BREAKING UP THE ILL-FATED BRITISH BATTLESHIP "MONTAGU."

BY HAROLD J. SHEPSTONE.

The first-class British battleship "Montagu," which went ashore on the southwest corner of Lundy Island, in the British Channel, in a dense fog on May 30, 1906, is now being broken up piecemeal by the shipbreakers, and gradually the huge warship is disappearing.

The gallant attempt made to salve the vessel, although a complete failure, was nevertheless a daring piece of work deserving of the highest praise. For months the Liverpool Salvage Association, and the most skilled workmen from the British dockyards, with the most up-to-date tackle at their disposal, endeavored to lighten the ship and get her off the rocks, but without success. The whole history of the operations was one steady and persistent fight against unsurmountable difficulties.

Twenty-four hours after the vessel grounded, practically every compartment in the ship was full of water. The capstan engine room forward, the compartments under the forward 12-inch turret, all the boiler rooms, the starboard engine room, and the steering compartments aft, were open to the sea, the water rising and falling with the tide. The port engine room was tight, but had to be flooded by opening the sluice valve between the two engine rooms to prevent the ship taking a heavy list. At high tide the water rose about two feet above the upper deck at its lowest part, while at low tide the water fell to about seven feet below the usual waterline of the ship.

The vessel rested on a rocky bottom, the general surface being fairly level, but with many pinnacle rocks. It was discovered by divers that the damage to the bottom was very serious. A large rock penetrated about ten feet into the ship under the capstan engine forward. Along the starboard side the bilge keel was more or less carried away, and several large holes were discovered. The port propeller, A bracket, and shaft had disappeared completely; the starboard A bracket was cracked, and one blade of the starboard propeller was carried away, and the lower parts of the sternpost and rudder were broken off. To repair the vessel and pump out the water so that she could be refloated was the task the British Admiralty assigned to Admiral Wilson, and every possible assistance was rendered him in his work.

After a complete examination of the ship, it was decided to pump the water out of the vessel as far down as possible by pumps driven by compressed air. Before this was done the battleship was lightened by removing the 6-inch and smaller guns, torpedo nets, chain cables, etc. Owing to the surrounding rocks and shallow water, only lighters or very small vessels were able to approach to the wreck. This added greatly to the difficulties of the operations, as in most cases heavy weights, such as boilers, etc., had to be first hoisted into lighters. One of these craft, containing four 6-inch guns and several torpedo nets, in being towed was carried by the current over the rocks and foundered. She was, however, successfully salved some weeks later.

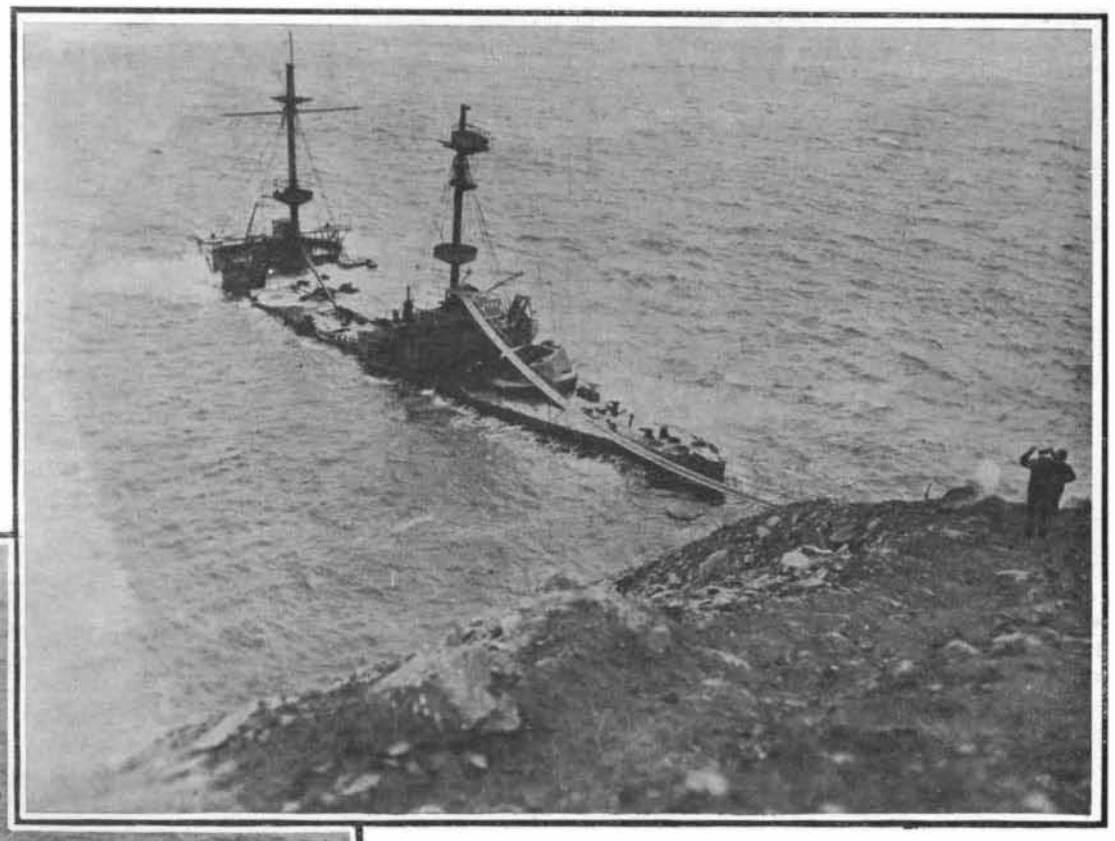
Within ten days from the disaster the following centrifugal pumps were in action: One 12-inch, three 10-inch, three 8-inch, one 5-inch, and one 3-inch, and an additional 12-inch pump was available on board one of the salvage boats supplied with steam from her own boiler. Three more 10-inch pumps and two 8-inch pumps were also in course of erection. A week later seven more pumps had been fitted up on board. They had a total pumping capacity of 8,600 tons per hour. Their object was to command the different compartments in which they were placed, and generally clear the water down to about two feet above the platform deck. Owing to the size of the rose-boxes they could not clear the water closer to the deck, and efforts were then directed to find compartments below this level which were tight, and which could be used as wells for pumping suctions. In the fore end of the ship this scheme had to be given up as hopeless, though it was partially successful in the after part of the vessel. Here a U-shaped pocket or well was lowered through the hatch of the submerged torpedo room, and guided into place under the deck and shored up by divers.

