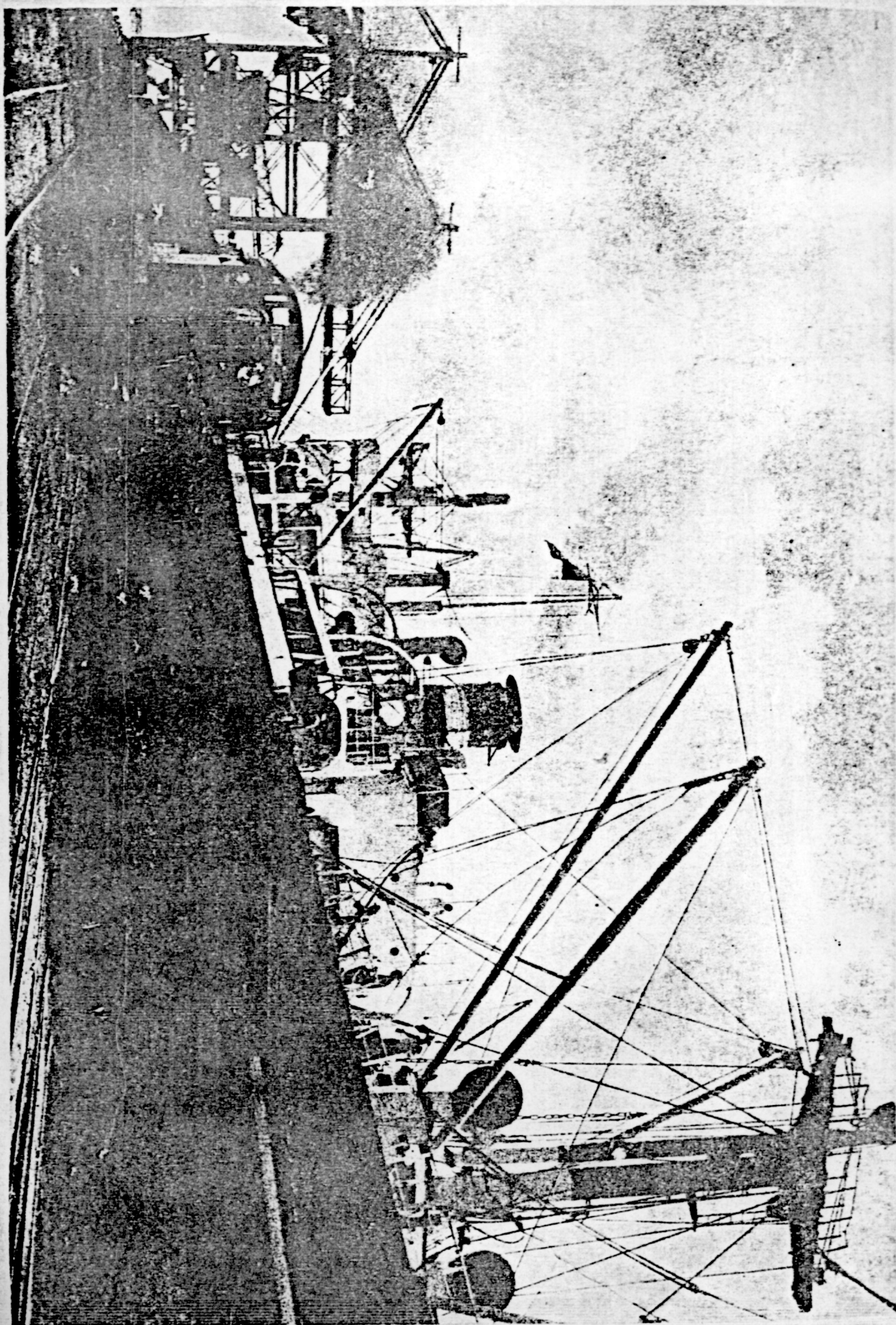


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Conscientious Mickey Hughes blames poor cargo stowage for many unexplained marine disasters.

Baltimore ranks as the nation's second port in terms of export tonnage. Ships from all over the world load and unload at its docks.



He Stows Dangerous Cargo

By JOHN MALONEY

A cargo of steel rails can sink a ship as effectively as a torpedo, and grain in the hold can become a high explosive. Mickey Hughes, ship runner, guards against these hazards that have caused such disasters as the strange loss of the S. S. Eldorado.

