NEW YORK'S DEFENCES VULNERABLE TO A HOSTILE FLEET

Guns Relied On to Protect the Harbor Inferior to Those Which Arm Modern Dreadnot, ht -Sea Coast Barres Years Behind

W YORKERS may have been aroused, and even some Manhattanites disturbed, when one Kato Osaka, a little fellow the Land of the Rising Sun, was picked up in the waters off Fort Wadsworth a few days ago. The imaginative promptly dubbed the small Japanese a spy and he was pictured as imperilling his life in the swift waters of the Narrows in order that he might land under cover of darkness and steal the vital secrets of the inner line of the city's defences.

Being a sensitive soul, like most of his fellow countrymen, perhaps Kato feared the rebuff of a surly sentry and therefore did not want to apply for admittance into the fort at the front gate, but if so he was mistaken, and he ran unnecessary risks if-this is a large ifhe was really seeking to gather military secrets. What foreigners don't know about New York's sea coast batteries is probably not worth hunting for.

It was only a short time ago that droning trolley cars took their leisurely way through the Government reservation at Fort Wadsworth along a road which exposed to plain view the major part of the big guns planted there for the city's protection. Any one with a fair knowledge of army ordnance could easily determine the calibre of the guns as well as their probable arcs of fire. While the trolley cars have been diverted, still the public, no matter of what nationality, can saunter through the grounds and do everything but touch the guns. Kato, if a spy, should have known this or got a job on some grocer's wagon plying through the res-

If you want to get closer to the heavy batteries so that you can be certain of their calibre and date of fabrication be sure that you visit the harbor forts in the forenoon and possibly not around pay day. Otherwise the official guide, the sergeant-major, will not be in. At least, that is what happened the other day. A visitor halting at some distance inside of the gate an easygoing sentry sauntered up to him and when asked where a pass could be obtained to see the batteries he indolently pointed to a nearby building.

In the absence of a doorbell, and no one being in evidence on the plazza, the visitor entered the ground floor and found a number of vacant offices filled with the usual books and paraphernalla of a military executive office. After the visitor had rapped loudly several times upon the wall an overgrown cherub in uniform, with a dangling trumpet, appeared smilingly and welcomed the would be sightseer with friendly indul-No, there was no one to issue at that hour, 3 o'clock in the was off for the rest of the day. However, if anything short of scrutinizing the guns at close range would answer. why, just go out and look around.

The visitor just went out and did look around, and venturesome Kato may thus learn of what he missed through recklessness. A kindly sergeant chaperoning a working wagon and a bunch of prisoners saw the citizen's uncertainty when approaching the rear of a battery of small rapid fire guns and pleasantly volunteered the information that it was permissible to climb the ramp as far as the flagpole.

