THE NATIONAL FORTIFICATIONS.

Are We Prepared for War with Great Britain or Spain?

A Glance at Our Sea-Coast Defences—Their Location and Present Condition—How to Protect Our Harbors—Torpedoes vs. Iron-Clads—The Work of the Engineer Corps During the Past Year—The Proposed New Batteries and Modifications of Existing Fortresses.

WHAT SHALL BE DONE ABOUT IT?

WASHINGTON, Feb. 14, 1872.

The coast line of the United States, comprising the territory bordering upon two oceans, the Gulf of Mexico and the great lakes, is of such vast extent that for many years to come large annual expenditures must continue to be made and many new defensive works erected before all of its rivers and harbors can be pronounced perfectly safe from hostile attack in time of war. Fortunately a beginning has already been effected, and considerable progress made in the work of putting our principal seaports in a state of defence. In the present critical state of our relations with England—the greatest naval Power of the world, trustworty intelligence respecting the condition of the fortifications at these points becomes of great importance, not only to their immediate residents, but to the country at large. The latest information accessible is contained in the annual official report of Major General Humphreys, Chief Engineer of the Army, which was communicated to the two houses of Congress at the beginning of the present session, and is now passing through the press at the Government Printing Office in this city. That portion of the report which is devoted to the subject of coast defences occupies so much space that, in order to lay it before the readers of the HERALD, it has been necessary to bring it into somewhat briefer compass. In doing this, however, care has been taken to retain all that is really interesting and essential to a full comprehension of the subject. The report opens with an account of the conclusions which have been reached, from experiments made since the war, both at home and abroad, respecting the proper principles of construction of defensive works.

The introduction of a new system was rendered necessary by the increased size of ordnance now used on shipboard and the general adoption of iron-clad war vessels by all the prominent maritime Powers. The principal points may be summed briefly up as follows:—First, confining the new constructions to powerful barbette batteries in earth and sand, thoroughly protected by traverses and parados, and modifying existing barbette batteries so as to bring them to the necessary standard of strength and efficiency; second, to substitute (as far as practicable) depressing gun carriages for those that expose the armament and cannoneers above the parapet; third, to make liberal use of heavy mortars; fourth, to employ torpedoes as accessories in the defence of the channel ways and approaches to the harbors; fifth, to use obstructions and floating batteries to retain the enemy before the guns of the littoral batteries; and sixth, to use in the batteries the most powerful guns of modern ordnance.

CASEMATED WORKS.

In the preceding no reference has been made to casemated fortifications, and there is at present no intention on the part of the Engineer Department to recommend either the modification of existing casemates or the construction of new works of this kind. But it is important that some guns at each of our great harbors be protected by casemate cover of some kind. To learn what maritime countries were doing in this particular, and especially the extent to which iron had been introduced into their sea-coast defences, Colonels Barnard and Wright and Captain Michle, of the Engineer Corps, were sent abroad last year, and their report, now in press, contains valuable information.

TORPEDOES.

The use of torpedoes and of obstructions in the channels leading to our seaports will be indispensable in a conflict with a maritime Power of any prominence; but they cannot be successfully moored or managed without an intimate knowledge of the direction and velocity of the tidal currents peculiar to the localities. These considerations have led during the past year to a series of examinations in our principal harbors upon the velocity and direction of the currents. Torpedo experiments have also been carried on, under General Abbott, at Willett's Point, N. Y., and considerable advance made in the knowledge of the methods of firing them and the law governing explosions of various kinds of powder under water.

SEA-COAST MORTAR BATTERIES.

The fire from mortars is an important part of the defence of our harbors against iron-clads. The appropriations of 1870 and 1871 for the construction of mortar batteries amounted to $175,000, which it is designed to expend upon the important ports of Portland, Boston, New York, Philadelphia and San Francisco, as follows:—

Portland	4 mortars.	$5,000
Boston	14 mortars.	34,000
New York	40 mortars.	80,000
Philadelphia	6 mortars.	21,000
San Francisco	28 mortars.	35,000

Projects for the construction of these batteries have been prepared, and the work commenced at some points. A further appropriation of $100,000 is recommended for next year.

FORTIFICATIONS ON THE EASTERN COAST.

(In charge of Lieutenant Colonel J. C. Duane, Corps of Engineers.)

FORT KNOX.—This work, situated on the Narrows of the Penobscot River, opposite Bucksport, is now nearly completed, no appropriation being at present asked for it. It comprises both casemated and barbette batteries of heavy guns, and is designed to protect the city of Bangor and other towns upon the Penobscot, and to render the river a secure harbor of refuge for the shipping of the extensive Eastern sea coast.

FORT POPHAM.—This work defends the entrance, through the mouth of the Kennebec River, to the rich valley of this river, the cities of Bath and Augusta and the United States Arsenal at the latter place. It has been finished upon its gun fronts to the level of the barbette batteries. The projects for its completion have not yet been prepared. No appropriation has been made for it for several years past, and none is now asked.