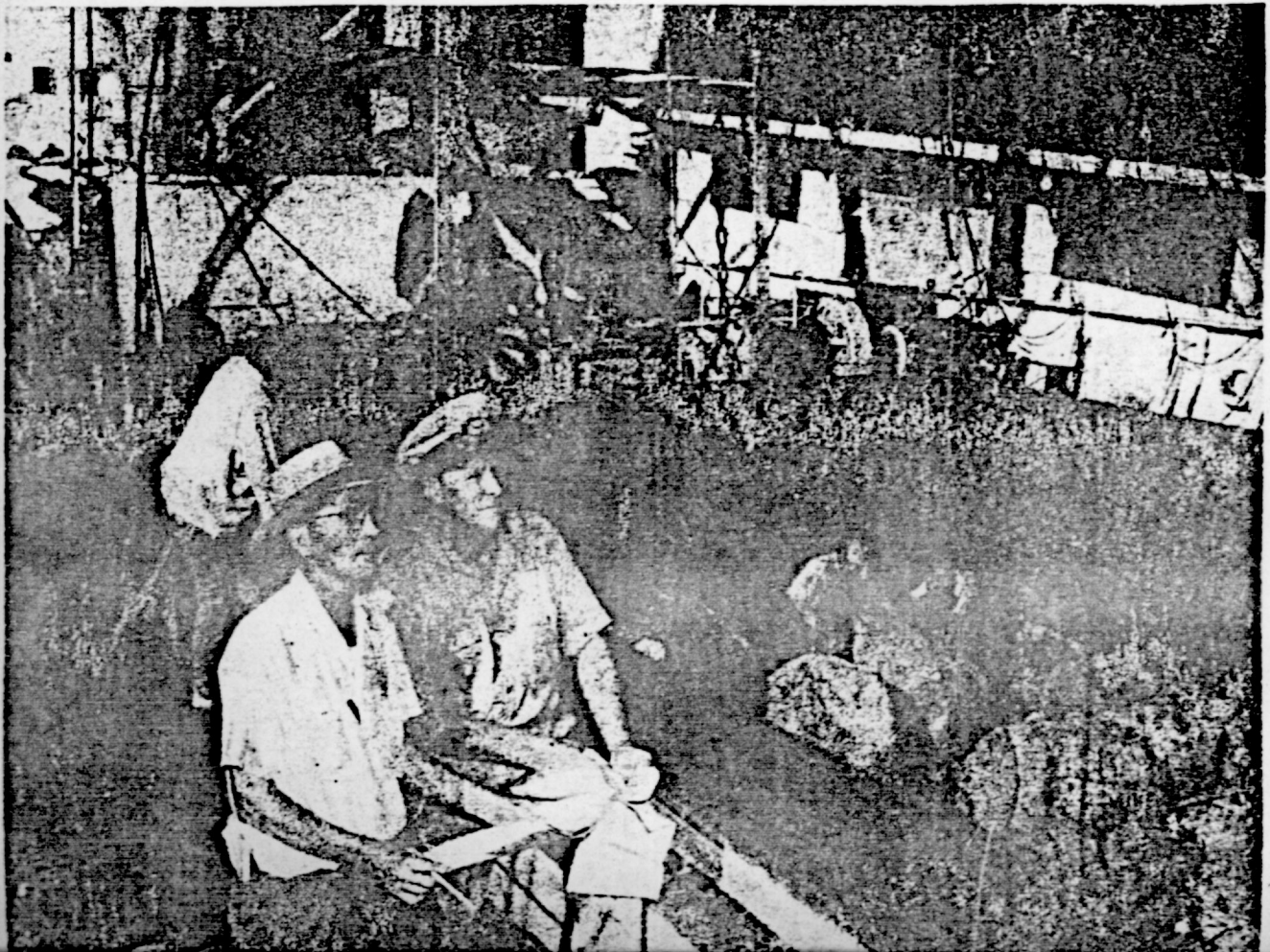
ON a fall day in 1941 the 7000-ton Argentine freighter San Gabriel cleared her Baltimore pier and steamed down Chesapeake Bay, out through the Virginia Capes, on the first leg of her long voyage to Singapore, Bangkok and Penang. Dirty weather was brewing out over the Atlantic. During the first twenty-four hours, the San Gabriel, as well as several other ships, reported high seas and winds of near-hurricane force, but that was little cause for alarm aboard a two-year-old vessel rated 100 A-1 by Lloyd's. Then, when she was two days out of Baltimore, the Orient-bound freighter sent a faint and incomplete SOS. All that listening radio operators got was a position report that placed her about 120 miles off the Florida coast and the words: "We are listing." Then the message was abruptly cut off.

