



CITY AT MERCY OF NEW GUN.



What would happen if New York were bombarded by dreadnoughts provided with latest weapons. No Longer Could We Hope to Escape Destruction Should Enemy Fleet Armed With Latest War Terror Break Our First Line of Defence

By ROBERT J. SKERRETT.
MAIN fleet badly damaged. Surviving ships are making for port with the best speed possible. The enemy outranged us. Small rendezvous at New York.
How many New Yorkers realize what such a message would mean if sent by the Admiral of our Atlantic fleet?
A year ago the defeat of our battle squadrons would have meant grave menace to the metropolis. Yet possibly Manhattan would not have been within reach of the naval guns of a foe so long as the enemy's dreadnoughts could not navigate the Ambrose Channel. Since then the great 15 inch weapons of the British fleet have been put to the test. The Queen Elizabeth did effective work with her monster rifles at a range of more than 20,000 yards against the Turkish forts on the Dardanelles. That achievement cut into the protection which distance had given Greater New York and especially the zone of lower Manhattan.
Now, however, the prospect is even worse. The coming of the 18 inch gun not only makes it possible to exceed the reach of the Queen Elizabeth's 15 inch weapons but its projectiles will be able to do far more damage. The fact that the British Government has allowed the public to know that it has planned to use rifles of this calibre indicates probably that such guns have already been built or are very near completion.
No naval Power can afford to accept superiority on the part of even a friendly nation with equanimity. Manifestly the Teuton allies are not likely to lag long in equipping themselves with weapons of equal power and neither the French nor the Russians can afford to be outclassed in this particular. So long as any navy has guns of this calibre no alert neighbor or rival would lose time in equipping himself similarly. Thus the United States is interested vitally in the matter.
Not long ago an American military expert was abroad. Because of the nature of his business in Europe he met the officials of a number of governments and was taken into the confidence of a great many military and naval men. Well nigh without exception they declared that there was a real need in the picking for that. As they put it:
"Don't think that any of us over here are going to be exhausted when the struggle is over. Europe is going to be a great military camp when peace is declared, and the fighting efficiency of every one of us will be at concert pitch.
"We shall settle our difficulties here, but we have got to seek elsewhere for the means of rehabilitation. Your Yankee compatriots have been taking it good, but what have they done in the way of making themselves fit to hold it against an insistent demand? Some of us are going to ask you to pay the fiddler for this dance of ours."
What would be our strength to resist should any of the present European belligerents pick a quarrel with us, say, for commercial reasons, and then make an aggressive move? The

naval manœuvres that have been held within the past twelve months or so have without exception brought to light weaknesses in our seagoing defenses. Most of these are the result of a lack of material and an absence of certain types of vessels that the world war has shown to be of the utmost tactical value.
Undoubtedly the navy would render a gallant account of itself in case of trouble, but an unbalanced fleet cannot reasonably be expected to hold out against a superior force, and particularly when opposed by men that have been seasoned by battle and have profited by the lessons of actual conflict. Therefore a European coalition against us would certainly find us unprepared, and the imaginary despatch with which this article was begun might easily become a fact.
What can we count upon here about New York to hold an enemy at bay if our squadrons were outclassed, badly damaged and forced to seek shelter behind the guns of our coast defenses? Perhaps there should be no cause for apprehension could one place unqualified confidence in the opinions of some officials. Early in the present year Brig-Gen. Erasmus M. Weaver, chief of the Coast Artillery Division, appeared before the Committee on Military Affairs of the House of Representatives. During that hearing Gen. Weaver said:
"The officers of the Coast Artillery Corps are not particularly alarmed by the ability of naval guns to damage coast fortifications at long range. While there have been two schools of opinion in that matter, I think that recent occurrences, especially at the Dardanelles, go to show that naval fire against coast fortifications is not very effective."
This dictum inspired one of the members of the committee to ask: "Nevertheless, it is the intention of the department to equip the forts at New York with the larger guns?" Gen. Weaver answered: "Yes; not because we are afraid of the fire of the enemy, but because we do not want to allow them to take a position from which they can do damage to property back of us."
Naturally, one does not have to be a profound student of military matters to know that an energetic foe is not going to waste his ammunition by firing on forts if he can bombard the rich city which those defenses are designed to guard. It will be noticed that it is the intention of the military authorities to place larger guns in the forts near New York, but for the present we have nothing more formidable to count upon than army 12 inch rifles of 40 calibre, and most of the guns here are of 35 calibre, or 15 calibre shorter than the prevailing 12 inch guns afloat. But in our own naval service the 12 inch gun has been superseded by the 14 inch rifle. Abroad the 15 inch weapon has shown what it can do in action, and because of its performance the British Admiralty is now bent upon getting a new lead by the adoption of the 18 inch rifle.
At Sandy Hook the guns guarding the entrance and a stretch of the Ambrose Channel are all of the army 12 inch type, mounted upon disappearing carriages, and the defenses at Forts Wadsworth and Hamilton, standing guard over the Narrows, are of

