat shafting.

The First Assistant immediately called for help, de-energized the rheostats, and removed the Chief Electrician's body. Although there were no signs of life, artificial respiration was begun immediately and a police emergency squad and a hospital ambulance were summoned. The doctor arriving on the ambulance pronounced the Chief Electrician dead. His body was removed from the vessel. Examination of the gauge board indicated that he had only to run the rheostat leads through the board itself, mount the rheostat on the face of the board, and connect up the leads to complete the job.

When the Chief Electrician's body was originally removed from behind the gauge board, severe burns were found on the under side of his right arm and on the left portion of his chest and on his left shoulder. These were the points where he had leaned on the metallic rheostat shafting. Following the accident, it was found that, while there was no leakage to ground in any of the three rheostat circuits, the through metallic shafts connecting the rheostats to their handles were energized with 120 volts when in use. All engineering personnel on the ship disclaimed any knowledge of this condition and had assumed that the three shafts were not subject to any voltage. The Chief Engineer had experienced a slight shock at some time in the past when he accidentally came in contact with one of these shafts, but he had attributed this to insulation-breakdown within the rheostat itself which would account for a slight potential on the shaft. No extensive work had been performed behind this main gauge board for at least two years previously.

Conditions in the fireroom at the time this accident occurred were very humid. At the point where the Chief Electrician's body was found there was condensation on the deck and the temperature was estimated to be at least 100° F.

Obviously the Chief Electrician was aware that there was, or could easily be, some voltage on these shafts. Since it was practically impossible to reach the rheostat on which he was working without touching one or both of the other two shafts, it is most likely that he had experienced some shock before his final accident. It is quite likely that when he began the job, with his skin relatively dry and his feet insulated from the deck by rubber-soled shoes, any shock he noticed would have been very slight. However, as he progressed with the job, perspiring profusely, the surface resistance of his body would, due to moisture, be greatly lowered. Under these conditions any contact with the metallic shafts with moist skin and with some other part of his body grounded to the ship's structure would allow a lethal current to flow through his body, and it is believed that this is what happened. It is known that a current above 90 milliamperes is likely to cause death, especially when the path of the current includes the area near the heart. It is also known that while the electrical resistance of dry, calloused skin, such as on the hands, may be as high as 1,000,000 ohms, when the skin is wet with salt water or salty perspiration, this electrical resistance of the skin may fall as low as 300 ohms. With a potential of 120 volts applied to such wet skin, a current of 400 milliamperes may flow.

The rheostat shaft installation as it existed at the time of the unscheduled electrocution was not in accordance with the approved practices of the Coast Guard's Electrical Engineering Regulations, the National Electrical Code, the American Institute of Electrical Engineers' Standard No. 45, or other recognized electrical safety codes. It is apparent that such installation was made at some time after the original construction of the vessel. It is likely that whoever ordered or made the installation with

the metallic shafts extending across the 24-inch space did not realize that the small metal stub shaft upon which the operating handle was orginally mounted was energized when the rheostat was in operation. Since the operating handle was insulated from this stub shaft, the above fact could have been easily overlooked. However, when the metallic shaft extensions were applied directly to the small stub shafts, the extensions themselves were automatically energized whenever the rheostats were in operation, and this dangerous condition was quite obviously overlooked by all hands from then on. It is also apparent that this arrangement of the extension shafts was made without requesting and obtaining the approval of the local Coast Guard Officer in Charge of Marine Inspection, as is required for any electrical repairs or alterations affecting the safety of the vessel.

The inherent dangers of electrical shock resulting in severe injury or death aboard ship cannot be overemphasized. Conditions of high humidity, moist skin, and the ever-present metallic structure of the ship are all too favorable for the body's conduction of electrical current when the contact with some "hot" lead or object is made. To compound these inherent hazards by allowing improper installations or alterations aboard ship is really inviting disaster.

A few simple "rules of the thumb" for safety in dealing with electrical systems aboard ship are presented here.

1. Never trust to luck with electricity. Assume that a lead or contact is "hot" unless you *know* otherwise.
2. Guard against grounding yourself if it becomes necessary to work with energized equipment. Stand on dry rubber mats or other non-conducting materials. Don't ground your body against stanchions, rails, bulkheads, etc. when performing such work.
3. Never test for voltage with the "finger" method. Depend on your voltmeter. Remember—electricity is too fast for you—and there's no warning period!
4. Always use fuse pullers to remove or install fuses—*not* human fingers.
5. Don't make electrical alterations or repairs without proper authority—there may be some very good reason, which you didn't think of, why you shouldn't do it your way.
6. Beware of working near high voltage leads when underway at sea. Any ship afloat can take a sudden and unexpected roll or lurch.

