

*Fort Warren, Boston Harbor, Massachusetts, in charge of Col. Henry W. Benham, Corps of Engineers.*—This important work is for the defense of the main channel of entrance to Boston Harbor, and commands the anchorage of Nantasket Roads.

This fort, without an appropriation for active operations during the year, remains essentially as by last report, with the exception of considerable injury to the slopes, and to the surface of the exposed, uncovered portions of the masonry of the bomb-proof traverses and magazines on the water-fronts of the main work. An appropriation is asked for the modification and completion of this unfinished work, according to plans prepared by the Board of Engineers for Fortifications.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$100,000 00

*Battery at Long Island Head, Boston Harbor, Massachusetts, in charge of Col. Henry W. Benham, Corps of Engineers.*—This battery occupies an important position in the outer line of defense for Boston Harbor, and its guns bear on all the channels of entrance thereto.

This work was commenced in 1871, and was designed for the reception of the heaviest modern ordnance. Nothing has been done since the fiscal year 1875-76, for want of appropriations, and the work, the plans of which have been prepared by the Board of Engineers for Fortifications and approved by the Secretary of War, is in an unfinished condition.

The earth-slopes and embankment, where much above the natural soil, have settled somewhat in parts, though not to any serious extent. The masonry of the breast-heights and magazines is all in good condition. The iron-work of the platforms needs repainting, and some repairs or protection to the wharf and shore line adjacent is required.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$50,000 00

*Fort Winthrop, Boston Harbor, Massachusetts, in charge of Col. Henry W. Benham, Corps of Engineers.*—This work is one of those forming the inner line of defense for Boston Harbor.

It is essentially in the same condition as stated in last annual report. The batteries, drains, and slopes of the work are mostly advanced to near completion, and, with slight injuries occurring during the year, are in fair condition.

The necessities for the sea-walls, recommended for the protection of the east bluff of this island and on the south of the main work, are more and more apparent every year.

The plans of this work have been modified by the Board of Engineers for Fortifications for the reception of modern ordnance, and they have been partially executed, but no work has been done since the fiscal year 1875-76, for want of appropriations.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$50,000 00

*Fort Independence, Boston Harbor, Massachusetts, in charge of Col. Henry W. Benham, Corps of Engineers.*—This work is one of the inner line of defense for the harbor of Boston.

It remains essentially in the same condition as at the date of previous report. The slopes of parapets and magazines of the main work are in good condition, and, with the exception of some leaks in the casemate arches and some injuries to the unfinished slopes of the east exterior battery, the work as far as modified is in a good state of efficiency.

The plans of this work have been modified by the Board of Engineers for Fortifications for the reception of modern heavy ordnance, and they

have been partially executed, but no work has been done since the fiscal year 1875-76, on account of want of appropriations.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$50,000 00

*Fort at Clark's Point, New Bedford Harbor, Massachusetts, in charge of Lieut. Col. G. K. Warren, Corps of Engineers.*—The guns of this work command the entrance of the harbor of New Bedford.

Nothing has been done during the past fiscal year except taking care of the property.

Plans for new batteries for modern heavy guns have been completed by the Board of Engineers for Fortifications and work can be begun as soon as money is appropriated.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$30,000 00

*Fort Adams, Newport Harbor, Rhode Island, in charge of Lieut. Col. G. K. Warren, Corps of Engineers.*—This large and important work defends the harbor and city of Newport, and commands the principal passage to Narragansett Bay, one of the best roadsteads on the coast.

The preparatory work for the construction of the new battery for modern ordnance (such as opening roads, draining the grounds, &c.) having been all completed, rapid progress can be made in construction when the necessary funds are appropriated. This important battery at the end of the fiscal year 1875-76, had but recently been commenced in accordance with plans approved by the Secretary of War, and no work has been done since that year for want of appropriations.

Many repairs are needed to the main work and to the permanent wharf.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$40,000 00

*Defenses of Dutch Island, western entrance to Narragansett Bay, Rhode Island, in charge of Lieut. Col. G. K. Warren, Corps of Engineers.*—These defenses lie in and command the western passages to Narragansett Bay.

The only work performed during the fiscal year has been the general care of the property.

No other work is contemplated for the fiscal year ending June 30, 1880, for want of appropriations.