FORT GORGES is situated on Hog Island ledge, and is one of a series designed to defend the harbor and channels of the important strategic position occupied by the city of Portland. Fifteen thousand dollars was expended last year in building magazines and breast-height walls and completing a new entrance. A further appropriation of $20,000 is necessary for its completion (which, it is believed, can be effected before the close of the the coming fiscal year) and to place its barbette armament in position.

NEW FORT PREBLE, PORTLAND HARBOR.—Under the plans prepared for the completion of this fort labor was commenced in August, 1870. During the present year it is expected that the work in and adjoining the old redoubt, together with the exterior of the south battery, will be completed. Four new traverses will be constructed and positions made ready for nine additional guns. Amount of appropriation requisite for next fiscal year $60,000.

FORT SCAMMEL, PORTLAND HARBOR, occupies a most important situation, commanding four of the principal channels. The work of renovating it was commenced in August, 1871. During the present year the great magazine, most of the parados and the new arches in the west bastion will be built, for which an appropriation of $100,000 is asked.

NEW WORK AT PORTLAND HEAD.—It is designed to occupy this commanding position by a barbette battery of thirty-four guns of heaviest calibre, so arranged that all the approaches to the main channel of the harbor will be swept by some or all of its guns, and an enemy's fleet prevented from taking up a position behind Long's Island from which to bombard Portland or shell the shipping in the harbor. It is important to the safety of the city and harbor that such a fortification, exterior to the present defensive works, should be commenced at once, and for this purpose an appropriation of $62,000 is recommended.

FORT MCCLARY, PORTSMOUTH HARBOR, N. H.—This work is located on Kittery Point, Maine, and, in conjunction with Fort Constitution, opposite, forms the only defence to the mouth of the Piscataqua River and to the Navy Yard at Kittery. It was commenced soon after the close of the rebellion, but, owing to the adoption of the new system, its plan will have to undergo certain modifications. No outlay was made for its improvement during the past year, but an appropriation of $75,000 is now called for.

FORT CONSTITUTION.—This is a casemated fort on the old plan, situated nearly opposite the preceding. No appropriation is asked for the next fiscal year.

DEFENCES OF BOSTON HARBOR

(In charge of Colonel H. W. Benham, Corps of Engineers).

FORT WARREN.—This important fortress is designed to protect the main channel of entrance, and to command the anchorage of Nantasket Roads. It is a casemated work of the first class, but requires extensive improvements, in which it is proposed to expend $150,000 during the coming year.

BATTERY AT LONG ISLAND HEAD.—This is meant to command the entrance into Boston harbor through Broad Sound, and its early completion is very desirable. The sum of $37,500 was expended upon it last year; for the present year twice that amount is needed.

FORT WINTHROP.—This work, with Fort Independence, on opposite sides of the main ship channel, constitutes the inner line of defence for the harbor of Boston. It is armed with fifteen-inch guns, and it is proposed during the present year to complete the modifications already begun in the east and south batteries and to prepare additional sites for heavy artillery at an expense of $75,000.

FORT INDEPENDENCE.—A plan prepared by the Board of Engineers for the modification of the works, comprising a rearrangement of its barbette batteries, the thickening of the parapets, construction of new breast-height walls and the preparation of magazines, traverses and gun platforms suitable for heavy ordnance, will be carried to completion during the present year at an expense of $56,000.

BETWEEN BOSTON AND NEW YORK.

(In charge of Major G. K. Warren, Corps of Engineers.)

FORT AT CLARK'S POINT, MASS.—Was built for the protection of New Bedford Harbor. It is a casemated work, and is completed with the exception of its barbette battery over the casemates. The Board of Engineers have recommended that at present nothing further should be done to it other than to preserve it from deterioration, and that an earthen barbette battery for twenty-six fifteen-inch smooth bore or equivalent rifled guns be erected on the hill in rear of the fort. Amount of appropriation called for, $40,000.

FORT ADAMS, NEWPORT HARBOR, R. I.—The amount asked for this year is $100,000, which is to be applied to the construction of exterior barbette batteries and to the erection of permanent quarters for officers at this port. Little has been done during the past year except in the way of ordinary repairs.

BATTERY ON CANONICUS ISLAND, R. I.—On the site of the old Dumpling's Tower, where the government owns about five acres of land, it is proposed to construct a barbette battery for ten fifteen-inch smoth bore or equivalent rifled guns, with magazine traverses between each pair. This battery will effectively cross its fire with the guns of Fort Adams. Owing to heavy rock excavations its estimated cost is $190,000, half of which amount will be needed for the next fiscal year.

BATTERIES, NARRAGANSETT BAY, R. I.—These are three detached barbette batteries, situated upon the summit of Dutch Island, near the western entrance of the bay, and affording emplacements for forty fifteen-inch guns or equivalent rifles. The sum of $122,000 has been already appropriated by Congress for them, and $50,000 additional is now called for.

