

DIAMOND SHOAL LIGHTSHIP.

IT WILL TAKE THE PLACE OF THE MUCH DISCUSSED LIGHTHOUSE OFF HATTERAS.

ABANDONMENT OF THE PLANS FOR A PERMANENT STRUCTURE—HOW "NO. 69" IS BUILT TO STAND THE SEVEREST STRAIN—A HAZARDOUS POSITION.

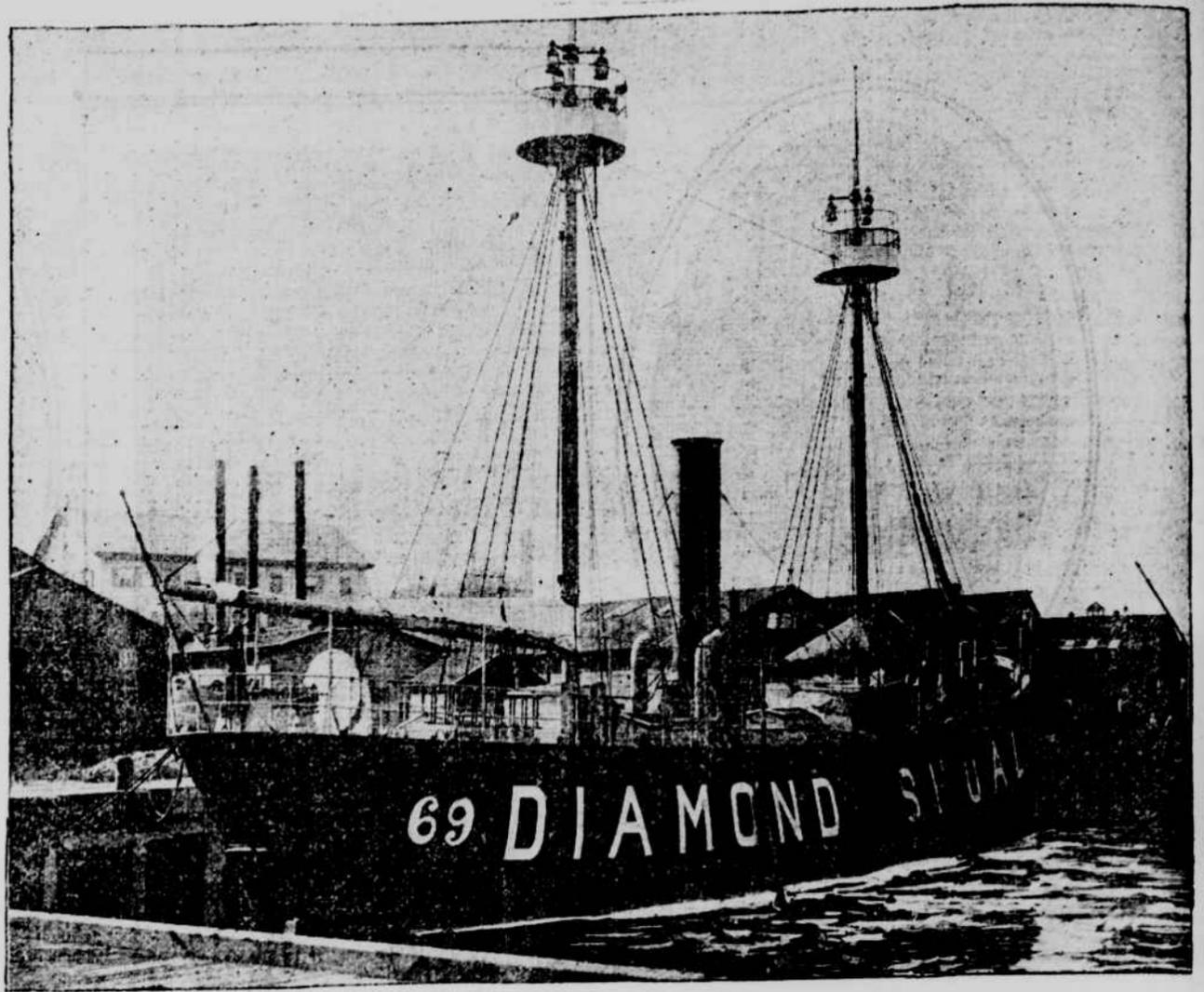
Cape Hatteras, N. C., has always been a dreaded spot in the eyes of mariners, and the numerous disasters that have taken place there involving the loss of hundreds of lives and millions of dollars' worth of property have earned for the spot the name, "The Graveyard of the Atlantic." The Lighthouse Board has at various times adopted measures for warning passing craft and keeping them from the madly rushing and whirling waters which break upon the Diamond Shoal, but all plans for lighting the place successfully have failed.

The Board finally adopted a plan for a permanent lighthouse at a cost of \$500,000, to be built of metal in skeleton form, so that it would offer little resistance to wind and wave. The light of the focal plane above the water was to be about 100 feet, and the structure was to stand in thirty-three feet of water, which would have been deeper than the foundation of any other lighthouse on the Atlantic coast. The plan met with the approval of some of the best engineers of the Army and Navy, and many people believed that the Hatteras problem had been solved.