The appropriation asked is for continuing the construction of barbette batteries for modern ordnance, in accordance with plans approved by the Secretary of War.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year ..... \$40,000 00

*Fort Trumbull, New London Harbor, Connecticut, in charge of Maj. J. W. Barlow, Corps of Engineers.*—This work, upon the west bank of the Thames River, and Battery Griswold, on the east bank, constitute the defenses of New London Harbor.

Operations have been confined to the care and preservation of the work. The repointing of the parade wall, which was in progress at the close of the last fiscal year, has been completed. This defective pointing was undoubtedly the cause of the leaks in the casemates, as no complaints with regard to them have since been made.

No progress has been made in the construction of the exterior batteries for modern heavy guns at Fort Trumbull, recently designed by the Board of Engineers for Fortifications and approved by the Secretary of War, since the fiscal year 1875-76. When work was stopped in that year,

one of these batteries had been nearly completed, but it was not yet available for its armament, and the other had not been commenced.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$40,000 00

*Fort Griswold, New London Harbor, Connecticut, in charge of Maj. J. W. Barlow, Corps of Engineers.*—This work is auxiliary to Fort Trumbull in the defense of New London Harbor.

No work was done during the past fiscal year beyond the care given it by the ordnance sergeant in charge, assisted by soldiers from the garrison at Fort Trumbull.

A plan for a new battery of heavy guns has been designed by the Board of Engineers for Fortifications, but no appropriation has been made therefor.

No appropriation was made for the fiscal year ending June 30, 1880.

No appropriation asked for next fiscal year.

*Fort Hale, New Haven Harbor, Connecticut, in charge of Maj. J. W. Barlow, Corps of Engineers.*—This work on the east side of the channel commands the entrance to New Haven Harbor.

It was not intended as a permanent structure, and is now much out of repair. The operations have been confined to the general care of the property.

No appropriation was made for the fiscal year ending June 30, 1880.

No appropriation asked for next fiscal year.

*Fort Schuyler, East River, New York, in charge of Maj. H. L. Abbot, Corps of Engineers.*—This is an important work for the defense of the entrance to the harbor of New York City through the East River.

Owing to the want of funds, nothing more than the ordinary care of the property has been possible during the past year.

The main work is in a state which urgently requires attention. The remodeling of the barbette tier according to plans approved by the Secretary of War to enable it to receive its proposed armament of modern guns, has been mainly finished, but was suddenly stopped by the failure of the appropriation, and the new part now deteriorates under the action of the weather. This fact, and the vast importance of the work to the defense of New York Harbor, renders an appropriation specially needed.

A plan approved by the Secretary of War, which has been prepared by the Board of Engineers for Fortifications, for the modification of the casemates of three of the fronts, to adapt them to the reception of the heaviest modern rifled ordnance behind iron shields, should be undertaken without delay, and a liberal appropriation for the same is urgently recommended.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$150,000 00

*Fort at Willet's Point, eastern entrance to New York Harbor, in charge of Maj. H. L. Abbot, Corps of Engineers.*—This work unites with Fort Schuyler in the defense of the entrance to the harbor of New York City through the East River.

Want of funds has prevented any progress in preparing this important position for use in defending New York City in case of war.

Now that the Hell Gate channel is rapidly improving, and the city is extending along East River, the preparation of a strong defensive line for excluding a hostile fleet with certainty from these waters is a matter of the very first importance. Torpedoes would of course be made to play an important part, but shore batteries are essential to defend them against the counter-operations of an enemy; and when the safety of

such a port as New York is concerned, the necessary preparation should not, in my judgment, be delayed.

The funds available during the past year have been only sufficient to make absolutely necessary repairs. They have included the slopes of the different batteries, the sea-walls of the east and west batteries, the earth-covering of the storage casemates, temporary buildings, tools and implements, and the engineer property.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$80,000 00

*Defenses of Governor's Island, New York Harbor, in charge of Col. Henry W. Benham, Corps of Engineers.*—These works are Fort Columbus, Castle Williams, South Battery, and New Barbette Battery. They, with Fort Wood, on the opposite side of the channel, defend the entrances to the East River and the Hudson River.

No operations have been in progress during the year except some slight repairs to the buildings and store-rooms, owing to the want of funds. The exterior heavy batteries are as yet unfinished, and a new sea-wall on the shore in rear of the officers' quarters is very greatly needed.

