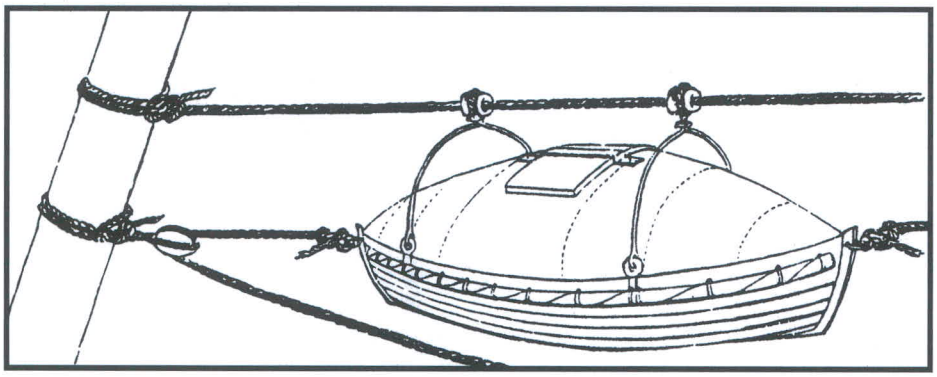
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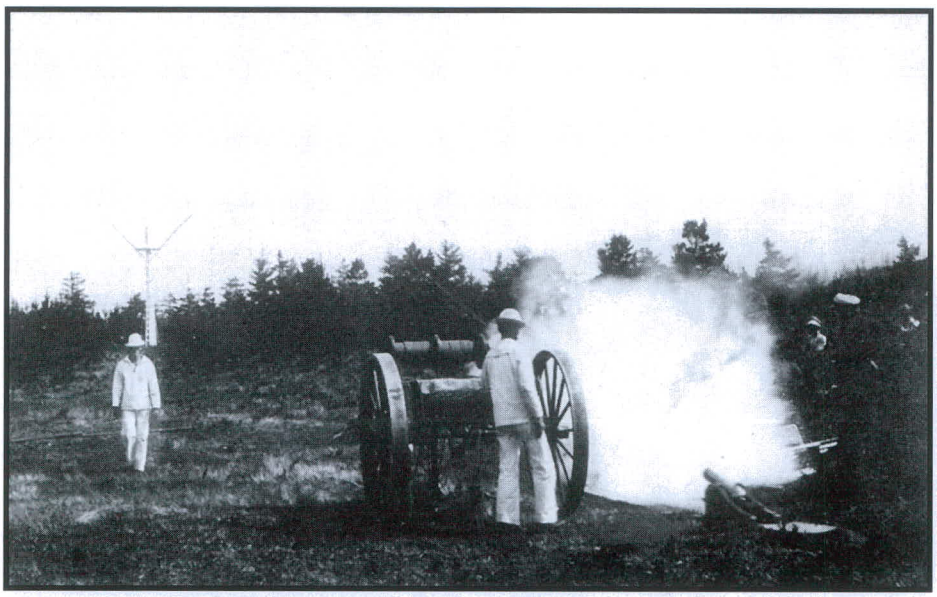


WEAPONS AGAINST THE SEA:

Equipment used by the U.S. Life-Saving Service

by Dennis L. Noble







Top - A life car rigged to a ship's mast. Above - Practice firing the Lyle line throwing gun. Old Post Card courtesy of Ralph Shanks. The projectile can just be seen above the man at left. Right - Being hoisted ashore in a Breeches Buoy.

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The U. S. Life-Saving Service had two means of rescuing those on board ships stranded near shore: by boat and by a strong line stretched from the beach to the wrecked vessel. At the time of the establishment of the U.S. Life-Saving Service (1878), the accepted method of rescuing those stranded near the beach was by small boats powered by oars. The principal power of ships was still the wind and any windjammer trying to help a ship stranded near the beach stood a good chance of also running aground, especially if there were strong onshore winds.

The service used two types of boats for rescue work. The boat most used was the surfboat. Surfboats are generally light, open, shallow draft craft, usually between twenty and twenty-seven feet in length and able to be launched directly from the beach into the surf. The boat was popular with surf fishermen of the eastern seaboard, who made up the majority of the U.S. Life-Saving Service crews. In fact, the early stations along the East Coast were set up to handle the surfboat. The lightness of the boat meant that the boathouse doors of the station opened out onto the beach facing the sea. Because the surfboat was not heavy, it could be drug over the beach by hand, or on rollers. The boat could also be pulled by the surfmen or by horses on a carriage over the sandy terrain of much of the East Coast. Most importantly, the boat was easy for small crews to handle, maneuverable and performed well in short pulls in heavy surf.