As the work went on, however, the hopes for success grew less, and when about \$100,000 of the appropriation had been expended the work was abandoned and the lighthouse plans were pronounced impracticable. A caisson 100 by 50 feet had been constructed in Norfolk. This was intended as the foundation for the lighthouse and was sunk into position. Within twenty-four hours the monster structure was washed away, and its displacement and the abandonment of the lighthouse plans caused the Board to make new efforts toward warning vessels off the shoals.

Diamond Shoal projects into the sea seven miles off Cape Hatteras. It is covered with from six to twenty feet of water, and at the present time is marked only by Hatteras light, standing on shore seven miles from the outer edge and not discernible in foggy or hazy weather.

The traffic in that locality demands that precautionary measures should be adopted, and



THE NEW LIGHTSHIP FOR DIAMOND SHOAL, LYING AT THE LIGHTHOUSE STATION, STAPLETON.

schooled eye she looks formidable and unusually strong. On the way to the dock where she rests, one passes great rows of anchors of various descriptions. Some are of the mushroom pattern, which when once let down are never taken up again. Then there are the ordinary

of the vessel may be regulated. The only lightship stations at which electricity is now used are South Shoals, off Nantucket, and Sandy Hook, and in neither of these ships is the electric plant so complete as on board ships Nos. 68 and 69. The forecabin is nicely fitted up, and an employe of the Board said that there are no other vessels anywhere in which such good provision is made for the sailors.

"The quarters are so small," he said, "that the men are thrown in contact with their superiors more than they would be in other vessels, and the lines of demarcation between officer and man are not sharply drawn, although there is no laxity as to discipline. It is an instance where the equality does not lessen the officer, but elevates the man."

Forward of the little messroom is the great capstan, from which the monster anchor-chain runs. The chain is made up of links 1½ inches in thickness and 9 inches long, and at its end on the bow of the vessel hangs the 6,000-pound mushroom anchor, by which the vessel will be moored in thirty fathoms of water, fifteen miles from the present Hatteras light, and inside the ledge.

The vessel will toss and roll in the heavy seas, and the strain on the anchor-chain will be tremendous. To guard against accident on that account, a "surge reliever" or resistance spring has been fixed in front of the capstan. This is so powerful that the strain must exceed 45,000 pounds before it is felt on the capstan.

Below is the engine-room, with its small, but powerful machinery, and the boiler-room. Everything about the craft, even to the smallest detail, is built to resist hard knocks and rough usage. There is nothing remarkable in the appearance of the deck, but the two sturdy masts, with their basket-like arrangement at the top, in which the lanterns are placed, attract im-

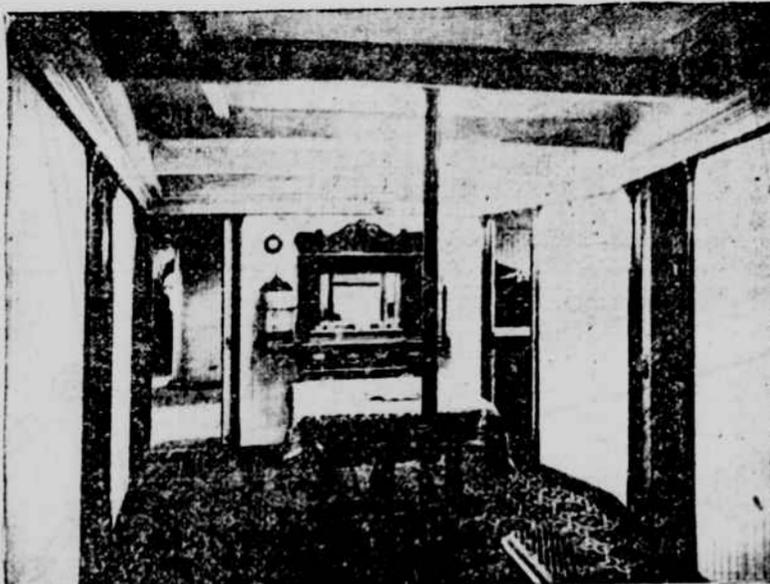
mediate attention. There are three lanterns on each masthead, as explained in the Department's circular, and if the vessel can withstand the gales off Hatteras they will be sufficient for the purpose for which they were constructed. In case of accident to the electric plant, a white continuous light will be shown from the lanterns.

A member of a lightship crew said that the ideas of the people as to life aboard these vessels are wrong, and that instead of being anxious to exchange for other jobs, the men seem pleased to remain on board the ships.

"We have about nine months' service in the year," he said, "and there is always enough work on board to take up most of the men's time. There are the regular watches and lookout duty and routine work, cleaning up and keeping things in shape, and the little time left on our hands after our duties have been performed we fill in with games and reading."

The crew on the vessel of which the man was one consists of thirteen men, and when asked if the number did not have a depressing influence on the men, he said: "I have been one of a crew of thirteen for over three years and have never seen a mishap, and that makes me think that there isn't much in the 'unlucky thirteen.'"