Coast Guard planes took off from Jacksonville, and three nearby ships raced for the position given, one of them reaching it less than two hours after receiving the distress signal. There was no sign of the San Gabriel and her crew of thirty-two—no floating debris and, as far as the searchers could determine, no oil slicks. From that day to this, nothing has been

learned of what happened to the vessel. Her fate has been put down as another unsolved mystery of the sea.

But to Mickey Hughes, a man who has been working on Baltimore's water front for the past thirty years, the San Gabriel's disappearance isn't impossible to explain. "Another case of bad ship loading," he guesses. "Her cargo shifted, and she turned turtle and went down before a boat could be launched or her radio operator could get out a complete SOS."

Mickey's word carries a lot of weight around the Baltimore docks, for he probably has supervised the loading of as many cargo ships as any other man on the Atlantic seaboard. He's known as a ship runner—"Just another name for a dockside Jack-of-all-trades," he says—and his responsibilities are as involved as they are unfathomable to the average landlubber. Briefly, he has to make sure that the cargo for an outgoing ship arrives on the pier in the proper sequence and at the proper time, and that it is stowed aboard in a manner that will both insure the ship's safety and expedite unloading at the port of destination. If Mickey's judgment has erred, he's



more than likely to hear from the vessel's skipper, for a mere 300 tons of badly placed cargo in a 7000-ton freighter can affect the way she steers, and a ship's safety at sea may depend upon how she answers the wheel.

Nobody knows exactly how many ships during the past century have cleared American ports only to disappear without leaving any clues as to their fate. But from 1870 to 1914, there were thirty-six such unexplained losses in the North Atlantic alone, and in these disasters 1984 persons were carried to a mysterious death. Hughes feels that many of these tragedies may have been caused by badly stowed cargo. "Until the beginning of World War I," he said, "there was little organization among stevedore gangs or loading supervision by either representatives of the Government or marine underwriters. I wouldn't say that ship loading today is either an art or an exact science, but at least it's supervised by experienced hands. And after the years I've spent in the business, I know that cargo stowage can no more be learned from books than salvation can be guaranteed by a correspondence course in piety."

At least, he added, grinning, he knows more about cargo ships than one newly appointed Secretary of the Navy, who is supposed to have taken a look down into a ship's empty hold, turned to the skipper and exclaimed, "Why, the dern thing's holler!"

When it comes to rounding up cargo for a ship in port, Mickey's designation as runner is no misnomer. The hundreds of manufacturers and exporters in the region served by the port of Baltimore—some of them are on the Great Lakes or the Mississippi, others in industrial centers like Wheeling and Pittsburgh—generally commission Baltimore shipping agents to handle the scores of details and mountains of paper work involved in getting their products aboard ship. In theory, these manufacturers and exporters are supposed to get their goods to the wharf

alongside the vessel at a prescribed time. "But this theory, like so many others, too often doesn't work out," Mickey complained. "Then I do have to start running—from trucking terminals and railroad freight yards to shippers' offices and even, by telephone, to Terre Haute or perhaps Louisville, to get cargo moving and into Baltimore before the ship casts off.

"During all this time," he elaborated, "I'm like the blackface target in a carnival baseball pitch with the mate yapping at me, 'Where are those damn tractors?' or, 'We're ready for ten tons of oatmeal!' The tractors are probably on a flatcar five miles from the pier and the oatmeal may be parked by a hamburger joint where the truck driver is having a bite. That's when I could use ten legs instead of two. And some people wonder why we're called runners!"

But to the runner, assembling outgoing cargo on the wharf is a small problem compared to the intricate job of stowing the goods aboard ship. There are almost as many "don't's" in ship stowage as there are in an old-maid's home, and failure to observe these restrictions can bring on serious complications. The first treatise on stowage that Mickey knows about was written by a Rotterdam Dutchman in 1760, and since that time about fifty more have been published in at least ten different languages. But Mickey doesn't put too much stock in them. "I wouldn't trust a man who had read them all," he said. "My thirty years around this water front have taught me just how much I don't know."

