

**LAUNCH OF THE ARMORED CRUISER "SOUTH DAKOTA."**

As the present war in the East progresses, and the reports of the various naval engagements come to hand, it becomes increasingly evident that the superior fighting value of the armored over the protected cruiser is being firmly established. It is battleship against battleship, armored cruiser against armored cruiser, and protected vessels against ships of the same class. Thus in the recent engagement in the Korean Strait, it was the four armored ships of the "Iwate" class that engaged the great armored cruisers of the "Rurik" class, and it was not until one of them, the "Rurik," was in a sinking condition, and her consorts had drawn off in the endeavor to escape, that a couple of cruisers dared to venture in and deliver the final blows.

The value of the armored cruiser being thus so thoroughly established, it is fortunate that for several years past the United States navy has built all its cruisers of the armored type. At present we have six vessels of this class under construction, which are among the largest and most powerful afloat—the "Colorado" and the "Pennsylvania," building by William Cramp & Sons, Philadelphia; the "Maryland" and "West Virginia," building at Newport News, and the "California" and "South Dakota," which are under construction at the Union Iron Works, San Francisco. The last of these vessels to be launched was the "South Dakota," which forms the subject of the accompanying illustration. The six vessels are identical, and the following description of the "South Dakota" will answer for any one of the class.

The principal dimensions of these ships are as follows: Length on load water-line, 502 feet; beam, 69 feet 6½ inches; mean draft, 24 feet 1 inch; displacement on that draft, 13,680 tons, the full load displacement on maximum draft being 15,138 tons. The distinguishing feature of the vessels as to their appearance, is the high freeboard and the long unbroken sweep of the upper deck. The protection consists of a continuous belt of Krupp armor, which varies from 6 inches in thickness for a long stretch amidships to a thickness of 3½ inches at the ends. Associated with this is an armored deck which is 1½ inches thick on the flat and 4 inches in thickness on the side slopes. For about a third of the vessel's length amidships there is a continuous wall of side armor which rests upon the 6-inch main belt, and extends to

the upper deck. This armor is 5 inches in thickness throughout, and it incloses the central battery. At the ends of this side armor are transverse bulkheads 4 inches in thickness. In our illustration of the launch, the shelf upon which the bottom of the water-

ning tower and 5 inches on the signal tower, which is placed beneath the after bridge.

The armament consists of four 8-inch, 45-caliber guns, of the latest model, which are carried in two barbette turrets, one forward and one aft, with armored ammunition hoists extending from the barbettes down to below the protected deck. The intermediate battery consists of fourteen 6-inch 50-caliber guns. Ten of these are distributed in broadside on the main deck, firing through recessed ports in the belt of 5-inch side armor. The other four guns are located on the upper deck, within casemates protected by 6 inches of steel which are placed at the four corners of the central battery. These four guns and the four guns immediately below them on the main deck are capable of being fired dead ahead and dead astern. All the 6-inch guns have small semi-circular shields fitting snugly up to the openings at the recessed ports above mentioned. The secondary battery consists of eighteen 3-inch 50-caliber guns. Four of these guns are carried on the main deck forward, four on the same deck aft, and eight of them are carried in broadside on the upper deck between the 6-inch guns. There are also a pair of 3-inch guns on the superstructure. The rest of the armament is made up of twelve 3-pounders, eight 1-pounder, two Gatlings, and six Colts. The vessel carries two submerged torpedo tubes which are located forward toward the bow.

The vessels will be driven by two sets of four-cylinder, triple-expansion, vertical inverted engines. The boiler installation consists of thirty Babcock and Wilcox water-tube boilers, having a grate area of 1,600 square feet, and a heating surface of 68,000 square feet. The engines, when running at 133 revolutions per minute, are designed to indicate 23,000 horse-power and drive the vessel at a speed of 22 knots an hour. The normal coal supply will be 900 tons; but there is a maximum coal bunker capacity of 2,000 tons. We present an illustration of one of these engines.

The "South Dakota" will carry the large complement of 829 men and her great size will make it possible to give them comfortable accommodations. A total of 2,219 tons of armor will be worked into her, and with her high speed, good battery, and coal supply, the "South Dakota" and her sisters will, no doubt, give an excellent account of themselves should they ever have to pass through the ordeal of a naval campaign.



