

# H.M.S. "Renown."

## One of the Navy's War Mysteries.

The fact that His Royal Highness, the Prince of Wales will make his official visit to the North American Continent on board H.M.S. Renown, gives an added interest to the following descriptive article, on this ship and her sister battle cruiser, Repulse, reprinted from "The New Navy" series in "The Maritime Engineer and Architect" for June. We acknowledge the courtesy of Mr. C. Archer Ellis in allowing the Telegram to use his copy of the magazine.

### THE HUSH SHIPS.

When war broke out the Renown and Repulse were already in an early stage of construction at Clydebank and Fairfield, being then slightly modified "Royal Sovereigns," i.e., 25,000 ton battleships carrying eight 15 in. guns and designed to steam 21 knots. The great success of the battle cruisers at Heligoland Bight, Dogger Bank and the Falklands, however, had demonstrated the necessity for adding to our somewhat inadequate squadrons of these ships as quickly as possible in view of the fact that the Germans had the Derfflinger, Lutzow, and Hindenburg variously advanced towards completion, while no further battle cruisers beyond the Tiger had been provided for in our own estimates.

On the initiative of Lord Fisher,

therefore, the construction of the "Renowns" as battlecruisers was stopped and the D.N.C. was instructed to prepare designs for them to be transformed into battle cruisers. This was at Christmas, 1914. In ten days the general design had been drafted and approved, and by the 21st of January, 1915, the builders were provided with the necessary drawings to enable them to get under weigh with the hulls and both ships were laid down on the 25th. The new design provided for ships 170 ft. longer than the vessels already on the stocks (794 ft. against 624 ft.), and with an armament of six 15 in. guns, instead of eight 15 in., the speed being raised from 21 to 32 knots. By April the final drawings and specifications were completed and as Lord Fisher had specified that the ships were to be completed in 15 months from the date of laying down, their construction was expedited to the utmost capacity of the firms contracting. As, however, it took 15 months to build the Dreadnought even with complete designs and specifications ready, and a good deal of her material assembled before the actual work on the hull was commenced, it can be easily realised how the completion of ships 8,500 tons heavier in three months longer was regarded as an impossibility. As a matter of fact the Renown was not launched

until January, 1916, and the Repulse followed her into the water in April, both being completed between August and September of the same year, a record which no shipbuilders in this country or abroad had ever approached, and are never likely to be surpassed for many years, reflecting the very greatest credit upon the builders, the naval construction staff, and all concerned.

In appearance the "Renowns" were unique. Their huge length—they are 90 feet longer than the Tiger—dwarfed all existing war ships, and with a sea speed of 32 knots (Renown made 32.6 on trials) they were able to over-haul any enemy cruiser or destroyer while the six 15 in. guns gave them a superiority in offence over all the German battle cruisers, none of which carried weapons of more than 12 in. calibre.

The hull dimensions were 794 ft. by 90 ft. by 25½ ft. (mean load draught), and the forecastle shows a marked sheer with plough bow of the Japanese variety. There is a pronounced flare almost as far as the foremost turret which gives the impression that the fore part of the ship is not water borne, and modified "blisters" filled with oil fuel instead of water, with an air space between them and the boiler and engine rooms, give her additional protection from torpedoes without greatly adding to her beam; they project about 3 ft. beyond the hull-side perpendicular at the water line.

The main armament is mounted in three turrets, 11-7 ins. in thickness, with 10 in. barbette. These have an elevation of 20 degrees, and an arc of training of about 60 degrees shaft the centre line in the case of the forward guns, and forward for those aft. The secondary armament shows reversion to the smaller calibre which had been discarded in the Iron Duke and Tiger, 4 in. guns being mounted instead of 6 in. These are disposed in an entirely original fashion, fifteen of the seventeen being grouped in triple mountings and two disposed singly. These latter are situated on the forward shelter deck, one on each side of the conning tower, the magazines being immediately abaft the A and B 15 in. magazines.

On the flying deck abaft the bridge are a pair of triple positions, the guns being carried on wings projecting well out over the deck, the hoist forming a cylindrical base. The three remaining groups are disposed along the centre line, one just forward of the mainmast, and two on different levels superimposed. Viewed from the stern, the ships have a most formidable appearance, the tiers of 15 in. and two sets of 4 in. guns being surrounded by the bulk of the after control positions and huge funnels. The masts are stepped on to the upper deck and are both tripods. That forward carries an upper spotting top with the 15 in. and 4 in. guns director towers below, the forebridge being of the usual heavy battle cruiser pattern with searchlights at the wings. The mainmast carries a 4 in. director tower, and a complicated erection of spotting and control positions.

