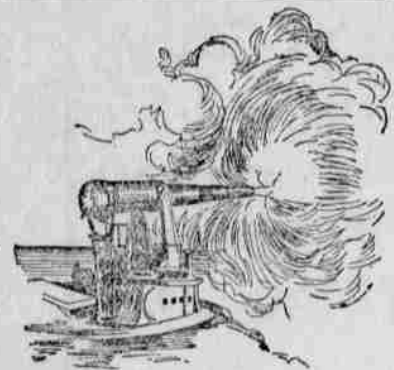


## IF WAR SHOULD COME.



tion as to the real value of our navy and its relative importance among the naval armaments of the world. It has revived the discussion of what the result of a war between the United States and a foreign nation would be.



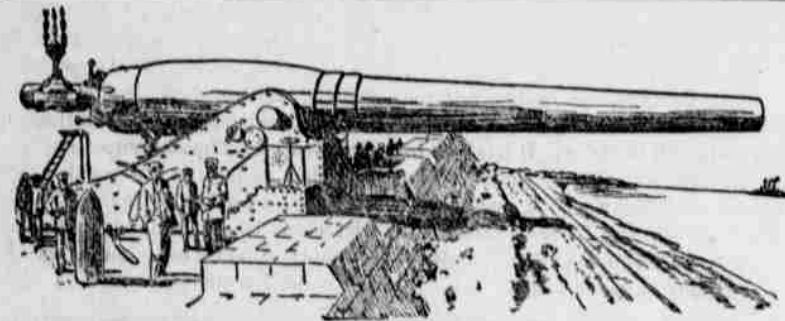
DISAPPEARING GUN AT NEW YORK.

and brought forward the three opinions concerning such matters, viz.—the theory which holds that we have no more use for a navy comparable to that of the great nations of Europe than we have for a standing army like that of Great Britain, Germany, France or Russia; the stand that the money put into our navy would better have been expended in coast defenses; and lastly that opinion which demands that on land and sea we should be equally powerful to any nation on earth.

It is now over half a century since the guns of this country were turned upon a foreign foe, and this long period of peace has inclined a very large proportion of American citizens to the first named course of reasoning. The middle ground position is held by the coast defense theorists. They believe that with our coast defended by modern fortifications and guns we can almost dispense with a heavy navy altogether. The third party believes in the widest possible display of our naval power. At the present time the only country with which we are likely to become embroiled in strife is Spain, and as a war with the Spanish would be largely a naval one it is therefore of interest to consider what the possibilities of such a war might be.

Since the Maine went down numerous reports have been spread broadcast that Spain is now superior to us as a naval power, and many persons have grave fears as to the outcome of a conflict. Let us see. Since 1883 Congress has authorized the construction of seventy-seven war vessels, at a cost of \$134,430,700.10. Sixteen of the vessels have not yet been completed. The vessels authorized since 1883 are as follows: Battleships, first-class, nine; battleships, second-class, two; cruisers, 18; gunboats, 15; harbor defense ram, one; monitors, six; dynamite cruiser, one; torpedo boats, 21; submarine torpedo boat, one; training ships for cadets, two; dispatch boat, one.

Of the sixteen ships of war now under construction, the Secretary of the Navy estimates that all will be completed during the present year except



THE GUN THAT GUARDS HAVANA HARBOR.

the five battleships, which will probably not be ready for service until the latter part of the coming year. It is, therefore, obvious that the United States is not so powerless upon the seas as some would have it understood.

During the past ten years there have been expended yearly on seacoast fortifications and their armaments and for submarine mines and torpedoes the sum of \$40,000,000; our principal seacoast towns have been put in condition so that, with the aid of the navy, the country could easily resist the attack of any one of the great naval powers of the world.