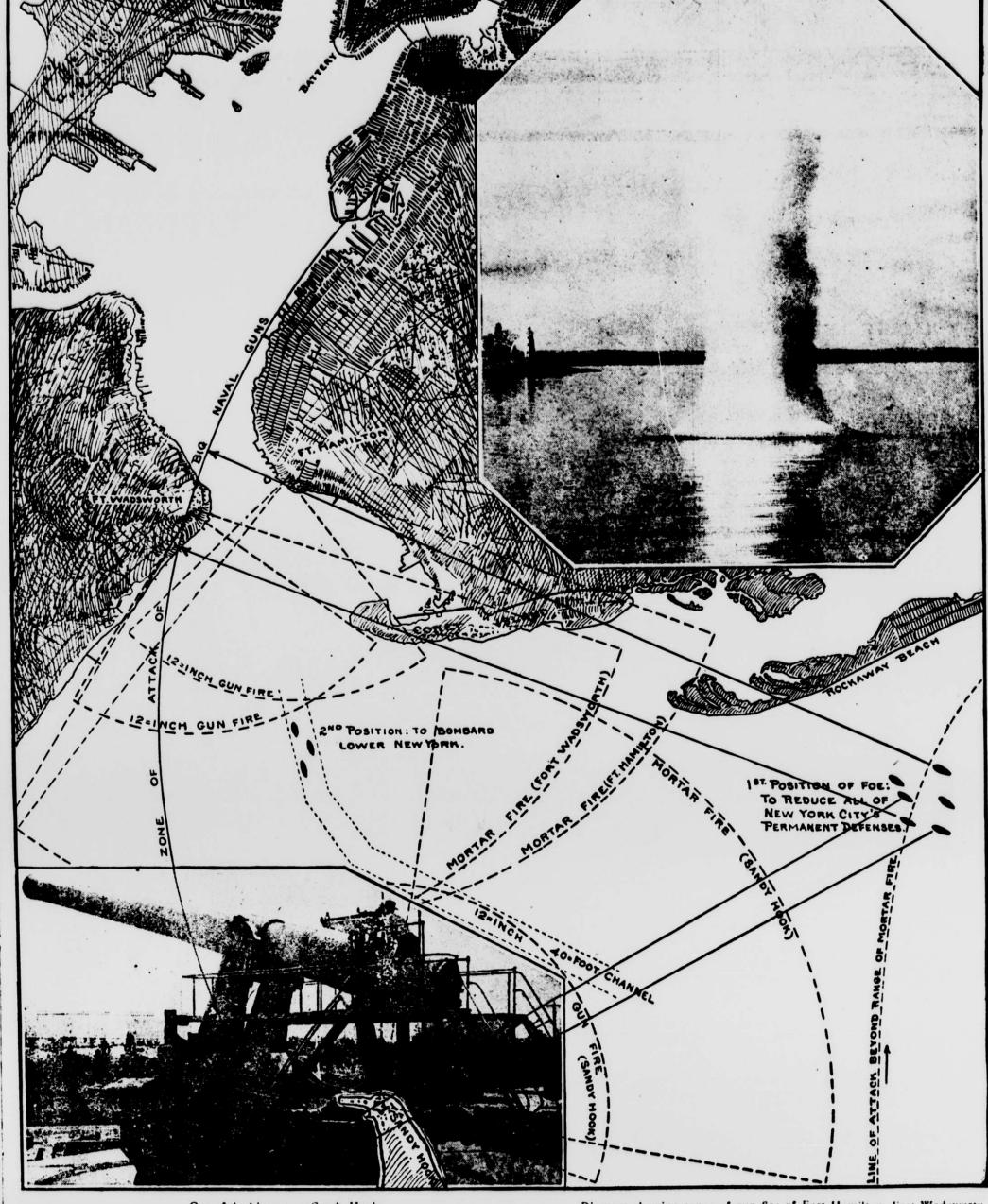
The visitor reached this position without encountering any signs of official life. Presently an armed artilleryman trailing in the wake of a promenading . prisoner put in his appearance. This son of Mars halted long enough in his tramp to extend the hospitality of the post and to point out a road that passed riose to a number of the main batteries There was no one to molest the wanderer and the only break in the monotony of the well nigh soldierless landscape was riderless saddle horse making haste to reach his stall and feed.

At a distant gate leading to the public thoroughfare a sentry with a strongly marked foreign accent stood guard. When asked if he had the list of the officers on duty at the post he answered, "No. sir," but pulled out his copy of the order of the day and opened it for the visitor to see. I erhaps the courtesy of a military salute had misled him, but he did his best to oblige the inquirer.

military station abroad; but then the foreigners are not so certain as we are that they are secure against successful attack, and here is where this story really begins.

Don't bother yourself about exact be content to know that the wealth of New York city runs up into These billions of dollars in property and treasure and the millions of people here are safe against bombardment and the levying of a foe's tribute only so long as our squadross of battle craft can hold a foe from oversea at bay. The seacoast defences York and its neighboring cities of New Jersey are quite incapable of halting a determined enemy. Much has said in years past about New York's impregnability, but this security is only a fiction, and the worst of it is most New Yorkers. What the citizen who is concerned in

this state of affairs should know is that the problem of attack and the problem of defence are two radically different propositions-different because of our geographical position and because of the two dissimilar services involved. Remember that it is assumed that our



One of the big guns at Sandy Hook Upper photograph shows explosion of submarine mine.