As first completed searchlights were mounted on platforms projecting from the funnels, the forward ones being on a level with the upper bridge and those on the after funnel staged at different levels to avoid interference. In 1918 all these were regrouped and mounted on the new pattern towers around the second funnel. Incidentally, both funnels were originally the same height, but the foremost was raised some 6 feet, to clear the bridge level after the trials had been run.

The big shelter deck ends at the fore funnel, and amidships there is a light continuation carrying the four inch guns, alongside which the boats are stowed. Abaft the mainmast is a light 3 in. conning tower and shelter decks. The forward C.T. is 10 in. thick, with a 6 in. revolving hood for the range finder, and a 3-2 in. base down to the main deck.

Two 21 inch torpedo tubes are carried just forward of the A turret, and two 3 in. H.A., and four 3 pounders are disposed around the funnels. The propelling machinery consists of Brown Curtis turbines driving four screws and similar to that installed in the Tiger, but additional boilers were provided to increase the H.P. from 100,000 to the 120,000 developed on trials.

The fuel consists of oil only, of which some 4,250 tons are carried in the double bottom and "blisters." As regards sea keeping qualities,

the ships have been very successful, being able to maintain an average of 32 knots and none of the structural weaknesses which characterized the Courageous class were developed. Although not completed in time for Jutland, they were employed to back up the light cruisers during sweeps of the German littoral and rendered timely assistance on more than one occasion.

The Repulse and Renown present many features which will probably never again be introduced into H.M. ships. The triple mounting has been abolished in the Hood—an enlarged and armoured edition of them—and 5.5 in. guns replace the 4 in. The absence of side armor has not been justified by war experience, and in future a strong offence cannot be reckoned as the best defence—thick decks and all the armour that can be worked in even at the expense of increased displacement and diminished gun power must be a postulate for the survival after a hitting in the next naval action and the ideal seems a happy combination of the U.S. "All or Nothing"—i.e., thick belts, bulkheads and turrets with heavier decks and magazine protection, plus our own system of fitting that medium thickness of plate on hull side over belt which can be allowed, and the development of the "blisters."

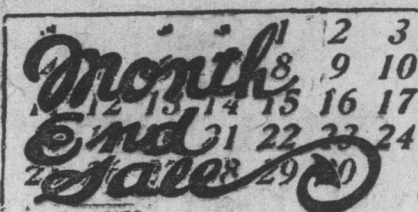
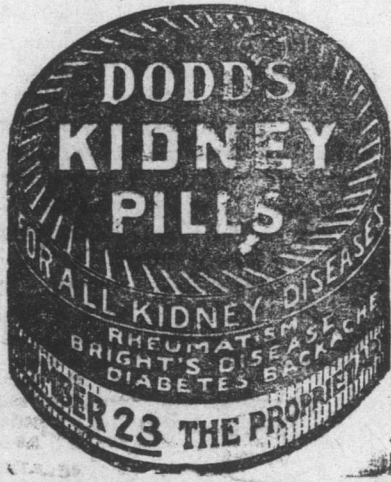
They are probably the last battle-cruisers we shall build—in future the battleship must combine all the functions of both types and progress will be along the lines of the Hood with regard to big ships. Jutland showed that while the German battle cruisers could stand a hammering which would have placed our ships hors de combat, their armament was on the light side, while if the British ships had the best of it in the matter of gun power they lacked the thick armour where it was wanted; and so, as it is obvious that we cannot have both speed and thick armour in conjunction with big guns and expect to keep displacement around the 27,000 ton mark, then the gun power must be reduced in quantity, but not calibre and displacements soar up to 40,000 tons and more.

From a hygienic point of view the big ship is far away ahead of the "Pre-Dreadnoughts" and the "Renowns" are the most comfortable and healthy vessels in the Service. The days when the ship battened down was sick with stale air and the hammock flats were a breeding ground for tubercle, have gone; in future more space will be available for proper sleeping accommodation and living quarters for the men, while the old methods of ventilation must be relegated to the limbo of things half appreciated and half neglected.

### Not Alarmed.

The English sovereign, nominally worth \$4.86, was quoted in New York at \$4.25 the other day. It is a new low level in foreign exchange. However, the "tight little island," as the New York "Herald" so well says, does not consider this high premium on exchange an unmix'd evil, for it tends to check imports and force her own machinery, add to the world's stock of products and employ her labor, thus steadying economic conditions. In that way England figures she can gradually produce goods, add to her wealth and the wealth of the world and help restore the purchasing power not only of the English sovereign but the American dollar. Both countries need more products to reduce the high cost of living.—N. Y. Fishing Gazette.

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