In these years he has supervised the loading of everything from royal luggage to locomotives, and from beehives to unassembled oil refineries. And he's bossed the unloading of enough raw rubber to make tires for every jalopy on America's highways, coffee by tens of thousands of tons, and even whole cargoes of wild animals. Busy seaports like Baltimore—Department of Commerce figures make it the

country's second in export tonnage—sometimes are confronted with veritable mountains to move across oceans. Not long ago, for example, Baltimore stevedores loaded 500 American-built railway freight cars, with considerable trackage for them to run on, aboard four freighters for delivery in France. They were shipped unassembled—rails, wheels, axles and fittings below, sides and tops on deck. It's nothing unusual, either, to see a dozen Diesel locomotives hoisted skyward, then gently lowered onto reinforced decks where they are securely lashed by especially trained dock workers. Entire oil refineries and other industrial plants, broken down into thousands of crates of unassembled machinery, leave Baltimore almost weekly, and many still-active dock workers remember when the gates for the Gatun locks in the Panama Canal were loaded here back in 1912.

"There's no such thing as a set rule for loading or unloading a ship," Mickey said. "Every commodity imported or exported must be handled in a different way. What's more, no two ships' holds are the same—the carrying space in a vessel we load today will be entirely different from that in one we sent to sea yesterday, so that to utilize every foot of stowage space it's necessary to study blueprints of each ship and know what space is available."

All this is further complicated by the fact that few ships engaged in foreign trade take on all their cargo at one American port. Baltimore is generally the last port of call for ships headed for South America, Africa or the Orient; and before putting in there, they may have taken on assorted freight in a number of ports, beginning at Halifax, then perhaps at Boston and New York, Philadelphia or Camden. Space allotted to Baltimore may therefore be limited, and runners must make every cubic foot of room count.

Conversely, ships destined for European ports by the North Atlantic route generally load Baltimore cargo first, and this must be stowed so that goods from other ports can be worked in without loss of space and so that it can be unloaded, say, at Hamburg, Antwerp, Southampton or Bordeaux without having to move other cargo, destined for later ports, to get to it. The principle of ship loading, it seems, somewhat resembles that of a jigsaw puzzle, except that a ship runner has to fit crates of dry hides snugly against mining machinery, and turpentine barrels alongside pig iron or condensed milk. "A double acrostic," said Mickey, who is a crossword-puzzle fan, "is child's play compared to the juggling a runner has to do."

A good housewife probably would be quicker than the average person at grasping the fundamental stowage principles, since each time she packs her husband's bag for a week's business trip she employs a system closely akin to the ship runner's. Things the husband will need last or least are packed first, while toothbrush, clean socks and handkerchiefs go on top. "But the wife," Mickey laughed, "can be glad she doesn't have to pack 10,000 bags of sulphate of ammonia, 700 cases of vinegar, 300 washing machines, 20 uncatered dump trucks, 19 tons of dynamite, 12 alive-and-kicking mules and 4000 tons of other cargo made up of at least 100 assorted items—all in the same bag. That, in effect, is what we have to do with a ship's empty hold. And if one china plate is cracked or a crate of orange juice is punctured when the ship reaches Cadiz or Casablanca or Colombo, the ship runner eventually will hear of it from either the shipping agent, the consignee or the insurance company."

Watching a ship being loaded, the casual observer might understandably reason, "Well, there's just so much space in the ship, and so much cargo on the dock. What's so intricate about that?" It does sound simple, but—

quickly learned that it isn't anything of the kind when I watched Mickey load an 8000-ton freighter bound for seven ports in five South American countries. The cargo included 120 bales of cotton, 2000 sacks of sugar, a consignment of road-building machinery, some marble building slabs, oil cakes, condensed milk, dried cod, 700 crates of oranges and lemons, 1500 tons of steel railway rails, 300 cases of beer, 120 barrels of turpentine, 70 pianos, 14 automobiles, 60 crates of furniture, 900 bags of fertilizer, 402 bundles of galvanized sheet iron and 68 other items classified as general cargo—a total of 6925 tons of freight to be stowed in compartments from lower deck to the open topside.

