

THE NEW GERMAN ARMORED WAR SHIP SIEGFRIED.

The armored vessel Siegfried, which was added to the service, on trial, this year, represents a new type of vessel in the German navy, which is thereby improved from a defensive as well as an offensive point of view. As it is well armed, it can successfully face hostile armored vessels on the high seas, especially as it is thoroughly seaworthy. Its external form is very peculiar, differing entirely from other German war ships. Its breadth and the shape of its sides give it the appearance of a gigantic fish. The bow runs out like a ram's horn, while the stern is perpendicular, and under the water the stern is drawn in so that the rail projects over the rudder. On account of the small draught, the bottom of the vessel is broad and flat, and to increase its stability strong side keels are provided.

The Siegfried is about 239 ft. long, 46 ft. wide, and draws 17 ft. of water. Its displacement is 3,400 tons. The 4,800 H. P. engines operate two three-bladed screws, and give the vessel a speed of 16 miles per hour. The armor extends on the water line throughout the entire length of the ship. There are three guns of large caliber (long 28 centimeter cannon), two of which are placed at the bow and one in the stern, in armored turrets. The vessel is further provided with revolvers and quick-firing guns, besides two torpedo-throwing devices. The Siegfried was built at Kiel, and was

War Ships of the World.

Mere figures can never adequately represent the comparative strengths of navies, there being, says *Engineering*, so many details affecting efficiency in action. The following figures, however, may be interesting :

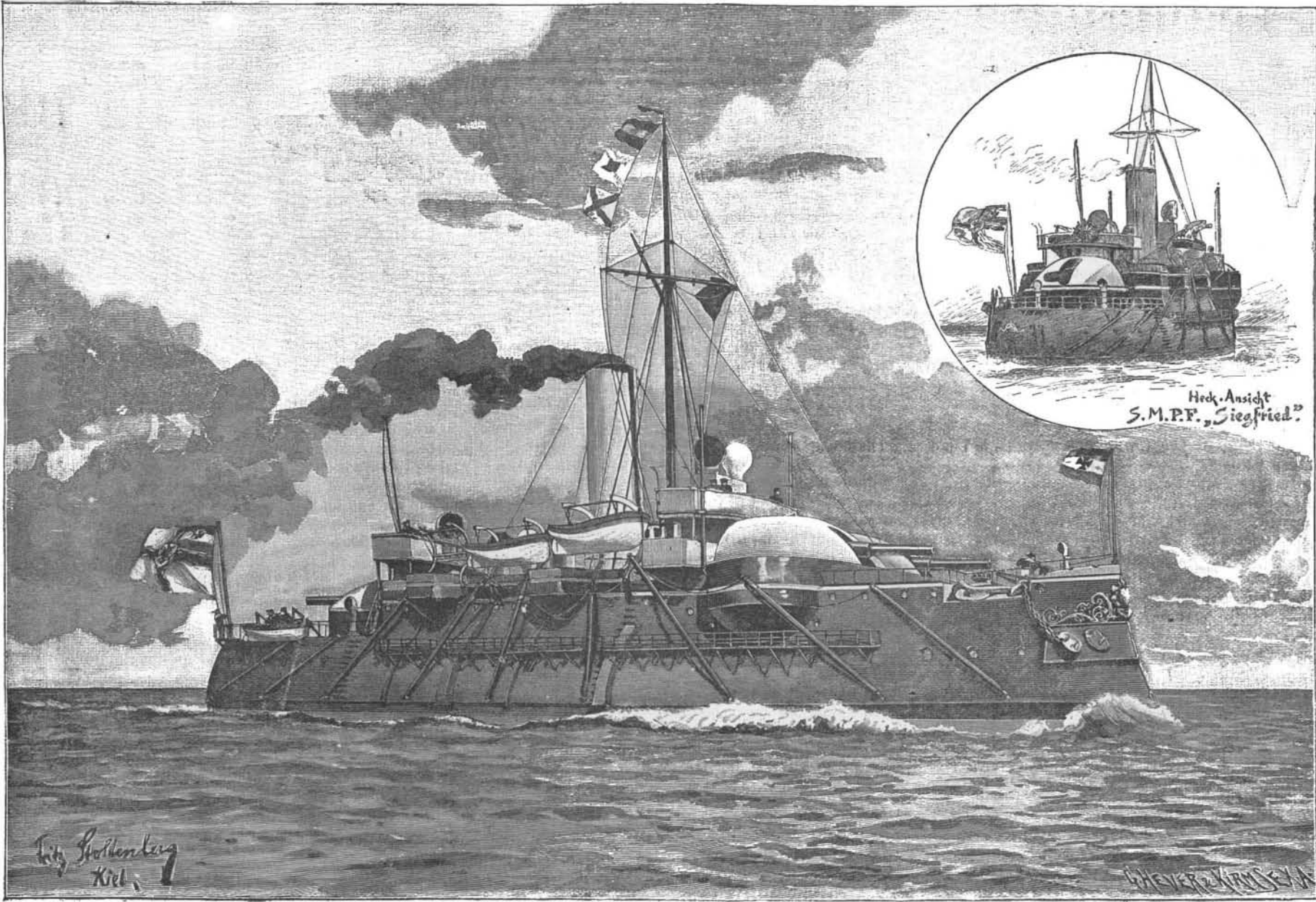
	Britain.	United States.	France.	Germany.	Italy.	Russia.
Number of first-class armor-clads (18 in. armor and above)...	19	..	13	..	10	7
Other sea-going armor-clads	41	..	27	16	11	17
Cruisers and sloops (above 900 tons)....	166	47	63	35	22	32
Gun vessels (over 600 tons).....	47	3	11	4	17	4
Gun boats (over 200 tons).....	81	2	37	10	22	14
War vessels over 14 knots	169	19	75	44	55	28
Merchant ships to each cruiser or sloop	39	9	8	21	10	7
Merchant tonnage to each cruiser or sloop	49,000	11,000	13,000	26,500	13,600	5,000
Merchant ships to each war vessel ...	38	22	7	17	4	8