Although it was found that in many ways the minute subdivision of the ship helped the salvage work, it made the work of pumping the ship clear of water more difficult. To prevent the vessel bumping at high water, it was generally necessary to let her fill up with water then, and arrangements had to be made to pump out the various compartments rapidly, say in about eight hours. It was not practicable to provide special pumps or suctions for all the minor compartments, and time did not permit of the suction pipes being moved from one compartment to another. Drain holes had therefore to be cut—mostly under water—to enable the smaller compartments to drain into the larger ones, where pump suctions were fitted.

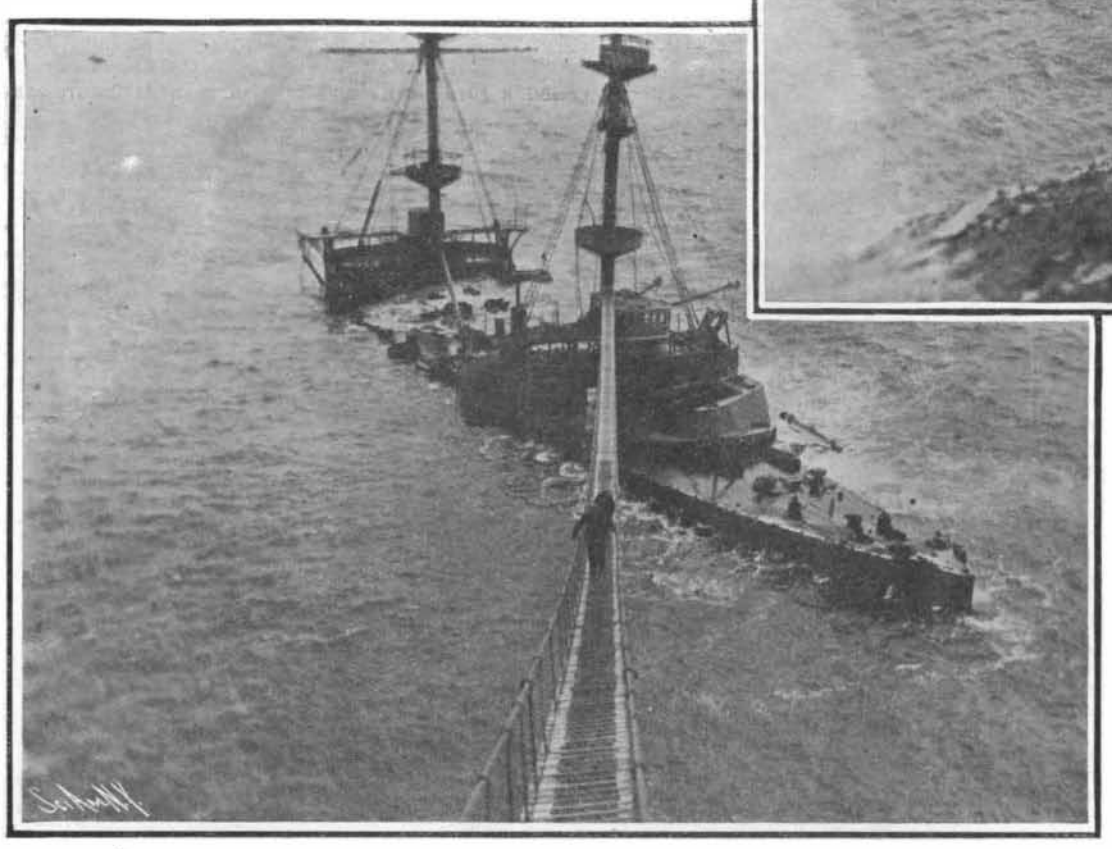
The next task was the covering over of the hatches to the engine and boiler rooms at the elevation of the main deck by plates. Then a number of camels, or tanks, were fixed along the side of certain portions of the ship. By experiments it was estimated that to float the vessel safely, a plant capable of producing 6,000 cubic feet of air per minute would be required to drive the water out of the ship. It was obtained, but failed to respond to the gallant efforts of the salvage operators.