In the early years of the service there was no standardized surfboat. The boat builders of each coastal region were watermen who provided modifications to meet the needs of their local area. In 1872, Capt. Robert B. Forbes, of the Massachusetts Humane Society, wrote that he could not recommend any one type of boat that would be successful in New Jersey, Long Island, Nantucket, Cape Cod or other locations. Captain Forbes felt that watermen in these areas had their "own ideas" as to the type of craft "they require when they are to risk their lives to save lives and property." A *very general* description of these versatile boats would be a craft of between 700 to 1,000 pounds, self-bailing, self-righting and pulled by six surfmen with twelve to eighteen foot oars. As mentioned, the surfboat could be pulled on a cart by crewmen, or horses, to a site near a wreck and then launched into the surf.

The second boat employed by the service for rescue was the coastal lifeboat — simply called a lifeboat. The craft followed a design that originated in England. The boat could be fitted with sails for work further offshore and was used in very heavy weather. In June 1873, the first English lifeboat was tested in this country. The boat was thirty feet in overall length, with large air chambers at the bow and stern. A heavy iron keel provided the self-righting capability. This was a boat that could weigh into the tons and required a crew of eight. Obviously this was not the type of craft that surfmen on the East Coast could easily put on a carriage and pull across the sandy beaches. The boat eventually served mostly on the Great Lakes and the West Coast where it could be launched directly into the water on a carriage running on an inclined ramp. Some crews on the Great Lakes, at first, viewed the lifeboat with skepticism because of its weight. The skepticism soon changed and crews began to regard it as "something almost supernatural," for it enabled them to provide assistance "when the most powerful tugs and steam craft refused to go out of the harbor."

The surfboat, however, remained the favorite of the lifesaving crews, even at stations that had lifeboats. In the 1882 annual report of the U.S. Life Saving Service, for example, the service reported the surfboat had been used 284 times, making 381 trips, while the lifeboat was used only 11 times, making 15 trips.

One of the reasons for the success of the U.S. Life-Saving Service was the systematic routine devised for the stations. The service placed great emphasis on drilling (practicing) constantly with their rescue equipment. Regulations required the crews to drill with their boats on Tuesday.

Rescue by small boats was the least complicated method of rescue, but also the most dangerous. The first danger was the power of the pounding surf. It was not unusual for crews to put out into seas many times higher than the length of their small boats. (It is amazing to stop and recall that no boat used by the service was longer than thirty-six feet in length.) Another danger came at the actual moment of rescue. Maneuvering a rolling, pitching small boat alongside a larger vessel with broken spars, lines and other debris nearby, required a large amount of skill in boatmanship and the ability to think fast and improvise. Drills helped the crews work as a team and automatically perform their functions, all of which could pay large dividends when the winds were at gale force and the surf pounding the beach.

The weekly practice required the surfmen to actually launch a surfboat from the cart into the surf and then land it. This is known as open beach launchings, one of the most difficult methods of putting a boat into the water. One portion of the drill involved actually capsizing and righting the boat. This trained crews to react automatically if their boat was flipped in a storm. In 1912 Noel T. Methley, an authority on lifeboats, noted the constant practice enabled the lifesavers to



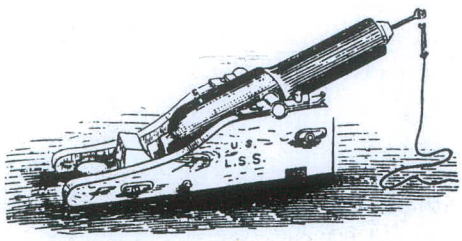
Bringing in the life boat at Ocean City, NJ. Old Post Card.