In the annual report for the year 1877 estimates were made for an extension of the sea-wall on the west side of the island, and for surface drains in the moat of Fort Columbus. The recommendations then made are repeated. The shore-line along the southeast part of the island, back of the range of officers' quarters, between the south battery and the main wharves, is without protection, and is irregularly broken down by the wash of the waves in storms, while in front or outward from the shore a shoal extends, bare at low-water, to the distance of 100 feet to 200 feet, which, from its position in the eddy between the Buttermilk Channel and the Hudson River, receives the drift and carrion offal of the river, making it often very offensive and injurious to the health of the residents on the island.

The best remedy for this, and a necessity, is considered to be a sea-wall of rounded or convex line of short faces, running out upon this shoal, which, without indentations, would give a regular current and direction to the water, thus tending to carry off all such offensive and deleterious matter, while the space in rear, filled up, as it might be without great cost, in part perhaps by the garrison, would add some acres to the area of the island, where every yard of land is so valuable. The construction of this wall is strongly urged by General W. S. Hancock, commanding Military Division of the Atlantic, and the medical authorities of the island.

The length of wall required would be about 1,800 running feet, and, if of 8 feet height, with stone facing and concrete backing and foundation, would cost, as near as can be estimated, about \$20 per running foot, or \$36,000. Adding for the wall on the west shore, the cost will be about \$40,000.

The appropriation asked for is for the foregoing objects, and for continuing the construction of the exterior battery for heavy ordnance designed by the Board of Engineers for Fortifications for this important site, and approved by the Secretary of War.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$75,000 00

(See Appendix No. 1.)

*Fort Wood, Bedloe's Island, New York Harbor, in charge of Col. Henry W. Benham, Corps of Engineers.*—This work forms one of the inner line

of defense for New York Harbor, and, with those on Governor's Island, is designed to close the entrances to the East River and the Hudson River, and to protect New York, part of Brooklyn, and Jersey City from bombardment.

No operations have been under way during the year, the work remaining in a fair condition. A heavy modern gun-battery, designed by the Board of Engineers for Fortifications, is partially built, and its completion would finish all that is planned for this island.

No appropriation was made for the fiscal year ending June 30, 1880.  
No appropriation asked for next fiscal year.

*Fort Hamilton and additional batteries, New York Harbor, in charge of Col. Henry W. Benham, Corps of Engineers.*—These works are situated at the Narrows of New York Harbor, upon the Long Island side.

From want of funds no operations of importance have taken place here during the past year, and the work is essentially in the same condition as at the date of previous report. For some necessary repairs and the completion of batteries now in part constructed in accordance with plans designed by the Board of Engineer for Fortifications, and approved by the Secretary of War, an appropriation for the next fiscal year is recommended.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$50,000 00

*Mortar Battery at Fort Hamilton, New York Harbor, in charge of Col. Henry W. Benham, Corps of Engineers.*—No operations were carried on during the past fiscal year.

Some little work yet remains to be done on this battery to place it in a condition to receive its full armament as projected by the Board of Engineers for Fortifications, the cost of which, amounting to about \$1,100, is included in the estimate for Fort Hamilton and additional batteries.

No separate appropriation asked for this work.

*Fort Lafayette, New York Harbor.*—This old work, situated on a shoal at the Narrows entrance, occupies the best of all the positions for the defense of New York Harbor. It was injured by fire in December, 1868, to such a degree as to make it practically worthless unless repaired at a very considerable outlay; and as it was adapted to guns of small caliber only, it was not thought worth while to restore it, but to replace it by a new construction which should meet the demands of modern armaments.

A project for a casemated work has been, therefore, prepared by the Board of Engineers for Fortifications, the estimated cost of which is \$784,212, which shall admit of the mounting of 80 to 100 ton guns behind shields of iron. About one-half of the old work is utilized in this project, for store-rooms, bomb-proof quarters, &c., while the remainder is an entirely new construction. It will require several years in building, and should be undertaken without delay. An appropriation for its commencement is asked for next year.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$300,000 00

*Fort Wadsworth, Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—This fort, situated on the Staten Island side of the Narrows of New York Harbor, is a large casemated work, having its lower tier of guns only a few feet above the level of ordinary high water.

During the last fiscal year a new wooden approach to the draw-bridge has been built, the iron railings and port-cullis have been painted, and

a portion of the earth washed in from the slope in rear has been removed from the ditch.