FORTS TRUMBULL AND GRISWOLD, NEW LONDON, CONN.—These two works, situated the one upon the east and the other upon the west bank of the River Thames, protect the important harbor of New London, Conn. Plans have been approved for the modification of the exterior barbette batteries, the first to mount twelve and the second nine fifteen-inch guns, or equivalent rifles. The appropriation required for each is $20,000.

FORT HALE, NEW HAVEN, CONN.—During the past year but little work has been done here. This fort was built for temporary defence during the late war, and its object having been accomplished it has been dismantled.

DEFENCES OF NEW YORK CITY.

(In charge of Lieutenant Colonel John Newton and Majors Q. A. Gilmore and H. L. Abbot, Corps of Engineers.)

FORT SCHUYLER, EAST RIVER.—The modifications proposed on this important work, which protects the entrance to the harbor of New York through Long Island Sound, are of such a character as to fit it for the reception of the heaviest class of ordnance. Recent improvements are the completion of emplacements for four heavy guns on the cover face, the building of additional traverses, thickening of parapets and the construction of a new battery for three siege guns of large calibre at the north end of the covered way. It is proposed to expend $100,000 in further improvements of a similar nature.

FORT AT WILLETT'S POINT, EAST RIVER.—This work unites with Fort Schuyler in the defence of the eastern entrance of New York harbor. The operations for the removal of obstructions of navigation at Hell-Gate render it even more important than heretofore that this channel of approach to New York city and the Brooklyn Navy Yard should be put in a proper state of defence. Appropriation asked for the next fiscal year, $90,000. During the past year an underground passage from the new bluff batteries to the water battery, 270 feet long, has been completed; the large storage magazine, designed to contain 250,000 pounds of powder, together with six service magazines, has been nearly finished, and the parapet, containing emplacements for twelve heavy guns, so far completed as to be ready for the reception of the guns, if necessary.

FORT COLUMBUS, GOVERNOR'S ISLAND.—In the new barbette battery eight traverse magazines have been built, the parapet partially constructed and excavations made for the terre-plein and for foundations for the eight remaining magazines. Appropriation asked for, $70,000.

CASTLE WILLIAM, SOUTH BATTERY, GOVERNOR'S ISLAND.—Nothing has been done at these works during the past year.

FORT WOOD, BEDLOE'S ISLAND.—This work, together with those upon Governor's Island, is designed to close the entrance to the East and Hudson Rivers and to cover New York, part of Brooklyn and Jersey City from the bombardment of a hostile fleet in New York Bay. An outlay of $17,000 is required upon it the coming year.

FORT HAMILTON.—This work is situated at the Narrows of New York harbor, upon the Long Island side. Until the question as to the use of iron to cover guns can be determined no work is proposed upon it, other than that necessary for its preservation.

NEW BATTERIES NEAR FORT HAMILTON.—These are earthen barbette batteries exterior to the fort, and constitute powerful auxiliaries to the defence of the Narrows. Appropriation asked for the next fiscal year, $40,000.

FORT AT SANDY HOOK, N. J.—Additional jetties were constructed during the past year, the expense of which ($13,500) was defrayed from the contingent fund. Upon the fort proper no work was done, the watchmen being the only force employed.

FORT WADSWORTH is situated on the Staten Island side of the Narrows of New York harbor, and is a large, casemated structure. No modifications are proposed at present, and no funds asked other than for its preservation.

FORT ON SITE OF FORT TOMPKINS.—This work crowns the hill in rear of the open batteries and other works on Staten Island defending the entrance through the Narrows, acts as a keep for those works, and when completed will throw a heavy fire from a high elevation upon vessels attempting to pass before it. Extensive repairs and improvements of a miscellaneous character have been effected during the current year, and a glacis mortar battery situated south of the fort completed. Appropriation requested, $32,000.

BATTERY HUDSON, STATEN ISLAND.—This battery, together with those on the North and South cliffs, forms a system of earthen barbette fortifications lying exterior to Forts Tompkins and Wadsworth, and brings a powerful fire to bear upon the channel up to and through the Narrows. During the past year a place has been prepared for an additional number of fifteen-inch guns and two service magazines nearly completed. It is expected that the Battery Hudson extension and the return at the lighthouse will be completed and made ready for their new armament during the present working season. Appropriation asked for the next fiscal year, $17,000.

NORTH AND SOUTH CLIFF BATTERIES, STATEN ISLAND.—No alterations of importance were made in these during the past year. They may be finished according to the existing plans during the present fiscal year.

FORTIFICATIONS ON DELAWARE RIVER.

(In charge of Lieutenant Colonel J. D. Kurtz, Corps of Engineers.)

FORT MIFFLIN.—This constitutes one of the inner line of works for the defence of Philadelphia and the naval establishment at League Island. The appropriation asked for the next fiscal year is $85,000. With this sum it is proposed to carry out a number of minor improvements, also to construct additional platforms for fifteen-inch guns and to complete a mortar battery for six mortars south of the fort.