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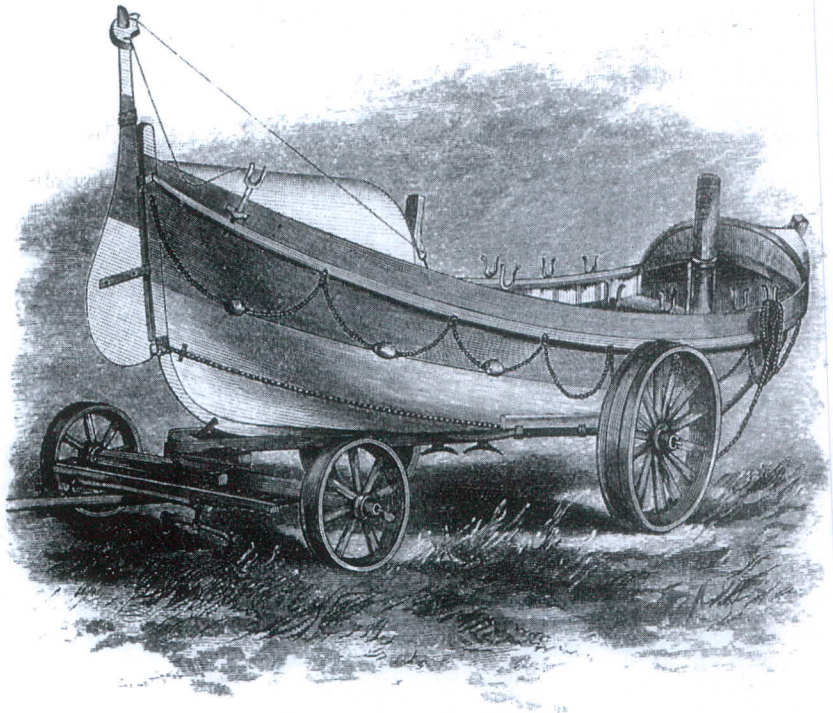
completely right the surfboat after capsizing in "twenty seconds." The capsizing drill was a popular show for the public and the surfmen performed it at many public events. In 1890, for example, the Marquette, Michigan, newspaper wrote that the most impressive event at the Fourth of July festivities was the lifeboat drill. The newspaper reported the "crews capsized it eight times . . . to the repeated cheers of the crowd." How cheerful the crew felt about being dunked into the frigid waters of Lake Superior is not recorded.

When the crews put out to sea in their craft to do battle with the sea, they took very little equipment with them. The men would wear cork lifejackets and, if the weather was very foul, they might don oilskins. The service experimented briefiy with a rubber suit almost like a survival wetsuit, but it was not popular with the surfmen and went out of use. The lifeboats would carry some extra line for towing, a life ring and that was about it. It was muscle, oars, courage and very little else.

When a ship wrecked close to shore and the seas were too rough even for boats, then the service could use another method to reach the stranded mariners by stringing a strong hawser (line) from the shore to the ship. From time out of mind, people experimented with ways to propel a line from shore to a ship wrecked near the beach. Experiments with arrows and kites were attempted. Eventually, Capt. George Manby, a British Merchant Marine officer, developed a mortar to hurl a round shot with a light line attached to it that would be used to establish a stronger line to a ship in distress. Line-carrying rockets were perfected. It was Lt. David Lyle, of the U. S. Army's Ordinance Department, that developed the line-throwing gun used by the U.S. Life-Saving Service. Lieutenant Lyle would later say that his device was a direct descendent of the Manby mortar.



Lyle Gun with projectile protruding from the mussel.



The heavy self-righting surf boat.

The Lyle gun was made of brass, weighed 163 pounds, and looked like a miniature cannon. The Lyle gun was mounted in a wooden iron-bound oak carriage. For elevation settings, there was a notched wooden block. To carry the line to a ship, black powder was loaded into the gun and then a metal projectile, called a shot, was placed inside the barrel. The projectile is best described as a "sash-weight-with-eyebolt." The end of the eyebolt remains outside of the cannon, with the messenger line tied to the eyebolt. When fired, the shot turns in the air and pulls the light messenger line to the shipwreck. Although longer ranges could be obtained, Lyle felt six hundred yards was the limit a hawser could be stretched from shore to a ship. Lyle preferred accuracy to extreme long range.

The shipwrecked sailors would gather the light messenger line shot over by the Lyle gun and then use that line to pull over heavier lines until a very strong rope bridge with a thick hawser was established between ship and shore. Once the rope bridge was secure, the lifesavers had a choice of sending one of two devices on the hawser.

