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H. M. S. MERSEY.

This ship, built at the Royal Dockyard, Chatham, is the first of a new class of "protected corvettes," strongly armed, to act as swift cruisers, and presents some structural characteristics which entitle her to be regarded as an innovation in admiralty ship building in England. It is evident that in future maritime operations of a hostile character the fast steaming cruiser will play an important part; and in order to render such craft seaworthy and shot proof, the "protective" principle of hexagonal steel plated hulls and superstructure decks has been adopted. In the Mersey, says the *Illustrated London News*, to which we are indebted for the cut and particulars, all the vital parts of the vessel—engines, boilers, magazines, and steering apparatus—are inclosed within a steel hexagonal hull, the plates varying from two to three inches in thickness. The upper and main decks could thus be demolished without affecting the stability or propelling powers of the vessel. Being designed as an armed cruiser, for service in which her usefulness, and her own safety upon occasion, will depend upon her speed and ability to maneuver rapidly, the Mersey is fitted rather for attack than defense. Although she might not be able to do much mischief to a fort or a first class ironclad, her armament, including two 8 inch and ten 6 inch breechloading guns, torpedoes, and ram, would make her a formidable opponent for any unarmored ship. The guns are disposed so as to give the power of firing with the greatest possible effect while maneuvering. The two large guns are pivoted, one on the forecastle and one on the poop. On either side, fore and aft of midships, are two projections or sponsons, and in each of these one of the 6 inch guns is placed, the others, three on a side between the sponsons, increasing the effectiveness of her broadside fire. Long ports in the forward sponsons permit the guns to be trained 4 degrees across the bow and to an angle of 60 degrees abaft, giving a lateral range of 154 degrees, while they may also be fired with a depression of 7 degrees or at an elevation of 20 degrees. The after sponsons admit of an equal range of fire. These guns carry their own shields for the protection of the gunners. The vessel also carries one 9 pounder and one 7 pounder boat and field gun, a 1 inch Nordenfelt, and two 0·45 inch Gardner guns. Whitehead torpedoes will be carried, and provision is made for discharging them either above or below water on each broadside.