Before the ship's hoists had picked up a single load from the pier, Mickey and the first mate had worked out, on a rough diagram of the ship's holds, the proper space for each item. And I found that there were actually scores of factors to be considered in allocating this space. "Steel rails," Mickey explained, "generally go to bottom deck because of their weight. They can be extremely dangerous if they break loose and slide with the ship's motion, and more than one vessel has foundered when a breakaway rail punctured its hull." So the rails were carefully nested down in the hold like capital T's, alternate rails upside down so that they interlocked—TILTILTILTILT—then lashed across with two-by-fours. "The cotton bales are heavy, and they are going to the same port," Mickey said, giving two good reasons why they might be stowed atop the rails. "But that is a taboo combination. Friction would almost inevitably result in fire, and cotton is combustible enough by itself."

There are other reasons for keeping certain commodities apart. Mickey pointed out that he couldn't stow the sugar with the oranges and lemons or the breakfast cereal with the fish; sugar will absorb citrus smells, and the cereal would end up tasting like cod. Then, he had to make sure that the pianos were put all the way back in a hold, as far as possible from hatches where moisture could enter, and the beer had to go to the coolest part of the ship—a forward hold. The galvanized sheet iron Mickey stowed as rigidly as the rails, for, like them, it could do serious damage if it broke loose and started to slide. "The effect," he explained, "would be that of a gigantic deck of cards in constant shuffle, slicing everything in its path—including eight-by-eight deck supports and temporary stanchions." The machinery and automobiles were lashed both below and on the weather deck, and small lots of general cargo were stowed under machinery or around bulkier freight—for all space utilized is money in pocket for the shipowners.

Probably the most dangerous single consignment that Mickey had to put aboard this vessel was the 120 barrels of turpentine. It can be as touchy as dynamite, and Government regulations require that it be stowed where it can be reached quickly in case of fire. But dangerous cargo is an old story to Mickey, for many types of chemicals, acids and explosives are common freight out of Baltimore. All of them require careful and experienced handling, and Federal laws stipulate how far such cargo must be stowed from the bridge and lifeboats, determine what types

may be stowed on weather decks—and even dictate what kinds of shoes shall be worn by stevedores or crew in handling this freight.

There's a different stowage procedure for each type of chemical, and exporters generally mark their containers by labels of different colors to guide runners and stevedores in putting them aboard properly. A label with black lettering on white background, for instance, denotes tear gas—or any corrosive liquid—while inflammable liquids and explosives are designated by black lettering on red. When Mickey has to handle acids and chemicals that are not so marked, he or a ship's officer consults the bible issued by the United States Department of Commerce—Joseph Lemming's *Modern Ship Stowage*—which lists all common commodities of international trade and suggests proper methods for handling.

Seven major stevedoring companies handle most of Baltimore's incoming and outgoing ocean freight. Mickey Hughes' outfit is Ramsay, Scarlett & Co., who are steamship agents and brokers as well. When cargo is to be moved, the company draws longshoremen from union hiring halls, and Mickey works closely with the foremen

of the gangs. These gangs, which operate as separate units, usually consist of sixteen men for open-type freight, as rail and machinery would be classed, and of twenty-one men for general cargo, which may include many assorted items of various sizes. Each gang has men skilled in operating deck winches and others who specialize in loading slings or hooking cargo to boom cables on deck, while still others receive and stow the cargo in the holds.

As many as nine gangs may be working a ship simultaneously—four unloading forward holds, perhaps, while five others load the afterholds. And while they work, Mickey, as runner, has to keep moving between the various holds and the pier, making certain that goods listed on the mate's manifest for Baltimore are put off, and that outgoing cargo is loaded snugly, safely and systematically.

Having spent thirty years working with stevedores, Mickey gets considerably annoyed at some of the popular misconceptions concerning these waterfront musclemen. "Despite what's said of them," he declares, "most stevedores are responsible men, interested in their work as well as their pay. We're not fond of commies here, and we've had remarkably little labor trouble around this harbor." Several stevedores I met through Mickey spoke to me of sons or daughters attending the University of Maryland or Johns Hopkins University. And Bud Simpson showed me a snapshot of his stepson in a Princeton football uniform. "He got most of the brawn he's using in college handling cargo here on the dock," Bud said.