FORT DELAWARE.—This work, situated on Pea Patch Island, forms an important part of the outer line of defence for the Delaware River. New platforms and magazines for heavy guns have been added, and other extensive improvements are in contemplation. Estimated expense, $50,000.

BATTERY AT FINN'S POINT.—The continuation of a powerful earthern barbette battery for this point, to form the left of the outer line of defences, has been delayed for want of the necessary act of cession of jurisdiction from the State of New Jersey. This act will be obtained the present winter and operations pushed forward the coming season.

NEW FORT OPPOSITE FORT DELAWARE.—Measures have been taken for the acquisition of the site of this barbette battery, and it is expected that active operations will be commenced in a short time. Appropriation asked for next fiscal year, $50,000.

DEFENCES OF BALTIMORE AND WASHINGTON.

(In charge of Major William P. Craigmill, Corps of Engineers.)

FORT MCHENRY.—Fort McHenry forms part of the inner line of defence for Baltimore and its environs, and commands with its fire the interior waters of the harbor and the channels of approach thereto. A project for an exterior battery for four guns of the largest calibre has been prepared and an appropriation of $25,000 is asked for its commencement.

LAZARETTO POINT, OPPOSITE FORT MCHENRY.—This work will cross its fire with that of Fort McHenry, constituting one of the inner line of defences of the harbor. It consists of an earthen barbette battery for the largest guns. The site selected is now the property of the United States, and an appropriation of $15,000 is asked for the commencement of the work.

FORT CARROLL, BALTIMORE HARBOR.—This work is situated upon the outer line of defence. It is a casemated structure, and until methods of arranging such works shall have been devised no expenditure is proposed upon it other than for preservation.

FORT FOOTE, POTOMAC RIVER, MD.—This work forms the inner line of defence of the channel of approach by water to Alexandria and the cities of Washington and Georgetown. The projects for its modification and the erection of an additional battery of the heaviest guns have been prepared and arrangements made for the purchase of the site. Aporopriation asked for the next fiscal year, $25,000.

FORT WASHINGTON, POTOMAC RIVER, MD.—This fort occupies a position upon the outer line of defence of the city of Washington, and requires strengthening by the introduction of heavier guns. Plans for earthen barbette batteries immediately north and south of the main work, for the modification of the existing water battery, have been prepared. Appropriation asked for the next fiscal year $25,000.

FORT MONROE, OLD POINT COMFORT, VA.—This extensive work occupies an important position, covering the approach to Hampton Roads, the Navy Yard at Norfolk, and the James River. During the past year arrangements have been made to adapt the work for the reception of heavy guns of the largest size. Extensive repairs have been completed and work upon the artesian well, which has already reached a depth of 900 feet, is about to be resumed. The present water supply is insufficient, and it is important, in time of war, to have one which will be certain and unfailing. An appropriation of $100,000 is asked for the coming year.

FORT WOOL, HAMPTON ROADS, VA.—This casemated fortress unites with Fort Monroe in closing the passage to Hampton Roads, crossing its fire with the guns from that fort. No further work is contemplated upon it at present.

FROM HAMPTON ROADS TO KEY WEST, FLORIDA.

(In charge of Major Q. A. Gillmore, Corps of Engineers.)

FORT MACON.—Is located at Beaufort harbor, N. C., and is to be remodelled and furnished with a new armament as soon as practicable.

FORT CASWELL.—This fort was constructed at the mouth of Cape Fear River, for the defence of Wilmington, N. C.; but to render that city secure another work is needed at the mouth of the new inlet, or perhaps at Orten's Point. Plans for the modification of Fort Caswell have been prepared, and estimates of cost made out; but until the whole subject of the defence of this position can be revised no work is proposed.

FORT MOULTRIE, CHARLESTON, S. C.—Operations during the present year will be limited to the construction of positions for channel-bearing guns, with the requisite service magazines. An appropriation of $40,000 is needed.

FORT SUMTER.—It is not proposed to arrange this work for casemate guns, but to slope off the mound of sand and ruins so as to make room for an armament of heavy guns in barbette, behind sand parapets, and thoroughly provided with sand traverses. Appropriation recommended for this purpose, $40,000.

FORT JOHNSON, CHARLESTON, S. C.—An appropriation of $5,000 is required to effect such necessary alterations and enlargements in the existing emplacements as will fit them for the reception of 15-inch guns. No operations have been carried on during the past year.

CASTLE PINCKNEY, CHARLESTON, S. C.—An appriation of $8,500 is needed to be applied in repairs and in mounting guns of medium size upon wooden platforms in the emplacements already prepared. No improvements made during the past year.

FORT JACKSON, SAVANNAH RIVER, GA.—This work forms the main defence for the city of Savannah. It is proposed next year to repair the masonry of the fort, renew the drawbridge, re-enforce the piers and arches of the casemates, increase thickness of the covering mass of earth, and arrange the barbette with appropriate traverses, &c., for the reception of 15-inch guns. Appropriation asked for next fiscal year, $18,000.