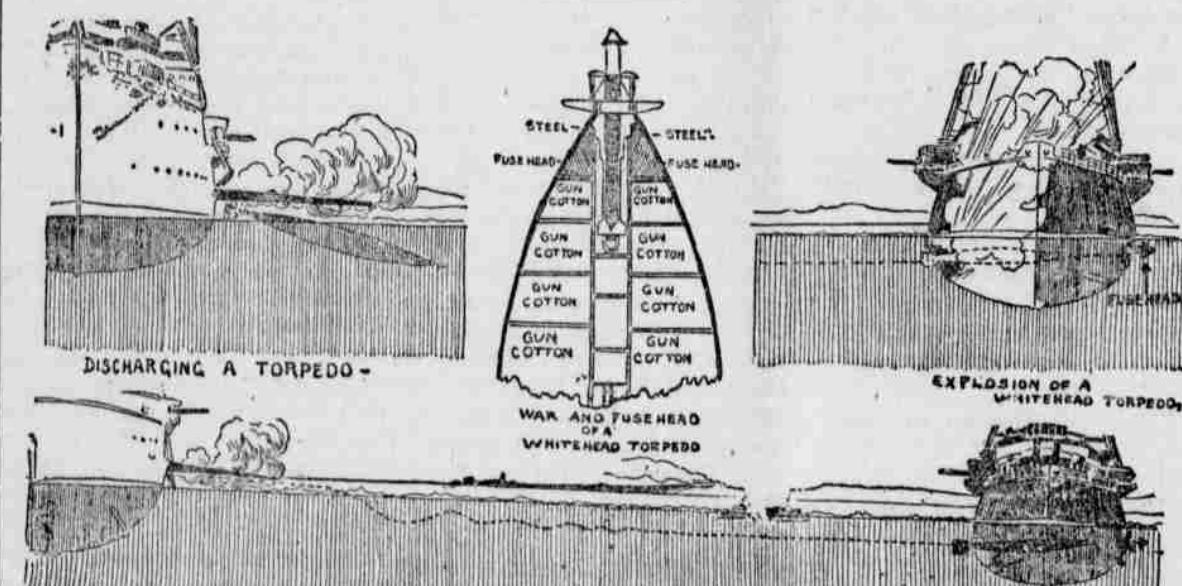
There is no doubt as to which of the two nations, Spain or the United States, is the stronger from a naval standpoint. In ships and armament we have by far the superior navy. While Spain has more men in her navy, we outnumber her in ships, although she includes some splendid cruisers in her list. Like us, she is adding to her navy, replacing the boats she lost in 1895. She is obliged to have this done, however, abroad, as she has no shipyards of her own. Her limited credit has kept back this work, and it is not likely that the boats now under way would be completed even on "rush" orders before two years from now. Then, too, the classifications made in the tables favor Spain, placing boats in the second class of battleships which, although heavier than our sole remaining specimen of that class, could not cope with it.

On paper Spain has about the same number of warships available for

fighting as the United States has on the Atlantic coast, eliminating torpedo-boats, which can operate, by the nature of things, only in home waters. But what about the ships themselves? Spain has only one first-class battleship, the Pelayo; we have in the East the Indiana, Iowa, and Massachusetts. Spain strictly has no battleships of the second grade; we have only one now, the Texas, sister ship practically of the Maine. Spain has one iron and useless monitor, the Puig-Cerdá; we have four of them, matchless fighters—the Puritan, Terror, Miantonomah, and Amphitrite. Spain has six armored cruisers, all of them practically in splendid fighting trim—the Almirante, Oquendo, Carlos V., Infanta Maria Teresa, Princesa de Asturias, and Vizcaya. We have two such vessels—the New York and Brooklyn. For defensive fighting our four monitors are superior to the three armored cruisers which we seem to lack in comparison with Spain, but, allowing that they are only equal, it may be said that in that class the navies of the two nations are of equal strength.

That throws the comparison back to battleships, of which we have four available, three first-class and one second-class, and of which Spain has only one available, the first-class Pelayo. The armament of the monitors and armored cruisers on both sides is practically equal. The armament of battleships is four to one in our favor, and it is the kind of armament that tells ten to one in a naval battle. So much for strictly fighting ships. We have ten, Spain has six. In protected cruisers Spain has not more than fifteen and we have ten available on the Atlantic coast. The armament of our ten, careful calculation shows, is a little more than equal to that of Spain's fifteen.