The ditch requires cleaning out, some painting and pointing are needed, and shot-beds are wanted on the parade of the work.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$9,000 00

*Fort on site of Fort Tompkins, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—This work crowns the hill in rear of Fort Wadsworth and the open batteries on Staten Island, and is designed to accommodate the garrisons and act as a keep for those works. When completed, it will be able to throw a heavy fire from a commanding position upon vessels attempting to pass through the Narrows. It has been in readiness to receive its armament for some years. For want of funds, the operations during the past fiscal year have been restricted to repairs of the earthwork and roads damaged by storms, to cutting the grass on the slopes, constructing two masonry cesspool traps connecting with drains running to the river, repairing fences, roofs of smith-shop and stables, keeping a supply of water in the distributing reservoir located on the glacis, &c.

No operations can be carried on during the present fiscal year for want of funds.

Attention has been called in former reports to the bad condition of the large slope in front of the channel face of this work, and an appropriation for completing it is again earnestly recommended.

Amount (estimated) required for completing Fort Tompkins, the glacis gun-battery, and the north and south cliff batteries; for mounting modern heavy ordnance, in accordance with plans designed by the Board of Engineers for Fortifications and approved by the Secretary of War, \$175,000.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$75,000 00

*Glacis Gun Battery (north of fort on site of Fort Tompkins), Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—This battery has been in readiness to receive its armament for the last five years. Some little work remains yet to be done to the magazine-doors and lamp-closets. No work was done during the last fiscal year, except to cut the grass from the slopes and repair minor damages to the same.

The cost of substituting stone for timber platforms, amounting to about \$9,000, is included in the estimate for Fort Tompkins.

No separate appropriation asked for this work.

*Glacis Mortar Battery (south of foot on site of Fort Tompkins), Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—This battery, the plans of which were designed by the Board of Engineers for Fortifications, and its armament are ready for service. A little work yet remains to be done upon the lamp-closets and the principal magazine requires to be furred off. No work was done during the last fiscal year except cutting the grass from the slopes.

An appropriation for next fiscal year is asked for in the estimates under the head of sea-coast mortar batteries.

*Battery Hudson, Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—This work and the North Cliff and South Cliff batteries occupy the slope between Fort Tompkins and the water, and are able to bring a powerful fire upon the channel leading up to and through the Narrows.

No work has been done during the past fiscal year except the building of 250 feet of post-and-rail fence at the west end of the south face of the battery, cutting the grass from the slopes and keeping them in repair.

The estimate for the completion of this work contemplates substituting stone for the existing wooden platforms, and the construction of bonnets upon the traverses.

Amount (estimated) required for completing the work, \$36,199.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$24,000 00

*South Mortar Battery (in rear of Battery Hudson extension), Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—The work necessary for the completion of this battery, as designed by the Board of Engineers for Fortifications, consists in constructing and laying eight timber mortar-platforms upon concrete foundations now in place, in fitting up the inner magazine doors and two lamp-closets. No platforms are finished.

No appropriation was made for the fiscal year ending June 30, 1880.  
An appropriation for next fiscal year is asked for in the estimates under the head of sea-coast mortar batteries.

*North Cliff Battery, Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—The earth work in the rear slope and traverse magazine was repaired and sodded, and the grass cut on the slopes at the usual seasons.

The cost of completing the battery, by substituting six stone gun platforms for those of timber, constructing six stone breast-height walls, two bonnets on the traverses, lining the two principal magazines with timber, thickening the parapet, and constructing a rough sea-wall at the foot of the exterior slope, amounting in the aggregate to \$34,700, is included in the estimate for fort on site of Fort Tompkins.

No separate appropriation asked for next fiscal year.

*South Cliff Battery, Staten Island, New York Harbor, in charge of Lieut. Col. Q. A. Gillmore, Corps of Engineers.*—The roof surface of the traverse magazine near the north end of the battery was cemented over, the ventilating flue raised, and the earth cover roughly formed. The grass was cut on all the slopes.

The cost of completing the battery in accordance with the approved plan, including the thickening of the parapet, a rough sea-wall at the foot of the exterior slope, and wooden linings in the principal magazines, amounting in the whole to \$37,100, is included in the estimate for fort on site of Fort Tompkins.

No separate appropriation asked for next fiscal year.

*Fort at Sandy Hook, New Jersey, in charge of Col. Henry W. Benham, Corps of Engineers.*—This work commands the southern approaches by sea to the harbor and city of New York, and is also designed to prevent the occupation of the lower New York Bay as an anchorage by an enemy's fleet.