the same sort for direct attack upon armored ships. Supplementing these weapons are groups of rifled 12 inch mortars which, by high angle or indirect fire, are relied upon to cover much wider zones and to make it practicable to attack a foe's ships by plunging fire and, in this way, possibly, to strike where the hostile craft are least capable of effective resistance.
Because of their shorter length the army guns do not fire their shells with the same high velocity as the naval guns of 12 inch bore, and therefore they cannot break through thick armor at ranges above 6,000 yards. By thick armor is meant the heavy plating which shields the waterline, parts of the sides, the barbettes, turrets and conning tower of a modern dreadnought.
This handicap the Chief of the Coast Artillery Corps has pronounced to be more apparent than real, for the army weapon is mounted upon terra firma and not on a rolling platform and has, besides, two other advantages. First, the military range finding is more exact than that possible aboard a ship in a seaway which, at best, has only a short base, say of a hundred feet or so between its masts, upon which to measure the angles which determine the range of the visible target; and second, the coast defence gun lies concealed until it rises momentarily to fire, and instantly afterward sinks below a parapet that is more or less effectively concealed by grass and shrubbery from a hostile observer afloat.
Therefore, by inference, it seems that a foe would have to come nearer to make certain of his enemy's position, and in doing this might get close enough for the direct attack of the 12 inch guns of our coastal forts. This sounds almost like catching birds by sprinkling salt on their tails. Some color to this advantage of concealment has been given by certain experiments made nearly a year ago down on the Southern coast.
There a dummy gun emplacement was built and an old weapon installed for the test. One or more ships of the Atlantic squadron attacked the



Range of gun defending New York compared with range of an enemy fleet armed with 18 inch rifles.

Skyscrapers would serve as range marks and would bring down destruction to lower Manhattan. Forts Defending the Approaches to New York Will Be Far Outranged by the 18 Inch Naval Rifles Announced by England

postion with the object of destroying or putting the gun out of action. There was jubilation in the army, or among some of the military officials, because the attack failed to harm the hidden rifle.
The navy men discovered the direction of the target, and shot after shot was fired without scoring a hit. They were either short or over and beyond the mark. In other words, the range finding was not accurate enough from the positions of the spotters aloft on the masts of the firing ships.
While the performance showed just how the vessels of our battle squadrons are equipped to deal with enemy coast defenses, the tests, unhappily, were in no way an index of the efficiency of rival fleets.
Gen. Weaver has drawn comfort from the outcome of the work of the British and French guns at the Dardanelles. The Queen Elizabeth accomplished astonishing things there with her 15 inch weapons, and much that she did was against forts that were completely beyond observation from the tops of her masts. The nature of the terrain was mountainous, and her projectiles had to go over these intervening barriers in order to reach their objectives. The task was exceedingly difficult and radically unlike the circumstances of our coastal gun emplacements.
In some cases spotting was done for the gunners on the Queen Elizabeth by observers afloat on torpedo boat destroyers, which, because of their shallow draught, were able to reach closer points of view. Even so, the lowness of the observing positions aboard hampered accurate estimating of distance or the fall of shots. Later the British brought to their aid some short flight seaplanes, and these were pressed into service as aerial spotters. Despite the difficulties under which they labored the aeroplane observers proved extremely helpful, and after after fire was reduced at distances of more than eleven miles by indirect fire, the Queen Elizabeth hurling her 15 inch projectiles high in the air and across and over the intervening Gal-