### THE "DEVIL OF THE SEA"—HOW THE TORPEDO DESTROYS.

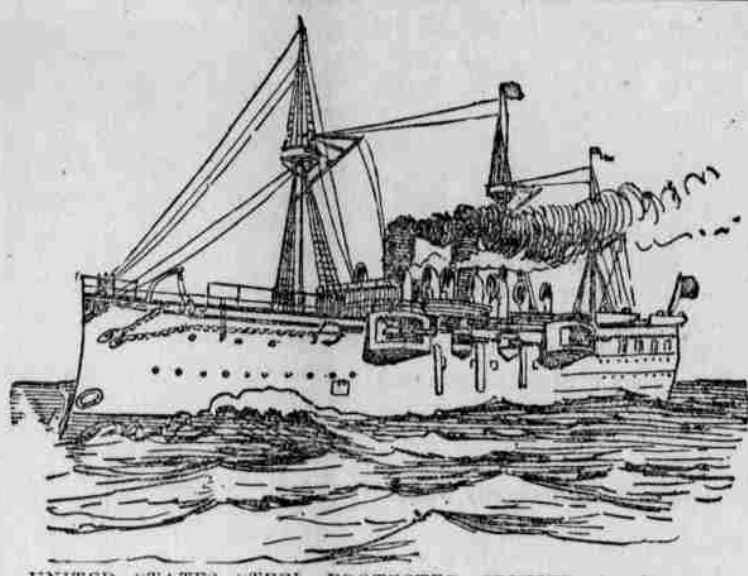


A Whitehead torpedo fired from an overhead tube and its progress through the water. On striking the water the torpedo is propelled at tremendous speed by its own engine. In the forward portion of the torpedo is carried an explosive charge of 150 pounds of gun cotton. The mine is exploded by a percussion fuse fitted into the nozzle of the weapon. The torpedo would wreck the strongest ship afloat.

Of gunboats Spain seems to have twenty; we have not more than twelve on the North Atlantic coast. Nearly one-half of Spain's gunboats, according to Lord Brassey, the great English authority, are "small steamers from 80 to 348 tons." In the matter of unarmored ships, the commerce destroyers, Spain has a slight advantage in numbers; we have a slight advantage in strength. We could use our torpedo-boats; Spain couldn't get hers over here. We could use our ram Katabin and our Holland submarine boat; Spain has no such vessels.

In the matter of ships and guns, de-

range. The deadliness of these arms is great enough under those circumstances, as China and Japan know to their cost. What the result would be if several Spanish and United States battleships met in closer quarters may easily be imagined, and it is no exaggeration to say that the chances favor the destruction of nearly everyone engaged.



UNITED STATES STEEL PROTECTED CRUISER COLUMBIA.

Modern gunnery and armor-making have kept such steps together that no sooner has a plate been invented which would resist the most penetrating projectile of that time than a gun was speedily devised or an explosive discovered which necessitated the invention of a plate of still greater resisting power. This game has gone on, until the modern ship is a gigantic floating hulk, the propulsion of which through calm and known waters is no easy task, to say nothing of its management in heavy seas or during an engagement, where rapid action is necessary.

But besides the things visible with

tor would immediately touch a button, the explosion which followed would completely wreck the warship and would doubtless kill all on board.

The work of preparing these mines has been done very secretly, and no one outside of those in charge of the harbor defenses knows where they are. The sunken casemates, too, have been built with caution, and their situation

is not known either. The necessity for this caution is apparent when it is remembered that any interference with the wires by the subject of some foreign nation might disturb the work so that none of the mines could be used.

Another great means of defense is in the big disappearing guns, which work as if they have human intelligence. No fort is necessary for these guns. The gunners are absolutely protected by a big parapet. When the gun is at rest, it, too, is concealed behind the parapet, where it is loaded. When firing becomes necessary ponderous machinery raises the big cannon so that its mouth points over the parapet. In thirty sec-

which modern cruisers must contend is the problem of submarine warfare. The invention of Ericsson has been improved upon, both as regards the ability of warships to eject the deadly torpedo itself and the torpedo-boat capable of submerging itself wholly or in part. Inventors all over the world are working upon the submarine torpedo-boats and rams, and, while they have not attained the success of Jules Verne's fancy, it is believed that if they have not already solved the problem it is a matter of a short time till we shall have a boat capable of submerging itself for a time sufficient to do terrible damage to the largest battleship and still not be in sight during the engagement.