Diagram showing zones of gun fire of Fort Hamilton, Fort Wadsworth and Sandy Hook, and the zone of attack of a hostile fleet.

ing the hostile fleet outright. sounds fairly comforting until the con-

ditions are analyzed.

ordnance expert is a restless progressive. Each year he strives to fashion would have fared far differently at a guns and ammunition of greater destructive capacity, and in this effort he increases the range of his weapons. Within a very short period our own guns affoat have jumped from the shorter 12 inch weapons to their big brothers of the same calibre, but in-creased length, this length making it sectiles much faster and further upon their errands of destruction. Just when these wonderful pieces of ordnance had appartently reached their climax along came the naval 14 inch gun, and the first of these are finished, proved and ready for installation upon our battleships nearing completion.

In Europe the same story of naval ordnance development can be told. The British have, however, halted between enough to produce the splendid inter-mediate calibre of 13.5 inches. The that foreign nations know it better than Germans and the French have followed England's lead. The Japanese are mainly guided by British example. We in order that we may realize the ca-

our seaboard batteries.

Now it is not alone in guns that the naval craft grows more menacing from 12,000 yards need be no serious deterseason to season as designers seek to rent to a modern fleet with its guns describe the range finding system by outstrip the best of the rival fleets. having a maximum range of 24,000 which the guns can be aimed below the navy has either given way before a foe outstrip the best of the rival fleets. or that our squadrons have, for the time Each new ship of the battle line is made ag placed the burden of protection stouter in her powers of resistance the land batteries at Sandy Hook either by thicker armor or by armor Ports Hamilton and Wadsworth, which is cunningly treated by the retically the heavy guns at Sandy metallurgist, so that pound for pound are counted upon to hold an it will be more likely to turn aside or of our existing forts.

then the rifles of Wadsworth and Ham-the double improvement of the ship's firing guns of 5 inch and 6 inch rise above the crest of a ridge. If you the West with a battery of field guns litton are to make certain of our safety capabilities of offence and defence? calibres have extreme ranges quite as him why these vital stations are so directed from a flying machine. With the ranges thus found by using enough off to prevent the bombardment ning blow and at the same time can of Manhattan and Brooklyn or by sink- with safety, get closer in order to make This more certain of hitting.

In order to put an enemy's dreadnoughts out of action their bulwarks of The guns which will measure forces steel must be penetrated and the piercwith the weapons guarding New York ing shot must burst inside of the foe's by land will be naval rifles. The naval steel walls. Only blows of tremendous might can do the dreadnought harm. What is there in the batteries guarding New York that is capable of doing this thing and at the same time able to hold the foe at a proper distance? Nothing.

The effective range of the heaviest of our coastal ordnance if used against either 5-inch or 6-inch rapidfire guns the heavy armored craft of a first class naval power does not exceed a maximum of 6,000 yards, or 3.4 miles. Beyond that a hostile squadron could lie direct fire of our land batteries.

There still remain the mortars, which can hurl their projectiles twice as far, but their manner of operating is by what is termed indirect fire. That the mortar is not pointed at the target. sends its shots upon an arching flight high into the air to drop upon the deck on an enemy or to hit near by and to ricochet against him. Unfortunately this aerial path, miles high, takes time to cover, and with the target moving rapidly the chances of making a sful hit are rather slim; and the use of these weapons is fairly cumbermust keep these developments before us charges required for the different dispacity of the foes that might clash with the errors introduced by atmospheric

> But even so, the mortar range of yards, or 13.62 miles. From that extreme distance right up to a line outside of the 12,000 yard zone a foe's squadron could hammer away at us without fear of effective retaliation from any

can be fired faster and aimed directly at their targets. True, these projectiles would not be as damaging against a battleship as the heavy shells of the army 12 inch mortars, but they need not be in order to work havoc upon our shore defences. The citizen visitor can see the reason for this if he will go to either Fort Hamilton or Fort Wadsworth.

Our disappearing guns and our mor tars are simply sheltered behind walls of concrete and slanting mounds of earth; they are entirely open to attack from aloft. Explosive shell fired by could put the most formidable of our sea coast batteries out of action in a short while and they would not have to hit the weapons directly to accomplish without fear of serious harm from the this purpose. Bursting projectiles from local fire control station at each batthe foe's rapidfire guns would speedily plow great craters in the earthworks and shatter the cement structures into flying bits, and a shower of debris of this sort would be enough to jam or to render unserviceable any of our disappearing rifles, big or little. The guns' rews in the meantime would either be stricken or driven away from their positions.

