

plan and shape to that used at Pier No. 1 ; but, being intended to penetrate through a considerable depth of sand, it was provided with a boiler plate cutting edge of the same kind as that used on the round tub, and the sides were given a batter of 1 in 16 ; it was thoroughly caulked and furnished with a false bottom. Four timber trusses resting upon the piles were placed above the caisson, transversely with the stream, which carried the eight long screws already used at Pier No. 1.\* On the 12th of November the first section of the caisson was lifted from the floor by the screws, the timbers under it were removed, and it was lowered within a few inches of the water ; a second section was at once built upon it. On the 25th of the same month the caisson was lowered into the water till almost in contact with the sand, being held against the current by a wire cable attached to the anchor piles above. The false bottom helped, as at Pier No. 1, to secure ease and uniformity in the descent ; it was also expected to increase the scour immediately below.

The current rapidly washed out the sand to the depth of 15 feet at the upper end of the caisson, but only disturbed it slightly at the lower end ; the upper end was therefore kept hanging on the screws, and the lower end let down upon the sand. The false bottom was struck at once, and another section built on the caisson ; this third section differed from the two below in being planked horizontally and having the sides plumb. The lower end was then sunk about two feet into the sand by using a water jet around the edge. On the 10th of December a six-inch siphon pump, which had previously been in use at Pier No. 4, was placed in the caisson and worked by the boilers of the steamboat ; it threw enough sand to sink the caisson about a foot in a day at the first, but this rate of descent slackened to about six inches and even less, when the upper end reached the sand and the edge took a bearing all around. On the 30th of the same month a small dredge and a four-inch Andrews centrifugal force-pump were added to the outfit ; the dredge was of the endless chain pattern, mounted on an incline, and worked by four men with two cranks ; it had a capacity of about 50 cubic yards a day. The Andrews pump was placed inside the caisson and driven by a steam-engine on a boat swinging below the works ; though used to some small extent as a sand-pump, it was chiefly relied upon to drive a

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\* Shown on Plate III.