FORT PULASKI, SAVANNAH RIVER, GA.—This is the principal work for the defence of Savannah on the outer line. Projects to arrange its barbette batteries and to construct platforms for guns of the largest calibre have been made and approved. The operations of the present year will be confined to the construction of emplacement for channel-bearing guns, for which a further appropriation of $30,000 will be needed.

FORT CLINCH, AMELIA ISLAND, FLORIDA.—No operations beyond slight repairs have been carried on, and the projects for its modification are still held under advisement.

FORT MARION, ST. AUGUSTINE, FLORIDA.—Slight repairs will be made during the present year, but no appropriation is requested.

DEFENCES AT KEY WEST.

(In charge of Lieutenant Colonel C. E. Blunt, Corps of Engineers.)

FORT TAYLOR, KEY WEST, FLORIDA.—This work for the defence of the important harbor of Key West is still in an unfinished condition. It is proposed to complete the advance towers and to construct two exterior barbette batteries for heavy guns with marazine traverses. Appropriation asked for the next fiscal year, $100,000.

FORT JEFFERSON, GARDEN KEY, FLORIDA.—Nothing has been done during the past year. An appropriation of $50,000 is asked for, to be applied to the completion of the sea wall, and in continuing the work on the quarters and barracks. Plans for the adaptation of this fort to heavy guns are still held under advisement.

DEFENCES ON THE GULF COAST.

(In charge of Colonel J. H. Simpson, Corps of Engineers.)

FORT PICKENS, PENSACOLA, FLA.—This work is in fair condition. Only a few necessary repairs were made during the year, and no appropriation is at present asked for.

FORT BARRANCAS, PENSACOLA.—It is proposed to consider the question of the modification of this work with a view to the introduction of heavier ordnance. No appropriation is recommended.

FORT MORGAN is situated at the eastern entrance to Mobile Bay. Plans for its modification so as to adapt it to the modern armaments have not yet been prepared. No special appropriation is asked.

FORT GAINES, MOBILE, ALA.—This fort needs extensive alterations to fit it for the reception of heavy barbette guns. For the present an appropriation of but $5,000 is asked for, to be expended in the preservation of the site.

FORT ON SHIP ISLAND, COAST OF MISSISSIPPI.—No work done during the past year, and no operations are contemplated at present beyond the care and preservation of public property and the preparation of projects for its modification.

FORTIFICATIONS NEAR NEW ORLEANS.

In charge of Captain C. W. Howell, Corps of Engineers.

FORT PIKE, LOUISIANA.—This fort commands the entrance through Rigolet's pass (navigable to light draught vessels) into Lake Ponchartrain. It is proposed to effect the necessary repairs and to place in the curved barbette battery a number of ten inch rifled guns with the proper traverses between them. Appropriation asked for next fiscal year, $24,000.

FORT MACOMB.—The passage through the bayou Chef Menteur into Lake Ponchartrain is commanded by this work. Projects for its alteration have been considered and estimates of cost prepared. To put the work into the state recommended by the Board of Engineers there will be required the sum of $24,000.

TOWER AT PROCTORSVILLE, TOWER DUPRES, BATTERY BIENVENUE, LAKE BORGNE, LA.—No expenditures during the past year and none are contemplated beyond a few necessary repairs.

FORT JACKSON.—This work and Fort St. Philip, nearly opposite, are situated on the Mississippi River, about sixty-five miles below New Orleans, and constitute the main defences of that city against hostile naval expeditions. The depth of water through the bayou and lakes leading to the city will only permit the approach of small vessels carrying light armaments. The principal channel way through which a naval attack may be made is the Mississippi River. On this channel, therefore, our defences should as soon as possible be made efficient. The work at this fort during the past year consisted in repairs to levee and in care of property. It is proposed during the present year to complete the unfinished water battery, for which purpose $75,000 is asked.

FORT ST. PHILIP.—No work done the past year. Thirty-seven thousand five hundred dollars, available for work during the present year, will be applied to the construction of the new battery recommended by the Board of Engineers. This amount will not be sufficient; and to complete all repairs, alterations and additions designed by the Board there will be required a further appropriation of $70,500.

FORT LIVINGSTONE, LOUISIANA.—This barbette work is situated at the entrance of Barataria Bay, and was intended to prevent access to the city of New Orleans by this route, at the same time securing an anchorage for the use of our vessels of light draught. Projects for its modification and for the emplacement of some large rifles and smooth bore guns have been devised by the Board of Engineers. To carry out the recommendations of the Board there will be required the sum of $38,000.

ON THE PACIFIC COAST.

(In charge of Lieutenant Colonel C. S. Stewart and Major George H. Mendell, Corps of Engineers.)

FORT AT FORT POINT, CALIFORNIA.—This is one of the principal reliances for the defence of the entrance to the harbor of San Francisco through the Golden Gate. It is situated on the southern side of the channel and is a large casemated work, with extensive exterior batteries for heavy guns and mortars. The casemated part has been essentially finished for some years, and the barbette batteries should be pushed to completion at an early day. Good progress was made with them the past year. Appropriation now asked for $125,000.