SHAKY SHAFT SHINE

One of the primary rules of safety in occupations involving machinery, either afloat or ashore, is: "Never wear loose clothing or allow clothing or other materials such as cleaning rags to come in close proximity to moving machinery." As obvious as this rule may seem, the need for its constant repetition is also apparent. The inherent danger of moving machinery seizing clothing or rags is a danger which is easy to overlook; "familiarity breeds contempt." The possibility of a shirt tail or tattered end of a rag catching in moving machinery parts is probably apparent to the most calloused worker, but the instantaneous and dangerous results which may follow are probably not given much thought. That a loose cuff dangling perilously close to a roller could result, in less than a split second, in one's arm being wrapped two or three times around the machinery with compound fractures, torn flesh, and spurting blood, may easily be overlooked. A loose dangling necktie could lead to decapitation or, at least, an awfully sore throat!

A First Assistant Engineer serving aboard a Liberty ship was seriously injured and suffered excruciating pain when he neglected the above principles. It seems that the custom had grown on this vessel of shining sections of line shafting by means of coca mats suspended where they would rub on the revolving shaft sections. The avowed purpose of these mats was to keep the shaft shiny and rust-free. While this may sound like a "Ruhe Goldberg" arrangement to sensible and careful engineers, it is a practice which has been observed on many vessels, and there is just enough practical logic to the means of accomplishing the desired result to make this process appealing to the persons responsible for the appearance of the machinery, in disregard of basic safety.

While the First Assistant was hanging the coca mat over the line shaft near a shaft coupling, a small piece of the mat jammed in the narrow space between the revolving shaft and the coupling guard. Instantaneously, the mat was drawn under the guard as the shaft turned and the First Assistant's right hand was jammed under the guard. Alerted by the man's screams of pain, the engineers on watch stopped the main engine. It was necessary for them to use crowbars on the coupling guard to extricate his hand. The hand and wrist were found to be severely lacerated, with compound fractures, and the vessel was diverted to the nearest port in order to hospitalize the engineer as quickly as possible.

A painful, disabling, and expensive accident was caused by disregard of one of the simplest rules of safety. It is often true that when a process is so simple or dull that thinking goes out the window, safety will fly right out with it. When the brain is no longer controlling the machinery, the machinery may take over and control you. Give it an inch of cloth and it may take a yard. A good engineer will always lend his machinery a helping hand but only in a manner whereby he can get it back in one piece!

MAKE YOURSELF UNDERSTOOD

As the Mate finished giving the Boatswain his work orders for the day, he remembered one more needed job and said, "Paint out the fantail when you finish the other work." This was a simple order but it almost resulted in the Boatswain losing his foot.

The vessel was an ore carrier downbound in Lake Superior, heading for Sault Ste. Marie. Early in the afternoon the Boatswain took his gang aft and started painting the fantail. The work progressed satisfactorily until 4 p. m. By then everything was painted except the area abaft the rudder quadrant. The Boatswain, recognizing the danger in this area, with the vessel underway, finished painting this area himself. Then, as he was stepping down from a temporary staging, his foot slipped and he stepped in a notch in the stern frame. In the Boatswain's own words: "* * * then the quadrant moved to the right just enough to jam my foot against the frame. It held me for about a minute."

Lucky for the Boatswain the helmsman at that moment was not required to use full rudder. A few more degrees and the Boatswain would have been minus a foot. As it was his injuries were not permanent and he was released from the hospital in 7 days.

In this case the Boatswain placed himself in a dangerous position in order to do the job. The Mate had not intended that the painting abaft the quadrant be done until alongside the dock, yet he had not explicitly said that when he gave the order. It is a good safety practice always to make yourself understood when giving orders.

APPENDIX

AMENDMENTS TO REGULATIONS

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

TITLE 33—NAVIGATION AND NAVIGABLE WATERS

Chapter I—Coast Guard, Department of the Treasury

Subchapter K—Security of Vessels

[CGFR 55-6]

PART 124—CONTROL OVER MOVEMENT OF VESSELS

§ 124.10 *Advance notice of vessel's time of arrival to Captain of the Port.*

(a) The master or agents of every vessel (foreign and domestic) shall give at least 24 hours' advance notice of the time of such vessel's arrival to the Captain of the Port where the vessel is to arrive. The master or agents of every foreign vessel, as well as every documented vessel of the United States, destined from one port or place to another port or place shall give at least 24 hours' advance notice of the time of such vessel's arrival to the Captain of the Port where the vessel is to arrive. For such foreign and domestic vessels, this 24 hours' advance notice of time of arrival is applicable at every port of call. In any case where the port of arrival is not located within the geographical area assigned to a particular Captain of the Port, this advance notice of time of arrival shall be made to the Commander of the Coast Guard District in which such a port or place is located. In a case of force majeure, if it is not possible to give at least a 24 hours' advance notice of time of arrival, then an advance notice as early as practicable shall be furnished.