No operations have been under way, owing to the want of funds. The fort remains essentially in the same condition as at the date of last year's report. A plan for the modification and completion of this important work, the most advanced of all the defenses of the southern approaches by sea to the harbor and city of New York, has been prepared by the Board of Engineers for Fortifications during the past year. It provides for the reception of the heaviest modern rifled guns, commanding the

channel, which is, opposite the Hook, more than a mile wide, and of a depth sufficient for the largest and most efficient iron-clad vessels yet built or designed.

An appropriation for the continuation of this work and the protection of its site is urgently recommended.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$150,000 00

*Fort Mifflin, Delaware River, Pennsylvania, in charge of Col. J. N. Macomb, Corps of Engineers.*—This work, situated near the confluence of the Delaware and Schuylkill Rivers, forms the main portion of the intended inner line of defenses across the Delaware River, and guards the approaches to the League Island Navy-Yard and Philadelphia.

The storm of October 23, 1878, rising to an unprecedented height, burst the dikes and inundated the fort parade to a depth of 4 feet 9 inches. The breaches in the dike were stopped and other damages repaired out of an allotment from the appropriations for preservation and repair of fortifications, 1879, and contingencies of fortifications, &c.

The inadequate height and dimensions of the dike for the protection of the site against overflow having been demonstrated, they should be raised and revetted, at a probable expense of \$14,100.

The plans for adapting the works at Fort Mifflin for modern heavy ordnance have been prepared by the Board of Engineers for Fortifications, and they were partially completed under the last appropriation for the work, viz, the appropriation for the fiscal year 1875-'76. During the next fiscal year it is proposed, if an appropriation should be made, to construct the torpedo casemate-gallery, complete the exterior battery, construct battery on north face of demilune and on south face of main work, commence construction of storage-magazine at exterior battery, and make necessary repairs to dikes, roads, &c.

No appropriation was made for the fiscal year ending June 30, 1880.  
Appropriation asked for next fiscal year..... \$90,000 00  
(See Appendix No. 2, a and c.)

*Mortar Battery near Fort Mifflin, Delaware River, Pennsylvania, in charge of Col. J. N. Macomb, Corps of Engineers.*—This battery, the plans of which were prepared by the Board of Engineers for Fortifications, remains in an unfinished condition, and the two magazines are suffering from exposure. No work has been performed on this battery since the fiscal year 1873-'74 for want of appropriations therefor.

An appropriation of \$20,000 for continuing this work is included under the head of sea-coast mortar batteries.

No appropriation was made for the fiscal year ending June 30, 1880.  
No separate appropriation asked for next fiscal year.

(See Appendix No. 2, a and c.)

*Site for defenses at Red Bank, New Jersey, in charge of Col. J. N. Macomb, Corps of Engineers.*—For want of appropriations no works have been constructed upon this site, which lies upon the New Jersey shore of the Delaware River, nearly opposite to Fort Mifflin, and which was purchased by the United States in 1872. The dikes along the Delaware River and Woodbury Creek were injured by storms, and the damages partially repaired during the fiscal year. It is proposed to continue these repairs during the present season, as far as the limited amount available will admit.

No appropriation was made for the fiscal year ending June 30, 1880.  
No appropriation asked for next fiscal year.

*Fort Delaware, Delaware River, Delaware, in charge of Col. J. N. Macomb, Corps of Engineers.*—This work, situated on Pea Patch Island,

lying in the Delaware River, 40 miles below Philadelphia, with the opposite batteries on the New Jersey and Delaware shores, constitutes the outer line of defense for guarding the water approaches to Philadelphia, the navy-yard at League Island, and other important points on Delaware River. The site is protected from overflow by a continuous dike, and the storm of October 23, 1878, raising the water-level to an unprecedented height, submerged the island, and caused great damage.

The operations of the year were mainly directed to repairing the effects of this storm, stopping the breaches in the dikes, replacing bridges, and partially cleaning the ditches. In addition, the tide and sluice gates, which had become entirely unserviceable, were rebuilt.

There is now no suitable landing place on the island, and the wharves, which, in their unfinished condition, are rapidly being destroyed, should be completed.

For raising the dikes to 13 feet, completing the wharves and other absolutely indispensable operations, \$42,100 will be required.

The modifications of this work projected by the Board of Engineers for Fortifications are only partially completed, and have been suspended since the fiscal year 1875-'76, for want of appropriations. An appropriation for next year is asked, to be applied to the construction of a torpedo-casemate, to increasing the thickness of walls of magazine to protect them against the fire of modern heavy ordnance, to completing the permanent wharf, and the repair of the temporary ones, and to the repair of buildings, dikes, &c.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$75,000 00

(See Appendix No. 2, b and c.)