FORT AT LIME POINT.—This fort, with its detached earthen barbette works at Point Cavallo, Limestone Ridge and Gravelly Beach, is located on the northern shore of the Golden Gate, and protects the entrance to the harbor. When completed the exterior batteries will mount twenty-one 15-inch guns and four heavy mortars. These guns are not yet placed in position, but it is expected that most of them will be in the course of the coming year. An appropriation of $200,000 is required.

FORT ON ALCATREZ ISLAND.—Alcatrez Island forms a valuable position for the defence of the entrance and inner waters of the harbor of San Francisco. Its rocky shores rise abruptly from the water to a height sufficient to secure the fortifications with which it is covered against surprise; but it is necessary to introduce guns of larger calibre, for which an appropriation of $100,000 is asked.

BATTERIES AT POINT SAN JOSE, SAN FRANCISCO HARBOR.—The wood work of the batteries continues to deteriorate necessarily. Six 42-pounder rifled guns on iron carriages are mounted in the east battery. No appropriation is yet asked for the new defences projected at this point.

BATTERIES ON ANGEL ISLAND, SAN FRANCISCO HARBOR.—There are temporary earthworks, erected during the late war and are in a dilapidated condition. Two of the three works retain some degree of efficiency, and it is proposed to defer the commencement of the permanent batteries projected to replace them.

DEFENCES OF THE MOUTH OF COLUMBIA RIVER, OREGON.—These defences consist of Fort Steven on the south side and three detached earthen barbette batteries on the north side of the entrance. They were built for temporary use during the late war, and require frequent repairs. The revetment and timbers of the magazines are rotten and fallen in many places. They should all be replaced the coming year. Appropriation now asked for $20,000.

FORTIFICATIONS UPON THE LAKES.

(In charge of Lieutenant Colonel John Newton, Major John M. Wilson, and Captains G. L. Gillespie and F. Harwood, Corps of Engineers.)

FORT WAYNE, DETROIT, MICH.—This work commands the channel, and, with its exterior batteries, will control the navigation of the Detroit River. Plans for remodelling it have been prepared and are held under advisement.

FORT PORTER, NEAR BUFFALO, N. Y.—The location of this fort is an important strategic point for the defence of the northern frontier. Nothing has been done upon it during the year, and the plans for its reconstruction are withheld for further consideration.

FORT NIAGARA is situated at the mouth of the Niagara River, commanding its debouch into Lake Ontario. The extensive repairs projected for the coming year will require an appropriation of $25,000.

FORT ONTARIO—Protects the city of Oswego from a sudden attack or *coup de main*, or from the levy of a contribution by a small force of the enemy on shipboard. The work now in progress here is the replacing by more durable materials of the old timber scarp, and modifying the barbette for heavy modern ordnance. Appropriation asked for the next fiscal year $30,000.

FORT MONTGOMERY—This work occupies an important strategic position, and commands the entrance to Lake Champlain from Richelieu or St. John's River. It is essentially completed for the old style of armament, but requires certain changes to adapt it to the modern artillery. Appropriation necessary for its completion $22,000.

NEW YORK RAILROADS.

Protection of the People Against the Monopolies—An Important Bill in the Legislature—Proposed Appointment of a Board of Commissioners with Extraordinary Powers.

The following bill was introduced in the State Senate on Thursday by Mr. Adams, and appropriately referred:—

AN ACT to create a Board of Commissioners of Estimate and Control of Railroads in this state, and to define the powers and duties of said commissioners.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:—

SECTION 1.—A department of railroads for this State is hereby created, the business of which shall hereafter be conducted by commissioners, to be known and designated as the Board of Commissioners of Estimate and Control of Railroads in the State of New York; and Amasa J. Parker, George Geddes, Henry R. Sheldon, Lucius Robinson and Horace Greeley are hereby named as the first commissioners of said department.

SEC. 2.—It shall be the duty of the commissioners created by this act to represent the rights and protect the interests of the people of this State, who may require the use of any railroad doing business in this State, and to see that all such roads are operated for public use.

SEC. 3.—In order to carry out the full force and intention of this act the commissioners named in its first section and their successors shall have power, and are hereby authorized, at any time they or a majority of them shall see fit, to enter on the premises or into any office or building of any railroad company doing business in this State and examine the books and accounts of such company, and to examine, under oath, the officers, agents or employes of such company or any person requiring the use of the road of such company, or any person interested in any manner in the property of such company, and said commissioners may acquire knowledge as to the actual condition of such company in all things relating to the property owned by or the indebtedness of such company, and all things whatsoever pertaining to or connected with the interests, management, records or control of such company as perfectly and completely as if said commissioners were themselves the actual owners and managers of the property belonging to or operated by such company.