(b) The master or agents of a vessel engaged upon a scheduled route need not furnish the advance notice of arrival in individual instances if a copy of the schedule is filed with the Captain of the Port for each port of call named in the schedule and the times of arrival at each such port are adhered to.

(c) Failure to give advance notice will subject the master or agents of a vessel to the penalties of fine and imprisonment, as well as subject the vessel to seizure and forfeiture, as provided in section 2, title II of the act of June 15, 1917, as amended, 50 U. S. C. 192. In addition, such failure may result in delay in the movement of the vessel from the harbor entrance to her facility destination within the particular port.

(d) The requirements of this section do not apply to the following:

(1) Vessels navigating the Great Lakes and their connecting and tributary waters;

(2) Vessels which, during the course of their voyages, do not navigate any portion of the high seas; and

(3) Vessels which are numbered by the Coast Guard.

(e) The term "high seas", as used in this section, shall be construed to mean any portion of the open sea below the low water mark along the coasts and projections of the land across the entrances of bays, sounds and other bodies of water which join the open sea.

Federal Register of Saturday, March 12, 1955)

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 1-55

(Excerpts of)

February 17, 1955

Subj: Right of appeal in merchant vessel matters and procedures to be followed

Purpose. In the administration of navigation and vessel inspection laws and the regulations promulgated thereunder the right of appeal and procedures to be followed depend in part upon circumstances under which a person may feel that a decision or action of an Officer in Charge, Marine Inspection, or a Coast Guard District Commander is not equitable. This circular is intended to clarify the requirements regarding this right of appeal and the procedures to be followed.

Right of appeal. This right of appeal to any person aggrieved by any decision or action of an Officer in Charge, Marine Inspection, or a marine inspector under his supervision is granted by regulations of the Commandant. The right of appeal and procedures to be followed are described in section 2.01-70 in Title 46, Code of Federal Regulations, and reads as follows:

§ 2.01-70 *Appeals*—(a) *General.* Any person aggrieved by any decision or action of the Officer in Charge, Marine Inspection, may appeal therefrom to the Coast Guard District Commander of the district in which the action or decision was made. A further appeal may be made to the Commandant, U. S. Coast Guard, from the decision of the District Commander.

(b) *Time limits.* (1) Appeals from decisions of the inspectors or the Officer in Charge, Marine Inspection, to the Coast Guard District Commander, shall be made in writing within 30 days after the decisions or actions appealed from shall have been rendered or taken. Such appeals shall set forth the requirements appealed from and the reasons why the decision or action should be set aside or revised.

(2) Appeals from the decisions of the Coast Guard District Commander to the Commandant shall be made in writing within 30 days after the decisions appealed from shall have been rendered.

(c) *Decision on appeals.* Pending the determination of the appeal, the decision of the Officer in Charge, Marine Inspection, shall remain in effect. The decision of the Commandant is final.

Vessel inspection laws and regulations. This right of appeal and procedures to be followed, as described in 46 CFR 2.01-70, permit any person aggrieved by a decision or action of an Officer in Charge, Marine Inspection, with respect to vessels inspected and certificated by the Coast Guard, as well as equipment and safety requirements applicable to uninspected vessels (motorboats) to have the initial decision reviewed by proper authority. This right of appeal and procedures to be followed are specifically applicable in the administration of vessel inspection laws and regulations regarding the following:

Bulk Grain Cargoes (46 CFR, Subchapter M)
Cargo and Miscellaneous Vessels (46 CFR, Subchapter I)
Civilian Nautical School Vessels (46 CFR, Subchapter R)
Electrical Engineering (46 CFR, Subchapter J)
Marine Engineering (46 CFR, Subchapters F and G)
Numbering Undocumented Vessels (46 CFR, Subchapter S)
Passenger Vessels (46 CFR, Subchapter H)

Specifications for Equipment and Materials (46 CFR, Subchapter Q)
Tank Vessels (46 CFR, Subchapter D)
Uninspected Vessels (46 CFR, Subchapter C)
Licensing and Certificating of Merchant Marine Officers and Seamen (46 CFR, Subchapter B)
Load Lines (46 CFR, Subchapter E)
Manning Requirements (46 CFR, Subchapter P)
Overtime Services (46 CFR, Subchapter L)
Suspension and Revocation Proceedings (46 CFR, Subchapter K)
Transportation, Stowage or Use of Explosives or Other Dangerous Articles or Substances, and Combustible Liquids on Board Vessels (46 CFR, Subchapter N)

Action. The right of appeal and the procedures to be followed set forth in 46 CFR 2.01–70 shall be followed by any person aggrieved by any decision or action of an Officer in Charge, Marine Inspection, except in specific cases enumerated in paragraph 5 of this circular.