*Battery at Finn's Point, Delaware River, New Jersey, in charge of Col. J. N. Macomb, Corps of Engineers.*—This is a powerful earthen barbette battery, and forms the left of the outer line of defenses across the mouth of the Delaware River.

This battery was planned in 1870, and begun in 1872, according to plans prepared by the Board of Engineers for Fortifications, and approved by the Secretary of War. It is only partially completed, no appropriation having been made for it since the appropriation for the fiscal year 1875-'76. From its unfinished condition and the insufficient protection against the river furnished by the dikes and sea-wall, the work suffers yearly from deterioration. The storm of October 23, 1878, did great damage, as it raised the river level to 11 feet 5 inches above mean low water. Since then partial repairs have been made to the sea and retaining walls and dike, but considerable expenditure will be required to render the protective works efficient.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$50,000 00

(See Appendix No. 2, b and c.)

*Mortar Battery at Finn's Point, Delaware River, New Jersey, in charge of Col. J. N. Macomb, Corps of Engineers.*—This work forms part of the barbette battery at Finn's Point. It was commenced in 1872, according to plans prepared by the Board of Engineers for Fortifications, and in the two following years two magazines were built; a sea-wall at the foot of the exterior slope was constructed to a height of 9 feet above mean low water; the terreplein was embanked and the traverses and parapet commenced. Since then no work has been done for want of funds. The magazines are in good condition, but the sea-wall has been

badly damaged by storms, and the unfinished embankments considerably washed away.

An appropriation of \$25,000 to complete this work is asked for under the head of sea-coast mortar batteries.

No appropriation was made for the fiscal year ending June 30, 1880.  
No separate appropriation asked for next fiscal year.

(See Appendix No. 2, c.)

*Fort opposite Fort Delaware, Delaware shore, in charge of Col. J. N. Macomb, Corps of Engineers.*—This is a strong earthen battery, forming the right of the lower line of defense for the Delaware River, and is in an incomplete condition. The site was purchased in 1871, and the construction of a wharf and the necessary buildings begun. No appropriation has been made since the appropriation for the fiscal year 1875-'76.

The wharf and temporary structures and a dike along the river front were completed in 1874; the right wing of the battery, including 4 wooden platforms for 15-inch guns and a magazine traverse, was completed, except where it joins the unfinished mortar battery, in 1875; a shelter room and magazine at junction of mortar battery and front of gun battery were also built; two more wooden platforms were laid, and work on the embankment was continued. In the next year the traverse covering the shelter room and magazine was finished; another magazine was built; the breast-height wall in front of the two wooden platforms was nearly completed; the exterior and reverse slopes were formed and sodded for about 400 feet; the stone for two gun platforms was prepared, and the two pintle stones were set. The dike was damaged by a storm in 1876, and in the following year the top was entirely swept away by another. No repairs can be made short of rebuilding it, and to a greater height than before.

In October of last year about 2,500 linear feet of fences and the bridge connecting with the county road were carried away by a storm tide of unprecedented height. These have been rebuilt, and slight repairs have been made to the temporary buildings. Proper care has been taken of the public property and grounds.

For continuing the construction of this work in accordance with plans prepared by the Board of Engineers for Fortifications and for the protection of its site, an appropriation for the next fiscal year is recommended.

No appropriation was made for the fiscal year ending June 30, 1880.

Appropriation asked for next fiscal year ..... \$75,000 00

(See Appendix No. 2, b and c.)

*Mortar Battery near Delaware City, Delaware, in charge of Col. J. N. Macomb, Corps of Engineers.*—This is a battery for six mortars. Its construction was commenced in 1872, according to plans prepared by the Board of Engineers for Fortifications, and in the next year two magazines were nearly completed, the terreplein was formed, and the parapet embanked about 7 feet above that level. Nothing more was done until 1876, when a small balance of an old appropriation was applied to completing the two magazines and embanking the two traverses with the parapet in front of them to nearly their full height. No operations have been carried on during the past fiscal year for want of funds.

An appropriation of \$18,000 to complete this work is asked for under the head of sea-coast mortar batteries.

No appropriation was made for the fiscal year ending June 30, 1880.  
No separate appropriation asked for next fiscal year.