

174. The Government of the United States.

ENGINEERING EXHIBITS.

Report.—The Government has exhibited some useful and instructive models, drawings, and illustrations of public works appertaining to seas, rivers, and harbors. Among them are specimens of its light-houses and lenses, of piers and breakwaters, and of methods of construction much used and almost peculiar to the United States, such as the crib work, etc.

Model of the Subterranean Excavation at Hallett's Point.

Removing shoals and rocks under water by blasting and dredging in the ordinary way is not uncommon, and large expenditure is frequently incurred for this purpose; but the method adopted for the removal of the submerged reef at Hallett's Point, Hell Gate, New York, by subterranean excavation and by afterwards blasting away the undermined crust, is remarkable for its originality and boldness. Works in charge of Major John Newton, U.S.A.

Model of an Apron or Mattress used for Deflecting the River Current at New Inlet, Cape Fear River, N. C.

Mattresses, or sinkstuck, as they are there called, are extensively applied in Holland for similar purposes; but they are made of more flexible materials, there easily attainable, and more resemble wicker work. The mattresses used at Cape Fear are useful as showing the modification necessitated by a difference of material. Work in charge of Major William P. Craighill, U.S.A.

Gabions used in the Improvement of the Entrance at Galveston Harbor, Texas.

Concrete blocks are usually formed in wooden boxes with movable ends and sides, but these call for carpenters' and smiths' work. The wicker gabions dispense with that kind of labor, and are an illustration of adapting methods of construction to the means at hand. Works under the direction of Captain Howell, U.S.A.

Steam Drilling Scow with Dome.

The cast-iron dome facilitates drilling holes for blasting rocks under water, and also serves to protect the divers against currents, and is a well-designed, novel, and useful adjunct to those who have to execute work under water. Designed by General John Newton, U.S.A.

Model of Dredge Boat "McAllister," used in Improving the Mouth of the Mississippi River.

The principle adopted in its construction is to use a very powerful screw to propel the vessel, and at the same time to disperse the weed raked up by the scraper following immediately in the wake of the vessel, and so arranged as to be capable of adjustment to different angles of obliquity. Submitted by Captain Howell, U.S.A.

United States Snag Boat "J. N. Macomb."

This is a well-designed and powerful vessel, furnished with ample and useful contrivances to enable it to accomplish its work.

Built under the direction of Major Charles R. Suter, U.S.A.

Details of pumping apparatus "Henry Barden," for lifting and holding sand in lieu of ordinary dredges.

Raising sand by pumping, instead of by dredging in the ordinary way, has been successfully carried on for some time on the Amsterdam sea canal.

This machine, which is designed for the same purpose, is in a somewhat different but useful form.

Designed by General Gillmore, U.S.A.