A life car could be pulled back and forth between the wreck and the safety of the shore by the lifesavers. The life car looked like a tiny, primitive submarine. The life car could be hauled over, through, or even under the seas. After the hatch in the top of the car was sealed, there was enough air within the device to hold eleven people for three minutes. It is hard to envision eleven people crowding into the car's small compartment but, as one surfman put it, people ". . . in that extremity are not apt to stand on the order of their going."

Typically, a life car carried four to six people. Life cars were heavy and difficult to handle. Also, as those in distress evolved from crowded immigrant packets with many on board to small commercial schooners with less than a dozen on board, the life car was replaced by second device that could be sent along the hawser: the breeches buoy.

A breeches buoy resembles a life preserver ring with canvas pants attached. It could be pulled out to the ship by the lifesavers using pulleys, enabling the endangered sailor to step into the life ring and pants and then be pulled to safety much easier than the heavier life car. A cart with wide metal wheels carried all the equipment needed to rig the breeches buoy and could be pulled by the crew or horses to the wreck site. The wide metal wheels were designed to prevent the cart from sinking in the soft beach sand. The cart carrying the ropes and equipment for rigging either the breeches buoy or life car became known as the beach apparatus.

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The use of the beach apparatus was the most difficult method of rescuing people from ships wrecked close to the beach. Therefore, Mondays and Thursdays were devoted to practicing with the gear. Drilling included the actual firing of the Lyle gun and rigging the equipment. The aiming point for this drill was a pole, sometimes shaped like a ship's mast and known as the drill pole, located on or near the grounds of each station. When the District Inspector tested the crews on the beach apparatus, the entire routine had to be finished within five minutes. If the drill could not be completed within the allotted time, the men slowing the drill could be dismissed from the service. The constant practice, again, built skill and also a confidence factor that many times would be tested on stormy nights along a dark and cold beach. For example, the messenger line had a tendency to snap if too wet. It takes a great deal of confidence, and reacting automatically, to start everything over when you are wet and cold and discouraged.

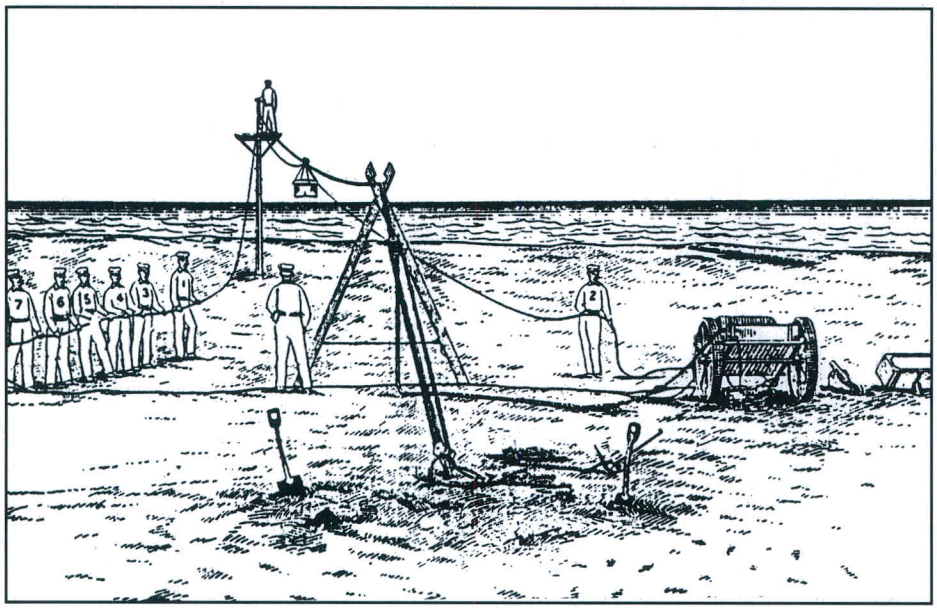
Drill periods, however, did not always go smoothly as prescribed by regulations. A Michigan City, Indiana, keeper wrote in his logbook after a beach apparatus: "Projectile . . . lost in lake, through the fault of Thomas Armstrong not making shot [line] fast to shot." On a Tuesday, the same keeper recorded: "Surfman Parsons and Miller . . . were thrown into the lake [while] stearing [sic] the boat." At Coquille River, Oregon, surfman Axel Sandstrom confided to his diary that during boat drill "we took a big swell that put our boat right on end. The Captain [keeper] got slung out of his position and the steering oar broke, so we went home again just a little wet."