SEC. 4.—The commissioners created by this act shall have power, and it shall be a part of their duty, to fix the amount of the capital stock and bonded indebtedness of all railroad companies doing business in this State; but in no case shall the amount of such stock and bonds, when so fixed, be permitted to exceed the par value of the amount levied on and actually paid into the treasury of such company by the stock and bond holders, severally, of such company, and no such company shall hereafter levy rates on passenger travel, or tolls on freight transported over any railroad in this State, or in any manner whatever tax the people of this State requiring the use of such road, to pay interest or dividends on any bonds, stock, contract or other evidence of indebtedness or agreement of such company, unless its full par value was in good faith paid into the treasury of the company issuing the same, by the person or party to whom such evidence was given; nor shall commerce or travel hereafter be taxed by any railroad company doing business in this State, to pay interest or dividends on any of the bonds or stock of such company, nor contract or agreement of such company, which was fraudulently issued by any officer or agent of such company, or which was issued by such company to represent the surplus earnings of the road of such company, which earnings have been or are claimed to have been, expended on the properties of such company.

SEC. 5.—When in the judgment of the commissioners created by this act the rates on passenger travel or tolls on freight transported over any railroad doing business in this State are deemed to be unjust or oppressive on the people requiring the use of such road, or whenever the officers or agents of any company representing any such road are notoriously corrupt in the management of the property which such company represents, or when suitable and convenient accommodations are not furnished the public requiring the use of such road, then said commissioners may, on the application of thirteen reputable citizens of this State, reduce and establish the rates which such company may charge and collect for transporting persons or property over any portion of such road; and said commissioners are hereby clothed with power to determine the kind of accommodations which all such companies doing business in this State shall provide for the public requiring the use of such roads, and the time and manner of running all trains over such roads, and all things whatsoever needed or required to promote the convenience and welfare of the public requiring the use of such roads; and in case of refusal or neglect of any such company doing business in this State to comply with the rates established or the rules and regulations laid down by said commissioners, or to correct the abuses complained of, then said commissioners are further authorized, empowered and directed to take possession of the railroad owned or operated by the company so offending, and all the books, property and franchises wantsoever belonging to or connected with the company owning or operating such road, and said commissioners may employ agents, for compensation, to operate such road for the convenience of the public requiring the use of the same; and if the amounts received for the use of such road are sufficient they shall be disposed of in the following manner:—First, to pay the expenses incurred in the seizing and taking possession of such railroad by such commissioners, and the expenses necessary to operate and keep such road in proper repair; second, to pay such just demands as may be outstanding and due against such company; third, to pay the amount of interest —— specified, and at such times and places as the contract requires, on the outstanding bonds of such company, provided always that the full par value of such bonds had been actually and in good faith paid into the treasury of the company issuing the same, or if such full amount has not been so actually paid, then to pay interest at the rate specified in the bonds on the amount actually received by such company for such bonds, such interest to be paid until otherwise provided *pro rata* on all bonds outstanding against such company, and also to provide a sinking fund for the payment of the principal of such bonds to the amount actually received by such company for such bonds; fourth, to pay dividends on the stock of such company at the rate of eight per cent per annum, to an amount equal to the par value of the amount which had been levied on and actually paid into the treasury of such company by the stockholders of such company, and no more; fifth, to keep such an amount on hand as is likely to be required —— to pay the necessary expenses incurred by the management of such road, and such current demands as may be outstanding and falling due against such company; and it shall be the duty of said commissioners to pay, on the first day of May and November of each year, into the Treasury of this State, for the use and benefit of the people thereof, all other sums and amounts held by said commissioners, which sums or amounts were derived from the earnings or receipts of such road.

SEC. 6.—Nothing in this act shall be construed as compelling the Board of Commissioners hereby created to assume any obligations of any railroad company, which obligations were issued through fraud, or of any railroad company whose road, under proper and judicious management, cannot earn a sufficient amount to pay all just claims arising out of its operation and management, and also a sufficient sum to pay fair rates of interest or dividends on its actual cost of construction and equipment; but this act shall be construed as conferring on the board hereby created all the power which the Legislature of this State can confer on any person, body or board to protect the rights and interests of the people against fraud in railroad management in this State, and to prevent any encroachments on the rights of the people by railroad companies, to prevent the establishment of railroad monopolies, to correct abuses growing out of railroad management, to see that all such roads in this State are managed and operated for public use, and to protect travel and commerce from being taxed for the use of railroads in this State to pay interest or dividends on capital never actually expended either in the construction or equipment of such roads.

SEC. 7.—All acts or parts of acts permitting an increase of the capital stock or bonded indebtedness of any railroad company doing business in this State, beyond an amount equal to the par value of which was levied on and actually paid into the treasury of the company issuing the same, and all acts or parts of acts which permit or allow any railroad company to pay interest or dividends on any contract or agreement of such company, the par value of which was not actually paid into the treasury of such company for its use and benefit by the person or party to whom such contract or agreement was issued, are hereby repealed; and hereafter no railroad company doing business in this State shall declare or pay, or tax commerce or travel to pay, interest or dividends amounting to more than eight per cent per annum on any stock, bonds or other evidence of indebtedness or agreement of such company; and no railroad company doing business in this State shall hereafter levy rates on passenger travel or tolls on freight transported over its road, or in any manner whatever tax commerce or travel to pay interest or dividends on a greater amount than has been actually and in good faith expended by such company either in the construction or equipment of the road represented.