On August 6 last the British Admiralty, after nearly fifteen months' strenuous efforts to refloat the warship, decided that the task was hopeless and abandoned it. Before doing so the vessel's heavy guns, a large quantity of her armor plates, boilers, machinery, and chain fittings, were removed. The wreck was then purchased by a South Wales syndicate for a lump sum, who hope to secure the valuable steel and iron composing the hull.

The syndicate at once established quarters on the island, where they have a staff of some fifty experienced workmen and a couple of small steamers and lighters. Their engineers have thrown an aerial footway, over 500 yards in length, from the top of Lundy's precipitous cliffs to the roof of the chart house on the wreck. Down this footway the shipbreakers pass to and from their work. The main deck of the ship is always awash at high tide; therefore work can only be carried on for a short time daily. When weather permits, lighters are brought alongside the battleship, immediately below the footway, and piece by piece huge sections of the armor plating are being removed from the huge carcass and transferred to the shore. The amount of work which has been done on the hull will be gathered from the huge "bite" which has been taken out of the bows on the port or seaward side, but it will be many months yet before the "Montagu" has been completely broken up.



The Wreck of the "Montagu" as It Appears To-day Off Lundy Island.



Workmen Coming Ashore by the Suspended Cable Footbridge Between the Ship and the Island.

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One result of this wreck will probably be that the British Admiralty will establish a salvage corps of its own. Hitherto it has had to depend upon outside assistance, whenever any of its vessels have met with serious disaster. So far the British Admiralty have not stated what the salvage operations have cost, but it is estimated to amount to no less than $500.000, while as to the ship herself, she was built so recently as 1903, was of 14,000 tons, and cost the British nation close upon $5,000,000. What the syndicate paid for the abandoned wreck has not been disclosed, but probably only a few thousand dollars.

Preserving Fruit in Nitrogen During Shipment.

At the Paris Exposition of 1900 there was exhibited a number of fish that had been preserved in nitrogen for seven years, without decay. Reading of this fact, Mr. Elwood Cooper, State Horticultural Commissioner of California, was impressed with the idea that if a suitable container could be furnished at a low cost, nitrogen could be profitably used in preserving California fruit during shipment to eastern markets. As the result of considerable experiment Mr. Cooper has now succeeded in producing such a container. The container is a paper box treated with bitumen to prevent the entrance of oxygen from the outside atmosphere. After the box has been filled with fruit it is closed except for a small opening. A number of these filled boxes are placed in a steel cylinder from which the air is exhausted. Then the cylinder is filled with pure nitrogen gas and by means of an automatic device the boxes are sealed. The boxes are of a size to fit the wooden cases or crates in which fruit is ordinarily shipped. The cases of fruit can be shipped in an ordinary box car which is considerably lighter than a refrigerator car and has twice the capacity. Mr. Cooper has packed pears, grapes, cherries, etc., in nitrogen, and taken them from the containers after five months in perfect condition. Fruit that was not in good condition when packed when removed from the containers showed that decay was arrested as soon as the oxygen was excluded.