Scientific American.

ESTABLISHED 1845

MUNN & CO., - - - EDITORS AND PROPRIETORS.

PUBLISHED WEEKLY AT

No. 361 BROADWAY, - - NEW YORK.

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(Established 1845.)

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(Established 1876)

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NEW YORK, SATURDAY, NOVEMBER 6, 1897.

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(Illustrated articles are marked with an asterisk.)

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Scientific American Supplement

No. 1140.

For the Week Ending November 6, 1897.

Price 10 cents. For sale by all newsdealers.

THE NAVIES OF THE UNITED STATES AND SPAIN—A COMPARISON.

In view of the somewhat strained relations which exist between certain sections of the press of the United States and Spain, and the rather thin ice upon which the diplomatic representatives of the two countries are just now venturing, a comparison of the strength of the two navies will have more than a passing interest.

In looking over the lists of the ships, and noting the date of building, one is struck with the fact that both navies, though small, are of modern construction and thoroughly up to date. The period of reconstruction dates from the early eighties, and previous to that time neither nation possessed a navy which, judged by modern standards, was of great practical value. Spain could boast of two or three obsolete types of iron ships, armed with muzzle-loading guns, and a few small cruisers of slow speed carrying breechloaders of the slow-firing type; while the navy of the United States, though numerically stronger, consisted mainly of ships built some twenty years before and during the war between the North and South.

It is difficult to make a comparison of the two navies class by class for the reason that the most important warships of Spain are of a type midway between the battleship and the cruiser, which is not represented in our navy. Of these Spain possesses six ships, known as the Infanta Maria Teresa class, of 7,000 tons displacement and 20 knots speed, with a complete 12 inch belt at the water line and carrying two 11 inch guns as the main armament. In respect to their high speed and unprotected upper works they approximate to the cruiser, while the great thickness of the belt and the barbette armor and the size of the main armament would rank them as second-class battleships.

Comparing the two navies seriatim by classes, we find that the United States has a great preponderance in first-class battleships. Of these she possesses four, with an average displacement of 10,568 tons; average speed, 16·42 knots; thickness of belt armor, 18 inches of Harveyized steel, and a main armament of 13 inch guns. Against this Spain could oppose her one battleship, the Pelayo, 9,900 tons, 16 knots speed, 17¾ inch belt, and armament of 11 inch and 12½ inch guns. The Pelayo is a French built ship, with a high freeboard, and its main battery disposed in four barbettes, two fore and aft and two on the broadside. She is a formidable ship, but would scarcely be a match for either of our battleships, except in a heavy sea, when her greater command would be a considerable advantage.

Spain has no second-class battleships to offset the Maine, 6,682 tons, 12 inch belt, 17·4 knots speed, and four 10 inch guns; and the Texas, of 6,315 tons, 12 inch belt, 17 knots speed, and armament of two 12 inch guns, unless we reckon the Infanta Maria Teresa as belonging to this class, in which case Spain possesses a superiority of four ships. This would go far to offset our advantage in battleships of the first class. The high speed—20 knots—of these ships would give them a great tactical advantage over the Maine and the Texas, and would enable them to choose the fighting position in relation to our Massachusetts or Iowa which would expose them to the least damage.

In the armored cruiser class Spain could oppose one ship of 6,840 tons, 6 inch belt, 20 knots speed and armament of 10 inch and 6 inch guns, and one ship, the Carlos V, of 9,235 tons, 20 knots speed, 2 inch belt and armament of 11 inch and 5½ inch guns, against our Brooklyn, of 9,250 tons, 3 to 7½ inch belt, 21·9 knots speed and armament of 8 inch and 5 inch guns, and New York, of 8,200 tons, 4 inch belt, 21 knots speed and armament of 8 inch and 4 inch guns.

The United States possesses six coast defense monitors of from 4,000 to 6,000 tons, 10 to 13 knots speed, and armament of 10 inch and 12 inch rifle guns. Spain has none of this class of ship, unless two obsolete iron vessels, the Numantia and Victoria, of 7,300 tons and 8 and 10 knots speed, armed with muzzle-loading guns, be included.

In the protected cruiser classes the United States leads with the two commerce destroyers, Minneapolis and Columbia, of 7,357 tons, 23 knots speed and great coal endurance. Spain has no warships answering to these, and neither her merchant marine nor navy could furnish a sea-going vessel that could overtake them upon the high seas. The Olympia, though not so large or fast, is more formidably armed, carrying 8 inch and 5 inch guns; at the same time she is credited with the high speed of 21·69 knots. Spain has no ship answering to the Olympia.