Some of the proverbial seaman's tendency toward superstition seems to have spilled over onto the wharves, though it's often hard to tell where superstition stops and common sense takes over. Many stevedores, for in-

stance, have a decided phobia about working in holds with tons of slippery cargo swinging from booms over their heads. Some will not crawl down into tank holds, and others feel it's unlucky to load ships carrying ammunition or explosives. The men who do work around explosives seem to develop a unique combination of fatalism and hair-trigger reflexes, as I found when Mickey took me down Baltimore harbor to an Army pier where gunpowder was being loaded. One hold of the ship was discharging bagged flour, and when a sling slipped, several bags fell to the deck, bursting into a cloud of white dust. Seeing what he took for smoke, a stevedore near me yelled, "Fire!" and without hesitation plunged overboard into the Patapsco River. Twenty other workers instantly followed him, and none of them seemed too chagrined when they were hauled, cold and dripping, from the water. "I figured a jump in time was just as good as an ounce of prevention," one of them said philosophically, scrambling his metaphors.

Stevedoring—and that includes ship running—is classed as a hazardous occupation, and longshoremen pay the highest insurance rates of any industrial workers in this country, except miners. Men who spend so much of their time handling steel rails and heavy machinery realize that there's a good chance they'll eventually be injured either slightly or seriously, but they take this risk as casually as miners do that of cave-ins. One precaution upon which the unions insist is that ships' gear be in good order and inspected regularly, and gangs have walked off ships—mostly of foreign registry—when their running gear did not meet safety standards. Even so, the work is undeniably dangerous as well as back-breaking, and the wage scale for stevedores is comparatively high. Despite this, however, an average weekly take-home pay of fifty dollars is considered good for dock workers, because employment depends so much upon variable factors, like the amount of shipping in the harbor.

Another uncontrollable cause of fluctuation in employment is the weather, for many commodities cannot be handled in the rain or even on a damp day. Such common cargo items as canned goods and sheet metal can't be loaded wet because they would quickly rust at sea. And with some commodities, there's an even more compelling reason—spontaneous combustion. "It's like turning cotton, bundled wool, rag waste or grain into dynamite to load them in wet weather," Mickey says.

Because of these and other dangers to ship and cargo involved in loading, insurance inspectors keep a constant watch on the operation, and ships' captains seldom sail without a certificate of inspection from agents representing the New York Board of Underwriters, a co-operative organization with offices in all United States ports. The loss of a single ship and its cargo might well be ruinous for one insurance company, and for that reason a vessel and its cargo are frequently covered by as many as twelve marine-insurance firms for each voyage.

I made the rounds one day with Capt. Edward F. Carter, in charge of the underwriters' office in Baltimore, while he checked five ships loading for as many different countries. In coveralls, this ex-sea captain crawled into

trating odor, once not packed with sugar or leaf tobacco. "I'm generally the first one to get hell if anything goes wrong at sea," Captain Carter explained, and at his elbow Hughes grunted, "I'm next!"

Of all the cargoes that are shipped from Baltimore, Captain Carter says he's most afraid of loose grain and coal. In addition to the danger of combustion and—in the case of grain—of dust explosions, there's the chance that such loose loads may start to shift from side to side as the ship rolls in heavy weather, and if this happens they can pound the vessel apart. For this reason, the loading of grain ships is always closely watched by insurance inspectors, who see that the proper shifting boards—wooden partitions which separate the holds into several bins—are built into the ship's structure. Furthermore, most countries—among them the United States—stipulate that bagged grain be stacked at least four tiers deep on top of loose grain.

Although it is primarily the mate's responsibility to see that the ship being loaded is trimmed properly, a good ship runner can save labor costs for both steamship owners and his own employers, the shipping agents, by keeping trim in mind while stowing cargo. "A few tons rightly placed," Mickey said, "can make a lot of difference in a ship's handling, so I always try to hold out about 200 tons of easily stowed cargo to balance the vessel. Most skippers like to sail with a little drag on the stern to keep the propeller biting deep water. Four or five inches of drag can save the ship several hours of a long voyage, and sea time saved is money ashore."

Mickey realizes, too, that heavy loading amidships, with light loads forward and aft, may buckle a ship in bad weather, and heavy topside loads cause excessive rolling and loss of headway. All ships have permanent stability plans worked out by their builders, to which the runners have access, and loading crews try to stow about 65 per cent of the cargo tonnage in the lower hold, with 35 in the upper.