Some army ordnance enthusiast w very secreey of the gun empla would make it quite unlikely for an enemy to do the things just described. He will also assure you confidently that these crouching guns can spring aloft, fire and sink back under cover without giving the hostile force a chance to strike them. He may even

mediate environs of the batteries.

the conclusive phrase, "Absolutely un-

The range finding installations at Forts Wadsworth and Hamilton are interdependent and the distance between them constitutes the base line for point their telescopes along their side of the triangle and the degrees so measured by the different observers give the position and the distance of the apex -in time of war, the foe. Now this means that the data must be telephoned from Wadsworth to Hamilton and, on the other hand, from Hamilton to Wadsworth, and then by suitable calulations and apparatus the range is plotted. This is next telephoned to the ery and there transmitted to the battery commander.

Apart from the drawback of the time consumed, the weakness of the arrangement lies in the fact that the chance destruction of the observatory either at Wadsworth or Hamilton would completely cripple the range finding facilities of both forts. The enemy's rapid fire shell that might overshoot the batteries would stand an excellent chance probably retort that this picture is of demolishing the range finding equipoverdrawn and he will tell you that the ment placed higher up. Thus the very eyes of our defences may be put out easily and our weapons left to grope uselessly in their efforts to locate and reach the foe.

An American naval officer has devised an apparatus for launching in flight hydro-aeroplanes from a ship at describe the range finding system by equipped with wireless telegraphing outwhich the guns can be aimed below the parapet without exposing the crew, and aeroplane from taking a position aloft he will point to you what he considers from which it can signal to the attackthe advantage of thus separating the ing ships just where to place their shots guns in order to drop the projectiles a short way further Brooklyn and the where desired? It has been demonstrated that such a thing can be done. bombarded or laid under tribute. The who now ride to the 137th street statement of the statement of the short way further Brooklyn and the Broadway division are aware of its advantages and about the only persons who now ride to the 137th street statement of the short way further Brooklyn and the Broadway division are aware of its advantages and about the only persons who now ride to the 137th street statement of the short way further Brooklyn and the Broadway division are aware of its advantages and about the only persons where the statement of the short way further Brooklyn and the short way furth If you are sufficiently impressed he where desired? It has been demon-

likely he will dismiss your query with the rapid fire guns the foe could bring into service, if necessary, his mightlest likely. A war that would knit together

weapons; and please remember that the more closely the discordant element big guns at long distances are much a nation spiritually as well as material more accurate than their smaller would be a benefit from an art brothers and every hit is infinitely standpoint, though tha more disastrous. If you want better would scarcely justify it. to understand just how comfortable of fact common interests defended from The separate instruments at each fort you may feel in case of war follow the an invader, with the consequent throw rest of this story with your eye upon ing over of selfish questions of expelithe accompanying map.

Under ordinary circumstances the national art. battleships of an enemy would follow the 40-foot channel recently dredged in advancing upon the city. In doing this part of your country. Experience has the hostile vessels would be so close to Sandy Hook that the heaviest guns enjoy and to insist upon enjoying good there could be brought to bear effectively in repulsing such a move, but a cautious admiral would not follow this channel. He would take a position anywhere along the dotted line sweeping toward Rockaway Beach and from that safe distance he could hammer Sandy situated many feet above the Harlem Hook into silence.

True, he could not do this with the a clear view of the Hudson and way for one reason or another. With who reside on the West Side north of Sandy Hook silenced, and still from his the 137th street station. position off Rockaway Beach, the It is the only station in the open a enemy could reach Forts Hamilton and from the Battery to Dyckman street enemy could reach Forts Hamilton and from the Battery to Dyckman street enemy in the rush hour if these two positions were still able to trains instead of the more crowded brose Channel. Of course this route, like the main channel, would probably be sowed with submarine mines, but and waiting underground for the sea. The latest of these aircraft are these would be removed by the foe by sweeping or countermining, as circumstances dictated best.

From this line of advance our inner defences of Wadsworth and Hamilton could be reduced while the foe was at enemy at arm's length, while should to stop completely the most powerful to stop completely the most powerful shell. What, then, is the net result of sided story. The modern big quick roofs of the range finding observatories Last year an experiment was made in picture is not a pleasant one, is it?