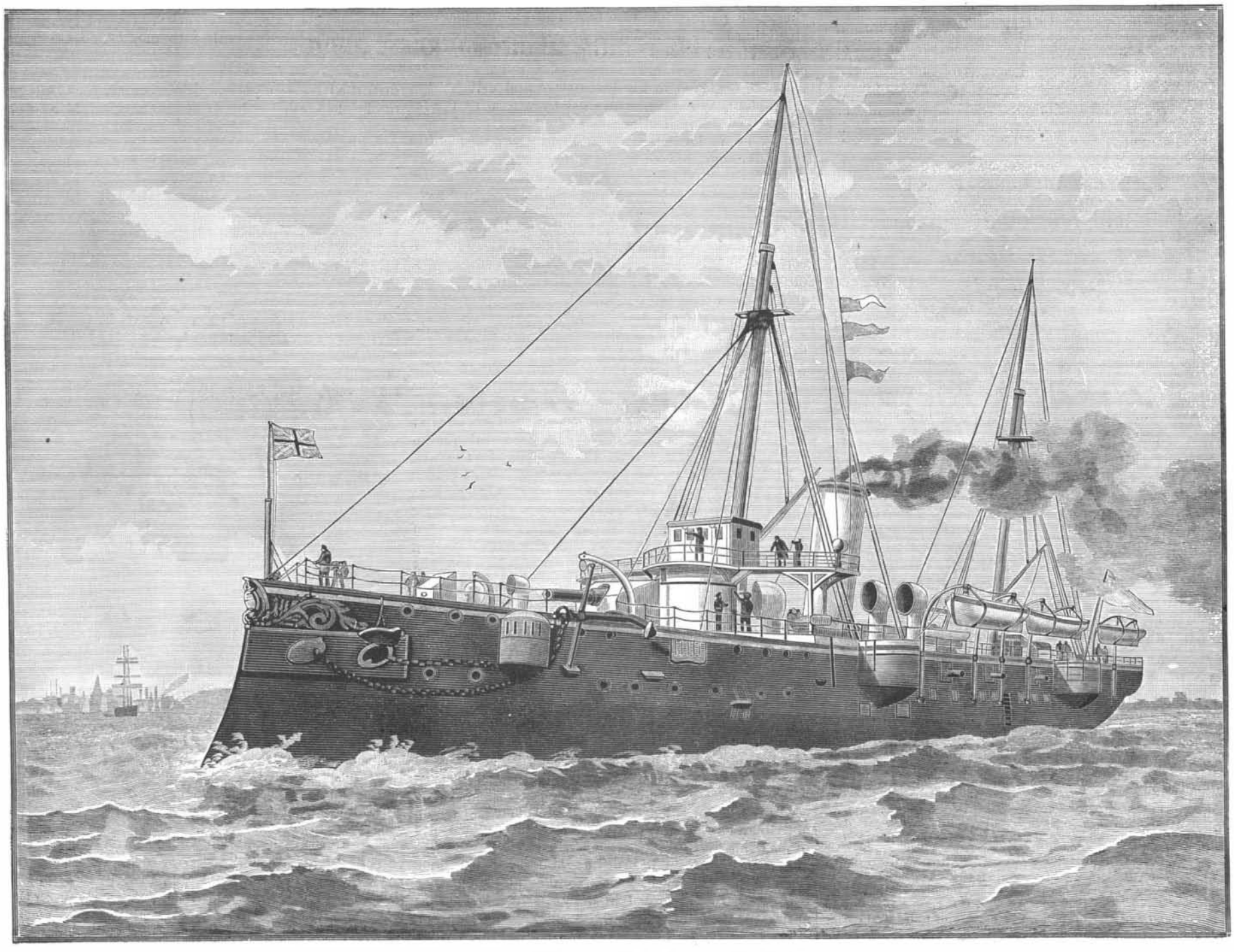
Except for the steel faced armor, 9 inches thick, protecting the conning tower and the steel protective deck plating, 2 inches thick where it is horizontal and 3 inches thick where it slopes downward across the coal compartments at the sides, the Mersey is unarmored. The authorized complement of coal is 500 tons. Her engines, of the horizontal compound pattern, are of 6,000 indicated horse power. She is provided with twin screw propellers, and her speed will be 18 to 19 knots an hour. The principal dimensions of the ship are; Length between perpendiculars, 300 feet; extreme breadth, 46 feet; mean draught of water, 17 feet 9 inches; load draught amidships, 19 feet; load displacement, 3,600 tons. Her crew will number 300 officers and men. The trials of her steaming were finished recently at Portsmouth, with very satisfactory results.

Earthquakes.

Some of the most severe earthquakes on record have taken place in February. At Lisbon, on the 26th of February, 1531, 1,500 houses were destroyed by an earthquake and 30,000 persons buried in the ruins. On the 2d of February, 1703, 5,000 lives were lost by an earthquake at Aquila, in Italy. On the 5th of February, 1783, a terrible earthquake took place in Italy and Sicily, destroying thousands of lives and overthrowing Messina and other towns. On the 4th of February, 1797, an earthquake destroyed the whole country between Santa Fe and Panama, including Cusco and Quito; and it is estimated that on this occasion, 40,000 people were buried in one second. On the 20th of February, 1835, an earthquake in Chili, besides effecting an immense amount of other damage, almost destroyed the city of Concepcion, knocking down the cathedral and most of the public buildings.

A Nearly Perfect Simple Pendulum.

Mr. J. T. Bottomley, of the University of Glasgow, suspends a small shot of about 1-16 of an inch in diameter, by a single silk fiber (half a cocoon fiber) two feet long, in a glass tube three-quarters of an inch in internal diameter and exhausts the latter to about one-tenth of a millionth of an atmosphere. Starting with a vibrational range of one-fourth inch on each side of its middle portion, the vibrations can be easily counted after the lapse of fourteen hours.—*Phil. Mag.*



H. M. S. MERSEY, NEW SWIFT CRUISER.