SEC. 8.—Said Commissioners of Estimate and Control of Railroads in the State of New York are hereby empowered to administer oaths or affirmations, and to send for persons and papers, and to compel the attendance of witnesses at meetings of their board, or before them separately, and for that purpose a majority of them may appoint a sergeant-at-arms to said board, who shall be clothed with power to enforce all orders or decrees of said board.

SEC. 9.—The commissioners hereby created shall make a full and complete report of all business done by their board, for each year, ending on the 31st day of October, which report shall be presented by said commissioners to the Legislature of this State on or before the 10th day of January of each succeeding year; and said commissioners shall appoint one of their number to act as president and another to act as treasurer of said board, and said commissioners may also appoint a person, not a member of said board, to act as secretary of such board; and said board shall have a seal of office, an impression of which shall be attached to all official papers connected with the business of said board; and said board shall have power to employ as many officers, agents, clerks or laborers as may be necessary to carry this act into full effect; and said commissioners are authorized to provide themselves with all the offices and property necessary for the convenient transaction of their business as such commissioners; and the salary of said commissioners shall be $7,500 each per annum for their services as such commissioners; and, until otherwise provided, said commissioners shall determine the salary or wages of all persons, other than themselves, necessary to carry this act into full force, operation and effect.

SEC. 10.—The commissioners created by this act, and their successors, shall give bonds satisfactory to the Comptroller of this State for the faithful and honest performance of the duties hereby imposed on and trusts confided to said commissioners, the amount of such bonds or sureties to be the sum of $100,000 for each of said commissioners and their successors.

SEC. 11.—In case of vacancy, caused by death, resignation or inability to serve, or for any reason whatever to perform the duties hereby imposed on the commissioners named in the first section of this act, or any part of them, then it shall be the duty of the Legislature to hold a joint meeting of the Senate and Assembly of this State, in the Assembly Chamber of this State, and at noon on the third Wednesday of January in each year, when such vacancy is found to exist, to cast their votes viva voce for such person or persons as they, in their judgment, shall see fit to fill the vacancy then existing, and the person or persons receiving the greatest number of votes shall be declared duly elected to fill such vacancy.

SEC. 12.—The terms of office of the commissioners hereby named shall be for one, two, three, four and five years, to be determined by lot or otherwise, as they or a majority of them shall determine, and any commissioner hereafter elected to fill a vacancy in such board shall hold his office as such commissioner for the unexpired term of the commissioner whose office he is elected to fill; and all other commissioners shall be elected in the manner provided for filling vacancies, and shall be elected for the term of five years; but in no case shall any such commissioner receive compensation for his services except from and after the date on which he commences to perform the duties of such commissioner.

SEC. 13.—No commissioner hereby created or his successors shall be personally interested, directly or indirectly, in any stock, bonds, or agreement of any railroad company doing business in this State, and any wilful dereliction of duty, betrayal of trust or collusion with any such company, his officers or agents whatsoever, upon the part of any such commissioner, shall be deemed a felony and be punished by forfeiture to the State of the amount of the bonds of the commissioner so offending and by imprisonment in one of the State Prisons of this State for a term not less than five years; and for any wilful violation of duty or betrayal of trust by any officer, agent, clerk or employe of such commissioners, the person so offending shall be deemed as having committed a felony and be punished by fine or imprisonment, or both, at the discretion of the County Judge, or of one of the Judges of the Supreme Court of this State residing in or holding Court in the county where such offence was committed; but in no case shall such fine exceed the sum of $10,000, or such imprisonment ten years in one of the penitentiaries or State Prisons of this State.

SEC. 14.—When any railroad company originally representing a railroad under the management and control of the board hereby created shall desire in good faith to again take possession of such road, and when said company shall give evidence of its intention in good faith to comply with all the requirements of said board, then it shall be the duty of said board to surrender back all the properties and franchises originally owned or held by such company, and at such time in the possession of said board, upon said company paying all costs and expenses made, owing and incurred by said board by reason of the seizure of the property of said company.

SEC. 15.—After the passage of this act no railroad company doing business in this State shall part with the ownership or control of any of the property belonging to said company, or make any contract for the expenditure of the moneys of such company, amounting to more than $10,000, without first obtaining the consent thereto of the commissioners hereby created.

SEC. 16.—In order to obtain the means necessary to organize and put the board hereby created in complete working condition, and until the amount hereafter to be assessed on railroad companies doing business in this State shall be otherwise determined, the Treasurer of the New York Central and Hudson River Railroad Company shall pay into the treasury of this State, on the first day of each month after the passage of this act, a sum in money equal to three and one half per cent of the gross earnings of said road for the month preceding such date; and the treasurers of the New York and Harlem, the Rensselaer and Saratoga, the Rome, Watertown and Ogdens