One additional complication in ship loading is the fact that a ship's holds have to be prepared differently to handle specific cargoes—grain, live-

stock, explosives or whatever. In Baltimore, as in other seaports, "ceiling" companies specialize in this work. Generally hired by radio while the ship is still at sea, crews of carpenters, metal workers and electricians may swarm over a vessel as soon as she docks, and during the wartime rush it was not unusual for ceiling crews to remodel a ship's entire cargo space completely within eighteen hours, so that she could take on a full load of grain, tanks, explosives or foodstuffs where before she had been equipped only for general cargo. Ship handling nowadays is so specialized in a busy harbor like Baltimore that local crews may be painting the ship from stem to stern, fumigating passengers' quarters, overhauling the vessel's electrical system and provisioning and watering her for a six weeks' voyage, while Mickey and his stevedore gangs are unloading casks of olive oil and cork from Spain from some holds and loading insecticides, washing machines, asbestos roofing and frozen hams for Honolulu into others.

To an inlander, this multifarious dockside activity seems unbelievably hectic, but to Mickey it's the breath of life. Most runners feel the same way. Sixty-eight-year-old Albert Hohmes, for instance, says he wouldn't swap his experiences on the docks "for a banker's life and income." He's been stevedoring and ship running on the Patapsco for fifty years now, and he claims that there's still something new every day.

"What makes ship runnin' so interesting," he told me, warming to his subject, "is the people you meet. Back in 1914 Madame Schumann-Heink came in on the old S.S. Rhine. Well, on that same ship Carl Hagenbeck was sendin' a young elephant to some circus here, an' it was on the top deck when I passed with the madame's luggage. That dratted animal gave one swipe with his trunk and knocked all the madame's luggage overboard. We got 'em out, all soakin', and she gave me five dollars when I finally got her baggage through customs. Said it was worth that for the laugh she got. Can you imagine what would have happened if that had been a modern prima donna?"

While I had the old runner cornered, I asked him to tell me about some of the instances he remembered where bad loading had resulted in losses at sea. He glared at me. "Hell, man," he exploded, "that never happens out of Baltimore!"

But Mickey Hughes, for all his loyalty to Baltimore, can recall several cases of loss out of that port. One was the Japanese Chito Maru, which loaded grain in Baltimore in 1940, and disappeared without a trace after clearing Panama. "Her cargo shifted," Mickey figured. And back in 1913, he recalled, the U. S. Eldorado left Baltimore for Galveston after taking aboard a cargo of steel rails. She got past the Virginia Capes all right, but that was the last anyone heard of her. Baltimore dock gossip has it that the lower tier of rails wasn't correctly keyed in, and that they shifted in a rolling sea and made a sieve of the Eldorado's underwater hull.

Because he feels so strongly about the danger of improper loading, one of Mickey's most treasured possessions is a worn volume called *Stowage of Ships and Their Cargo*, written by a Robert White Stevens and published in London in 1869, in which 1720 sea disasters from 1700 up to that time were reported and analyzed in quaint detail. A typical item read:

On the night of 4th October, 1860, the schooner Orion, of Hamilton, was proceeding with petroleum along the Welland Canal. One of the crew went into the hold with a lamp in his hand. There being a hole through which gas generated by the oil made its way, an explosion took place. All on board were blown into the air and fell into the canal. Before the master and three men could reach shore, flames had communicated with petroleum

on the water about them, which burnt with a fierceness equal to Greek fire. The master struggled manfully, but he sank to rise no more.

Reading between the lines of this book, with its tales of death and destruction, Mickey said he'd bet a tidy sum that fully half the sea losses of that day could be traced to either "bad stowage or damn foolishness."

"And even with such examples as these to go by," Mickey forecast, "there'll be thousands of dollars lost next year by runners and ships' officers who say they've read all the books and know all about stowage. Seamanship and stevedoring are more like regular trades now than they were in those days, when a sailor was a farmer whose crops had failed or who had to leave home for moral reasons, and we have better ships today, too, well equipped to carry cargo without damage if it's handled and stowed properly. But even the best of us runners is liable to forget tomorrow that twenty pounds of rhubarb can ruin a whole cargo of Ceylon tea or that beer will keep fermenting until it blows the bung out of a barrel, if it's placed close to heat-generating freight like sugar, flour or fish meal."

The last morning I was in Baltimore I watched Mickey load a freighter headed for Formosa. As the final load of a shipment of tanks and jeeps was being swung up, someone called to him from the ship's bridge, "Mickey, the office wants you on the phone." And Mickey, who had been up all night getting the heavy cargo aboard, turned to me with a disgusted look. "You see there," he said. "If I haven't enough damn trouble here on the dock, I can always trust the office to give me some more."

THE END