The relative extent of coast line to defend also forms an element in the comparative strength of the fleets,

sels are being built at Brest and Rochefort respectively. Germany has two small torpedo catchers of 22 knots, and Italy several of 21 knots speed, while Austria has three of 23 knots speed. Spain is building several large cruisers of 20 knots speed, and has the *Reina Regente* of 21 knots speed, and two sister ships incomplete. It seems only natural to state in this connection that sixteen merchant vessels are given as able to steam at a speed of over 19 knots, several of them at 21 knots, and others are forthcoming. Of this number nine are Atlantic vessels, three Hamburg-American liners, two White Star, two Inman, and two Cunard liners.

Natural Gas in California.

The *Pacific Lumberman* says an enormous flow of natural gas was recently struck at Summerland, a suburb of Santa Barbara. Three months ago a two-inch well put down for sulphur water struck a strong flow of gas, which has since been used for lighting and domestic purposes in Summerland. About three weeks ago a syndicate of Santa Barbara and San Luis Obispo capitalists leased the property, and commenced to put down a ten inch pipe. Gas in considerable quantities was struck at twenty-eight and thirty-four feet, and at a depth of forty-nine feet they struck a gusher. The noise was so great that it could be heard for blocks, and the flow could not be capped. It is estimated that



THE NEW GERMAN ARMORED WAR SHIP SIEGFRIED—DRAWN BY FRITZ STOLTENBERG.

launched August 10, 1889. The cost of construction, not including the armament, was \$840,000. The builders will profit by the experiences of the trial trip of the Siegfried in building other vessels of the same class, two of which were begun last year.—*Ueber Land und Meer*.

The Amount of Produce a Well Managed Garden is Capable of Yielding.

THE *Boston Transcript* says : " The amount of produce a well managed garden is capable of yielding is well shown by the following statement recently made by G. W. Hallock & Son concerning their fifty-eight acres of land near Greenpoint, Long Island, during last year : 3,750 bushels of onions and 4,500 bushels of carrots ; early cabbages, 5,500 barrels ; early potatoes, 2,500 bushels ; strawberries, 11,000 quarts ; onions from sets, 2,260 bushels ; white beans, 160 bushels ; carrots, 11,000 bushels ; late potatoes, 450 bushels ; onions from seed, 3,900 bushels ; ears of corn, 2,000 bushels ; Brussels sprouts, 500 bushels ; potato onion sets, 10 bushels ; carrot seed, 40 pounds ; onion seed, 100 pounds ; Brussels sprout seed, 4 pounds ; cabbage seed, 2 pounds ; Hungarian grass, 3 tons ; cabbage plants to carry over, 250,000."

and here again Britain shows a deficiency, owing to the widespread character of the empire. Speed is of strategic importance, and one or two figures on this score may be given :

	Britain.	France.	Germany.	Italy.	Total including other nations.
Over 20 knots :					
Number	50	5	2	17	94
Tons displacement.....	135,900	24,280	640	12,390	238,663
Number of guns.....	280	48	..	16	350
Over 19 knots :					
Number	24	10	9	3	61
Tons displacement.....	96,510	30,030	10,870	7,900	208,210
Tons	196	58	10	26	375
Over 18 knots :					
Number	9	11	8	9	61
Tons displacement.....	46,660	4,980	57,260	71,310	232,800
Tons	107	5	56	72	364

The largest vessels included in the British total of 20 knot ships are the *Blake* and *Blenheim*, of 9,000 tons and 22 knots speed, with 9½ inch guns. France's largest will be the cruisers *Dupuy de Lome* and *Amiral Jaures*, 6,300 tons and 20 knots speed. The latter two ves-

the daily flow is at least 3,000,000 feet, exceeding any well west of the Mississippi river.

The syndicate proposes to pipe the gas at once to Santa Barbara, and it will offer special inducements to manufacturers. Already propositions have been received for the establishment of manufacturing industries.

Sure Death to Borers.

Do not hunt for borers at all, says the *N. E. Homestead*, but just doctor them a little. Make a mixture of about one quart of wood ashes to a pail of water, and stir it well. Next make a ridge of earth around the tree a few inches from it, and high enough so when you pour your mixture into the circle it will run into the holes and kill the worms. It is sure death to them, and costs less than one cent a tree. I have used it for years, says the writer, with perfect success. You may have to do it twice the first year, but after that a very little care will keep your trees free from them. If you have no wood ashes, use a thin whitewash of lime in its place. If you have a large number of trees, you can use strips of zinc or sheet iron about four or five inches wide and long enough to put about the tree in place of the circle of earth.