Boat drill could also be dangerous. In 1886, the keeper and two surfmen at Coquille River were drowned when struck by a rogue wave at the entrance to the river. At least three surfmen were killed during boat drills at the Point Reyes, California, station.

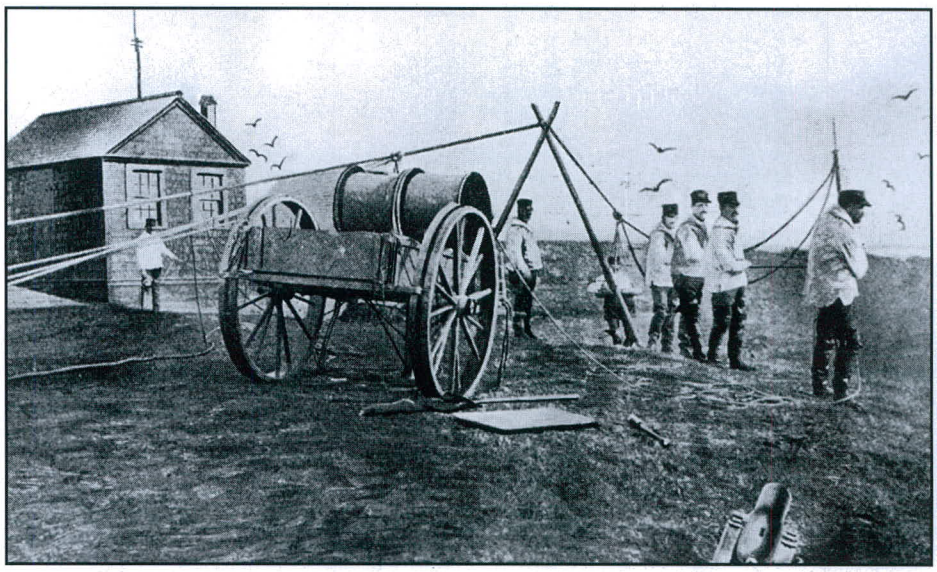
Both pulling boats and beach apparatus were eventually replaced by changing technology, although some equipment remained for a remarkably long time. In 1899, the service began to evaluate the results of installing a gasoline twelve-horsepower engine in a thirty-four foot Merryman lifeboat at Marquette, Michigan. Eventually, but after the end of the U.S. Life-Saving Service in 1915, all lifeboats and surfboats would be mechanically propelled.

Technology also spelled the end of the beach apparatus. Once ships became steam powered, they were able to stay much further offshore and the need for the beach apparatus diminished. The beach apparatus, however, remained at stations along the Great Lakes through the 1950s. Helping to speed the demise of the beach apparatus was the development of the helicopter as a rescue tool.

Although the U.S. Life-Saving Service employed what we would now call low technology to rescue people from shipwreck close to shore, the equipment they used was the best available. The boats and beach apparatus, combined with the crew's natural skills, their innate courage and the confidence instilled in them through drills, helped save many lives that would surely have been lost to the sea.

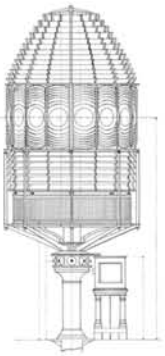


Above - The seventh of eight illustrations showing the proper steps to practice sending a line to a ship in distress. The illustrations were in all station manuals.



Right - A beach cart in use during a line throwing drill. Note the Lyle gun lower right. U.S. Lighthouse Society photo.

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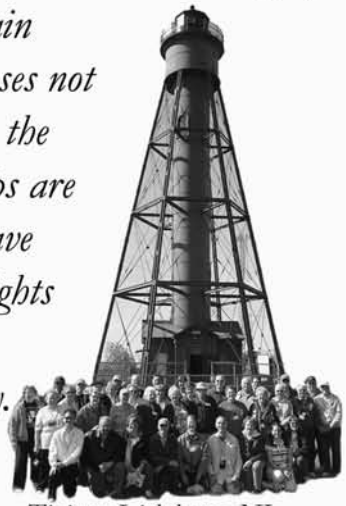
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