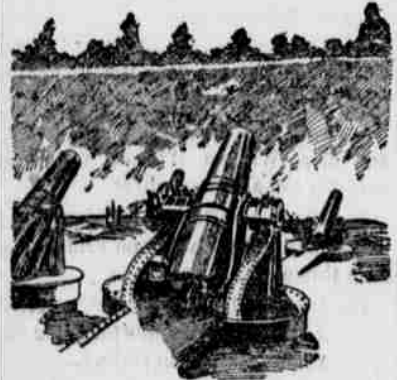
This is not speaking of the established practicability of the sunken torpedo or more to be used in harbors and discharged by electricity from a distance. These last can be utilized for coast defense and are very effective. They could destroy any cruiser anchored or sailing over them, but are only useful under those circumstances.

The war department has guarded with absolute secrecy the plans for all its coast defenses. It is scarcely known outside of army circles that New York is one of the most strongly defended towns in the world. No vessel could get within fifteen miles of the battery without meeting a worse fate than that which befell the Maine.

The entire harbor is thoroughly mined and wires run to underground casemates where the operators work. The harbor is divided into sections and squares each of which is known by a letter or figure. For instance, in case of war, if a Spanish war vessel were sighted, word would be telegraphed

ons the gunners have trained the cannon properly, and an enormous projectile is sent flying ten miles over the sea. Woe to the vessel it strikes! Armor has not yet been made strong enough to stand against the shot fired from these enormous machines.

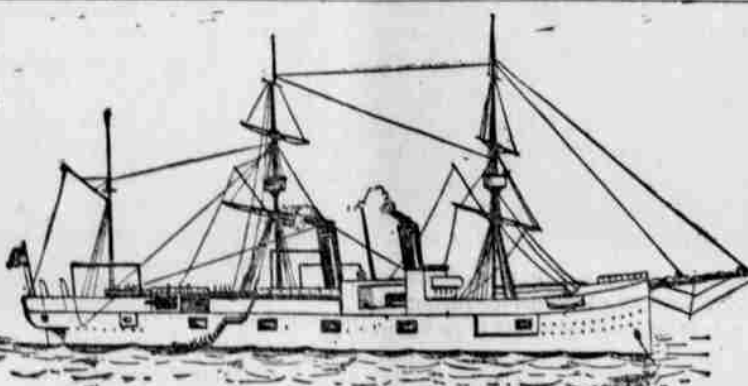
At present the inner harbor of New York is guarded by two 12-inch, three 10-inch and five 8-inch disappearing



SUNKEN MORTAR PROTECTING NEW YORK

guns, as well as thirty-two 12-inch mortars. These are all completed and put in position. Work is now going on for other disappearing guns which will be finished this year. The southern and eastern entrances to the harbor are more fully protected than the inner harbor itself. Here is an armament of 21 12-inch guns on lifts, 15 10-inch and 9 8-inch guns on disappearing carriages, 176 12-inch mortars and many submarine mines operated from five mining casemates.

Most of the work of a defense has been done by the officers at the United States School of Engineers at Willet's



UNITED STATES STEEL PROTECTED CRUISER CHICAGO.

from one of the conning towers to the officer in charge of one of the underground casemates near Sandy Hook. The message would be read something like this: "Vizcaya x op 23.14 S. E."

That would mean that the Vizcaya was then passing over a certain section of the harbor in which was located a mine or a torpedo. The opera-

Point, New York harbor. Twenty-three officers and 380 enlisted men are stationed at Willet's Point, and their work is mostly with torpedoes and high explosives. Occasionally mines are planted and exploded, just as in regular warfare. Vessels are sent out to try and come without being seen, and mimic war holds full sway.

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