To the 4,500 ton cruisers of the Baltimore and Newark types, of which we have six, Spain could only oppose the Alfonso XIII, of 5,000 tons, and the Lepanto, of 4,826 tons, both of 20 knots speed and armed with 6·2 and 7·8 inch guns and a battery of 4·7 rapid fire guns. The superior size and delivery of shell fire from the rapid fire guns of these two ships would make them formidable antagonists of any two of the six boats above named.

The United States also possess five cruisers of from 3,000 to 3,700 tons, and three of 2,000 tons, most of which have a speed of 19 knots and are armed with rapid-fire guns. To these Spain could oppose five cruisers of from 3,000 to 3,300 tons with a speed of from 14 to 17½ knots. The latter cruisers were built between 1879 and 1887 and are not so fully up to date as our ships, which were built in the nineties and carry rapid-fire guns.

The United States has seventeen gunboats and smaller cruisers of between 1,000 and 1,750 tons displacement and from 12 to 17½ knots speed, as against four of the same class in the Spanish navy which range in displacement from 1,030 to 1,130 tons and are of 14 and 16 knots speed. Spain has also eighteen gunboats of about 550 tons displacement and from 11 to 20 knots speed, according to their date of construction.

Spain possesses two torpedo boat destroyers, fourteen first-class and three second-class torpedo boats, whereas we have three destroyers built and building, and eighteen torpedo boats under construction or completed, with one submarine boat.

From this brief review of the two navies it is evident that Spain is an antagonist who, in the present stage of naval affairs in the two countries, is by no means to be despised. Although she is second to the United States both in the number and power of her ships, her fleet would be effective for the class of warfare which she would probably elect to wage. It is not to be supposed for an instant that she would run the risk of a pitched battle where she would meet such mighty ships as the Massachusetts or the Iowa. Her policy would be to avoid the line of battle and content herself with depredations upon our seacoast cities and our commerce. The great speed of her 7,000 ton armored cruisers would enable them to elude our battleships, and the range and great weight of the 11 inch guns which they carry would prove terribly destructive in long range bombardment.

If a war should prove to be protracted, the delay would be in favor of the United States, as we should soon put in the water the five first-class battleships and the torpedo boats now under construction; and this would give us a powerful preponderance. As matters now stand, however, Spain would undoubtedly be able to maintain for some time a fierce and destructive naval war.

THE DISASTER ON THE NEW YORK CENTRAL RAILROAD.

The fatal wreck of the Buffalo Express on the New York Central Railroad will go on record as one of the worst disasters in railroad history. In the practically complete demolition of the train, and in the long list of fatalities, it possesses all the features which used to characterize the all too frequent accidents on the flimsy pioneer railroads of an earlier day; and the profound sensation which such a calamity always produces on both the lay and professional mind is, no doubt, greatly intensified by the fact that in this case it has happened upon one of the most solidly constructed and best equipped railroads in the world. In common with the Pennsylvania Railroad the New York Central has been generally accepted as the representative railroad of America, and the fame of its four-track line with its hundred-pound rail, heavy ties, broken stone ballast and solid roadbed has reached every corner of civilization.

The scene of the accident lies in the Highlands of the Hudson, and therefore in the midst of some of the most noted natural scenery of that famous river. At this point the lines are carried on an embankment on the outside of which is a dry retaining wall, that is to say, a wall in which the stones are laid upon one another without any cement to bind them together. Judging from the evidence, it would seem that when the Buffalo Express reached this embankment a portion of it collapsed, and the wall, together with that half of the roadbed covered by the southbound track, slid off sideways into the river. The engine and seven cars, including three sleepers, plunged into the river, with the result that a score of passengers lost their lives, chiefly by drowning, and a large number of others were injured.

Travelers who have passed through the Hudson Valley at this point will remember that the river is closely hemmed in by the mountains and foot hills, which often descend precipitously to the river or slope to the water's edge and beneath it at various angles of inclination. In some places, the roadbed through the Highlands consists largely of "cut" or "fill," that is to say, it is either cut from the hillside or consists of an embankment hugging the shore line at the base of the sloping rock, or thrown across the mouths of the small gulches and valleys which run down between the hills to the river. The construction of this line took place so many years ago that accurate records are not available; but that the engineers met with serious difficulty in the Highlands is probable, judging from the experience of the builders of the New York, West Shore and Buffalo Road along the opposite bank of the river. Here the dip of the rock beneath the river was frequently so steep that the rock embankment and even the cribwork could not obtain a foothold, and slid off bodily into the river. It became necessary to span