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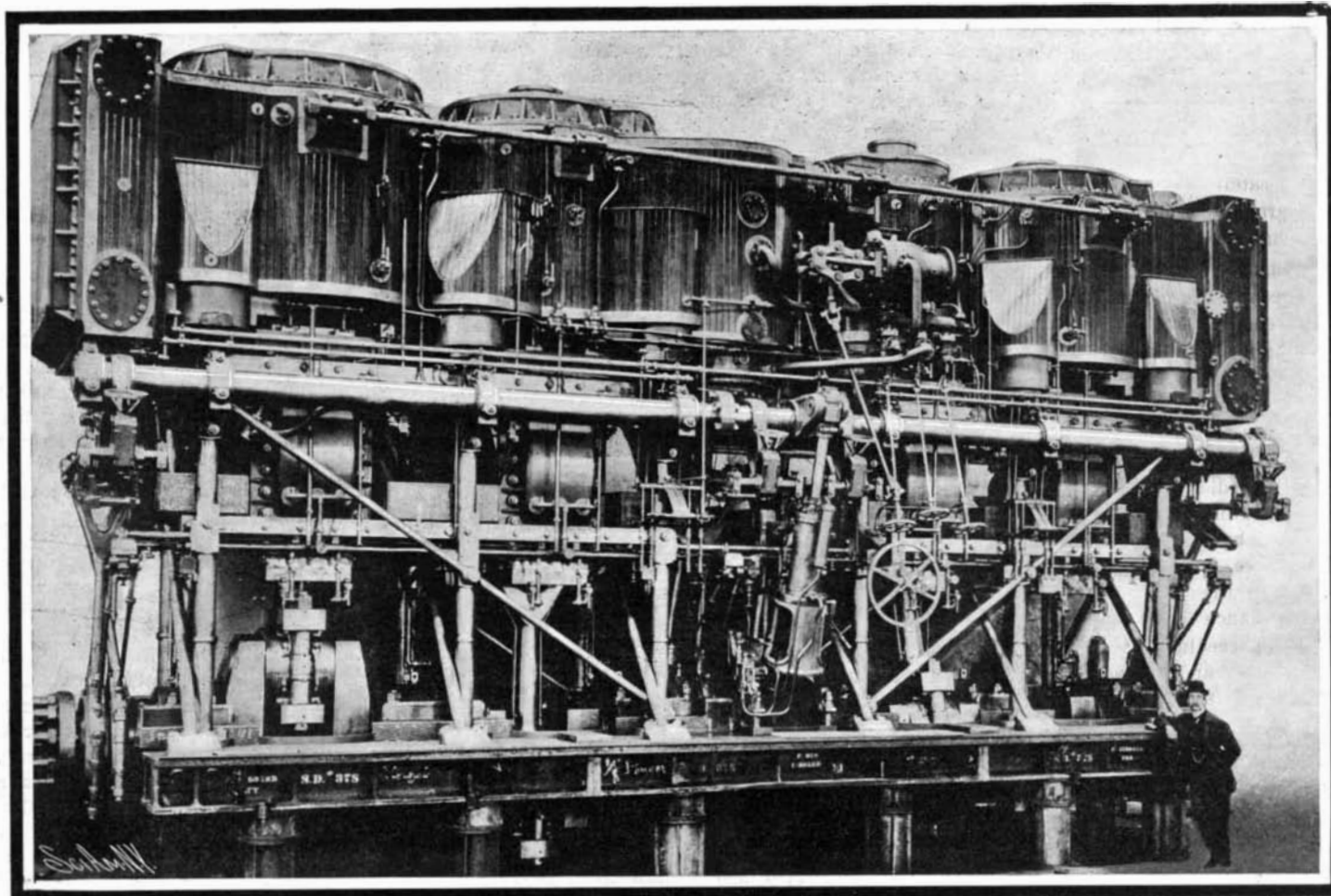
**Displacement,** 13,680 tons. **Speed,** 22 knots. **Coal supply,** 2,000 tons. **Armor:** Waterline belt, 6 inches; turrets, 6½ inches; barbettes, 6 inches; deck, on slopes, 4 inches, on flat, 1½ inch. **Armament:** Four 8-inch, fourteen 6-inch, eighteen 3-inch, twelve 3-pounders, eighteen smaller guns. **Complement,** 829.

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line armor belt rests is clearly visible. The 6-inch gun casemates have 6 inches of armor protection, while the gun emplacements for the main armament of 8-inch guns are protected by 6½ inches of armor.

There are also 9 inches of Krupp steel on the con-

water-tube boilers, having a grate area of 1,600 square feet, and a heating surface of 68,000 square feet. The engines, when running at 133 revolutions per minute, are designed to indicate 23,000 horse-power and drive the vessel at a speed of 22 knots an hour. The normal coal supply will be 900 tons; but there is a



**ENGINES OF THE ARMORED CRUISER "SOUTH DAKOTA."**