Forts Open to Inspection by Casual Visitors, Including Spies, if Any There Be; but Then There Are No Military Secrets to Conceal

You have imagined New York to be in pregnable, and it probably hurts ; pride to find that it is not,

The reason for New York's weak is that our sea coast batteries lag year behind the state of the art measures by the power of the enemy's gun after The army ordnance is far behind in the progress of fighting equipment. only way our sea coast batteries be kept up to the mark is to see ! that the guns are on a par with the with which they will have to do batt just as the rifles of our dreadnough change from year to year. If that were done when another Kato Osaka omes around he would have the be of reasons for running risks to gar knowledge of our military secrets, and then, too, it is quite likely that casual visitor would not wander about forts and something of the restra tions and the disciplinary measures that prevail abroad would be continually in evidence here.

Future of American Music Assured

HE future of American music is assured," says Mine Emmy Destinn of the Metropolitan Opera Company, who is filling her regular engagement Covent Garden. "It has ceased to speculative. That America already arrived at a considerable height of at istic development is often stated as a fact, principally by the Americans themselves. It is not strictly true, etpecially when the standards of Europe are used as a contrast. But every sign points to a broadening in musical mat ters and the establishment of an American school that need fear comparison with none in the history of the world.

"There is no doubt of your preemi-nence, you Americans, in every ma-terial direction. Your cities are wonderful, your industries are the greatest, your nomes are the most comfortable. In artistic matters you have the aspirations worthy of your material successes; you can afford the greatest museums of art; you support the world's best singers in the world's finest audi-

"And all of that is right; it is as it should be. All of it is quite in line with the rest of the world's history as we know it.

For any nation-for any community - first must come material greatness; when that is assured and comfort and worldly contentment are at hand, then is the time to look for spiritual achiev ments. It could not be otherwise; onmay well cat a hearty dinner and then gaze reverently at the world's fines painting or listen to the most exquisite melodies; one cannot gaze or listen properly while his grosser material wants are crying for satisfaction. It

"So all of these things-all of what we call 'the things that money can buy are at your disposal. The Ameri people have attained the rank in material world they have so long sought Now comes the settling back in the chair, the looking about for spiritual comforts, the definitely expressed wish of the nation to be known as an artis tic leader.

"The history of the world is ever th same. It will come, this attainment of the other sort of ideals, this preeminence in the arts-in music. In the history of other world communities it has always arrived; nothing can be clearer to me than that it is bound to come

'And when it does come it will not be hampered by any of the obstacles that might block progress along material lines. The nation's industrial march has often been checked. It may be a mighty storm or flood that lays waste a dozen States, it may be a financial upheaval that throws the thousands out of work. It may be war or any of a dozen other causes. All these are obstacles in way of business advancement, destroyers of credit or whatever you choose to cal them. But hamper the progress of artistic standards? Stand in the way of a new school of music attempting to make iself heard? No, for artistic advance ment will scorn material obstacles, w stop at nothing short of spiritual diffi-And those are not likely in America.

"Granted that there is a war or an industrial upheaval. Will those engaged in fostering the flame of a new Amer can music be induced because of obstacle to turn aside? It is scare ency have often been the making of a

"Fear of a financial panie will not hamper musical development in an shown that men are never too poor music, once good music has come

Subway Breathing Spot

The Manhattan street subway station on the Broadway division of the system Valley, and from the platform of while navy cooperating in the defence; but Palisades beyond can be had, is called we are assuming our fleet out of the the breathing spot by many persons

It is the only station in the open air Wadsworth effectively, while neither In going up town in the rush hours those stations could retaliate. Even many persons prefer to ride in the local offer resistance the hostile force could presses. They find it a good plan to start toward the city with Sandy Hook get off at Manhattan street station and silenced, traversing preferably the Amstead of continuing to the 137th street station, the last stop for local trains, press train. The 137th street station is cooled only by draughts that comdown the stairways or through the tun-

Thus Manhattan street is becomind range finding apparatus from the im- and how to correct the elevation of the a safe distance, and there by advancing Almost all of the regular users of the