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 1, 1955 (CGFR 55–10). Copies of these documents may be obtained from the Superintendent of Documents, Washington 25, D. C.]

It will be noted that:

(a) All the approvals listed in this document which extend approvals previously published in the FEDERAL REGISTER, except approvals under Specification Subpart 160.008 covered in paragraph (b) below, are prescribed and shall be in effect for a period of five years from their respective dates as indicated at the end of each approval, unless sooner canceled or suspended by proper authority; and,

(b) All the approvals for nonstandard buoyant cushions under Specification Subpart 160.008 listed in this document which extend approvals previously published in the FEDERAL REGISTER are prescribed and shall be in effect until October 1, 1955, from their respective dates as indicated at the end of each approval, unless sooner canceled or suspended by proper authority; and,

(c) All the approvals for standard kapok buoyant cushions under Specification Subpart 160.007 and for nonstandard buoyant cushions under Specification Subpart 160.008 listed in this document (which are not covered by paragraph (b) above) are prescribed and shall be in effect until October 1, 1955, from the date of publication of this document in the FEDERAL REGISTER, unless sooner canceled or suspended by proper authority; and,

(d) All the other approvals listed in this document (which are not covered by paragraphs (a) to (c), inclusive, above) are prescribed and shall be in effect for a period of five years from the date of publication of this document in the FEDERAL REGISTER, unless sooner canceled or suspended by proper authority.

ARTICLES OF SHIPS' STORES AND SUPPLIES

Articles of ships' stores and supplies certificated from January 28 to February 28, 1955, 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

Gamlen Chemical Co., 4 Midland Ave., East Patterson, N. J. Certificate No. 198, dated February 3, 1955. "GAMLEN SOLVENT 265."

Dunham Chemical Co., 840 N. Michigan Ave., Chicago 11, Ill. Certificate No. 199, dated February 4, 1955. "PD–5 (B)."

Elraco Engineering Co., 14th and Garden Sts., Hoboken, N. J. Certificate No. 264, dated February 16, 1955. "ELRACO DEGREASER."

Chemical Detergents Co., Inc., 27 William St., New York 5, N. Y. Certificate No. 327, dated February 16, 1955. "PLANISOL."

Virginia Smelting Co., West Norfolk, Va. Certificate No. 200, dated February 25, 1955. "LETHALAIRE R–12."

CANCELED

(Failed to Renew in Accordance with 46 CFR 147.03–9)

Chemical Compounding Corp. 262 Huron St., Brooklyn 22, N. Y. Certificate No. 227, dated February 28, 1955. "LUSTERIZE."

Chemical Compounding Corp. 262 Huron St., Brooklyn 22, N. Y. Certificate No. 228, dated February 28, 1955. "ALL-BRITE."

Chemical Compounding Corp. 262 Huron St., Brooklyn 22, N. Y. Certificate No. 229, dated February 28, 1955. "SMITH & JESSEN CLEANER."

Chemical Compounding Corp. 262 Huron St., Brooklyn 22, N. Y. Certificate No. 230, dated February 28, 1955. "KLEEN-ALL."

Chemical Compounding Corp. 262 Huron St., Brooklyn 22, N. Y. Certificate No. 275, dated February 28, 1955. "CHEMICAL COMPOUNDING CORPORATION DISINFECTANT."

Brilco Laboratories. 1553—63rd St., Brooklyn 19, N. Y. Certificate No. 371, dated February 28, 1955. "BRILCO ELECTRICAL PARTS CLEANER."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 277, dated February 28, 1955. "SCRAMSOOT GREEN."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 278, dated February 28, 1955. "SCRAMSOOT BLUE."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 279, dated February 28, 1955. "SCRAMSLUDGE (DIESEL)."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 280, dated February 28, 1955. "SCRAMSLUDGE (REGULAR)."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 281, dated February 28, 1955. "SCRAMSLUDGE (PREMIUM)."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 282, dated February 28, 1955. "SCRAMSLUDGE (BLACK)."

Leadership Products Corp. 135–21 Northern Blvd., Flushing, L. I., N. Y. Certificate No. 291, dated February 28, 1955. "SCRAMSLUDGE-DUAL."

Virginia Smelting Company, West Norfolk, Va. Certificate No. 329, dated February 28, 1955. "LETHALAIRE S–200 FORMULA."

AFFIDAVITS

The following affidavits were accepted during the period from February 16 to March 15, 1955:

Sporlan Valve Company, 7525 Sussex Ave., St. Louis 17, Missouri VALVES.

Electrocast Steel Foundry Company, 4701 W. Fifteenth Place, Cicero 50, Illinois CASTINGS.


SAFETY
IS always
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