lipoli Peninsula. We have no such fortifications here, nor did spotters during the experiments on our Southern coast have the benefit of aerial observers.
This matter of spotting from aircraft has reached a degree of perfection abroad that far overshadows the work done by the aeroplanes at the Dardanelles. Certainly any enemy from the other side of the Atlantic would make use of this aerial arm in measuring forces with our seaboard defenses. That being the case, of what avail would be low parapets of concrete and a semi-covert of sod and shrubs?
A couple of thousand feet up in the air an enemy scouting plane would be able to look right down into our mortar pits or the emplacements of our disappearing guns. Or, from a still higher point and safe from the reach of any guns we have available for the purpose, the aerial spotter would find it comparatively easy to guide the gunners on the ships well off on the horizon.
His code would be simple and short and would cover but four signals. All that he would need to telegraph would be "over," "short," "right," "left." And inasmuch as an aeroplane wire- less has been developed and made thoroughly serviceable, the observer in the enemy aeroplane might do still better and tell how much short or over or to the right or left the foe's range-finding shots were falling.
Because of the very nature of the defenses around New York, and so far as that is concerned, on both coasts and at Panama, our disappearing guns need not be hit directly to be put out of action, and here is where the long range heavy weapons of a hostile fleet have an advantage which the general public little realizes.
Weapons of less power than modern naval rifles sufficed to smash to bits the concrete walls and foundations of the Belgian and French heavily armored forts, while here an enemy would have to deal only with earth and cement. Should the shells of a salvo of 13.5 or 15 inch guns hit the sodded slope or the concrete parapet in front of a battery of disappearing guns they would blow great holes in the earth and the granolithic barrier and hurl pieces of the concrete down upon the crouching weapons. The result would probably be not unlike the effect of a pinch of sand dropped on the balance wheel of a wrist watch.
If not otherwise injured the guns would have all their working gear so clogged that it would take hours if not longer to get them in operating condition again. But the chances are that the disappearing carriages would be damaged and the guns might be irreparably injured. At all events the battery would probably be put out of action.
We have a few army 14 inch guns, but they are not part of New York's defenses; in fact, those that have been built are some thousands of miles away. To-day European battle fleets have ready for service against us weapons of 13.5 and 15 inches in bore, and now, not satisfied with that superiority, Great Britain is taking a further lead with guns of 18 inch calibre.

owing to this sudden jump in size. The guns in service here are all of the vintage of 1900. Gen. Weaver's own statement indicates that the ordnance corps and those responsible for the administration of the coast Artillery have failed to keep abreast of the times. Here is another quotation from the testimony given at the same Congressional hearing already referred to:
"In the evolution of naval gunnery on battleships they have come to a point now where the fortifications that were built fifteen years ago do not border cities in some few places against the present ships. It is a question whether you want to do that. Take, for instance, Rockaway Beach.
"When we mounted guns at Fort Hamilton and Fort Wadsworth and at Sandy Hook it was not thought that ships could stand outside of Rockaway Beach and fire over the whole width of Long Island and Brooklyn and reach New York city. There were no guns mounted that could do that at that time. Now there are.
"A ship could do that and be beyond the range of any gun we have mounted. The question is, is it good policy to put a battery there that will prevent a battleship accomplishing that result at that place?"
To a man whose fireside lies within the range of a foe's guns, Gen. Weaver's question might seem to border dangerously close to the foolish. The man whose property in some other form is likewise open to that destructive attack might ask what can be the earthly use of forts and defensive batteries if they are not for the purpose of being able to raise their heads from doing the very thing which Gen. Weaver frankly says is now possible.
The Queen Elizabeth or similar superdreadnoughts armed with 15 inch guns and lying off Rockaway Beach would be able to raise their heads as far north as Fourteenth street. This does not indicate the potential maximum range of the 15 inch gun, but concerns only those weapons mounted before the outbreak of the present European conflict.
To-day, as a consequence of the two big fights between the British and German fleets, the advantage of greater elevation has become apparent. The Kaiser's battle craft were able to elevate their guns thirty degrees, fully twice as much as was possible with the weapons mounted in the turret aboard the rival squadrons. Hereafter the big guns afloat will unquestionably be mounted so that they can be elevated much more than heretofore, and therefore there is nothing unreasonable in the news account that the new 18 inch British naval rifle will have a bombarding range of something like twenty-five miles.
Arranged as our seaboard forts are, this bombardment power or indirect fire would be quite as effective as the direct attack at shorter distances, and therefore it would not have to bother with perforating armor here; he has only to drop projectiles into the mortar pits or the open positions of the disappearing batteries to do irreparable damage, and, falling in this, he can smash his way through the relatively ineffectual barriers of earth and concrete.



ONE OF UNCLE SAM'S 12 INCH COAST DEFENCE GUNS IN ACTION

(Continued on Third Page.)