The new lightship's crew will probably consist of sixteen men, and while the Lighthouse Board believes that No. 69 will be as comfortable for its crew as the other similar vessels are for the men who live aboard of them, Captain R. D. Evans has been quoted as saying: "There is no chain that can be forged that will hold No. 69 on Diamond Shoal for any length of time. There is a current there which sends the sand shifting around at a terrible rate. In a short time this action of the sand will cut any chain, or weaken it so that the first heavy gale will cause it to part. When that happens the Diamond Shoal Lightship will almost certainly drift ashore, and the sixteen men on her will be lost."



THE DIAMOND SHOAL LIGHTSHIP—MAIN CABIN AND OFFICERS' QUARTERS.

pending the adoption of plans for a lighthouse the Lighthouse Board has determined to place a lightship on the shoals.

The vessel, and a consort which will be moored at Fire Island, were built by the Bath Iron Works in Maine at a cost of \$50,000 each, and they are probably the best-equipped lightships ever constructed. The one which is intended for Fire Island has the words "Fire Island" and "No. 68" painted in huge white letters on her hull, which is dark red in color; the other ship's destination is shown by the words "Diamond Shoal" and "No. 69." In its notice of the establishment of the light vessel station at Diamond Shoal the Lighthouse Board says:

Notice is hereby given that on or about September 20, 1897, Light Vessel No. 69 will be established off Diamond Shoal, Cape Hatteras, North Carolina, in thirty fathoms of water.

Steam Light Vessel No. 69 will show, simultaneously, from three lens lanterns encircling each masthead, a fixed white light for twelve seconds' duration, followed by an eclipse of three seconds.

In each lens lantern there will be a 100-candle-power incandescent electric light. The focal plane of the lights will be 67 feet above the sea, and the lights will be visible 13 nautical miles in clear weather, the observer's eye 15 feet above the sea.

Note.—If the electric light apparatus should become inoperative, the lights will be fixed white without eclipses, and will be less brilliant than the electric lights.

Light Vessel No. 69 has a flush deck, two masts, schooner rigged, and has no bowsprit; she has a smokestack and a fog signal between the masts. At each masthead, under the lens lanterns, there is a circular gallery.

During thick or foggy weather a 12-inch steam chime whistle will sound blasts of five seconds' duration, separated by silent intervals of fifty-five seconds.

No. 69 is now moored off the Lighthouse Board station near Stapleton, and even to the un-

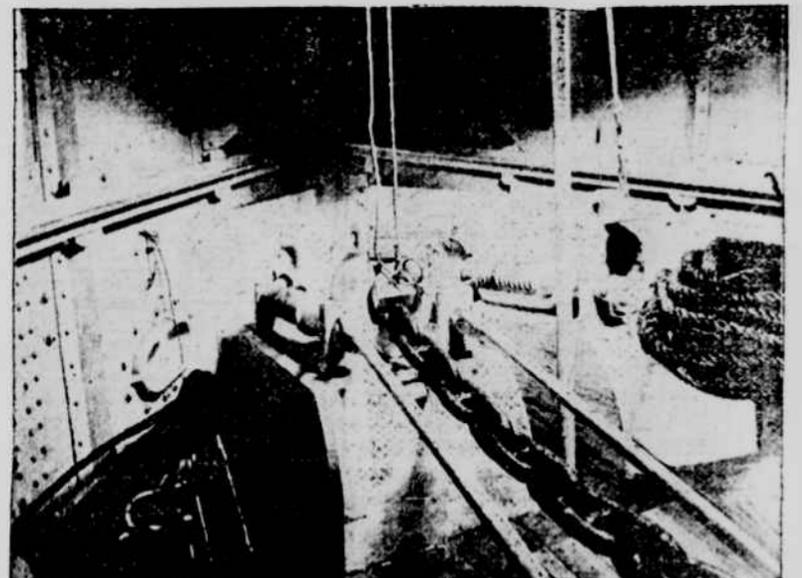
"mudhooks" of many sizes, and anchors made of huge granite blocks, into which a massive staple and ring have been fixed.

On board the lightship everything looks so tidy and inviting, the quarters are so roomy and the arrangements for the comfort of the men so perfect, that the thought of months on board the vessel becomes less dreadful. The main cabin is light and cheerful, and the four staterooms which open into it are occupied by the captain, mate, engineer and assistant engineer. From the cabin one enters also the chart room, in which flags for the signal code and charts are kept. In one corner, on a rack, is a large conical instrument, to which the guide pointed and said:

"That's the megaphone, and speaks for itself."

The Lighthouse Board undoubtedly knows that telling old and threadbare tales and playing cards sometimes fail to supply the means for killing time aboard a lightship, and a neat little library is supplied, which is kept in the main cabin. The books are returned to the Lighthouse Board every three months and a new supply is placed at the disposal of the crew.

Forward from the little saloon is the dynamo-room, in which there are two electricity generators. Only one dynamo is necessary to supply the lights for the mastheads and those elsewhere aboard the ship, but a duplicate machine is kept in reserve in case of accident. In this apartment is also a marble switchboard, by means of which the lights in the various parts



ANCHOR CHAIN AND SURGE RELIEVERS IN THE BOW OF THE SHIP.