

The delays due to this series of accidents had consumed almost the whole low-water season, and it was thought unwise to proceed with so exposed a foundation till after the summer flood. In the following September the water-deadener caisson was raised from its place above Pier No. 1, and dropped below the site of Pier No. 2, where it forms the foundation of the lower draw rest. The floods of the preceding summer had filled it with several feet of mud, which had to be removed, when it was easily raised by pumping out the water. No small difficulty was experienced in getting it accurately placed, owing to the inconvenient distance of the anchorages, and frequent interruptions from passing steamboats ; it was finally secured within a few inches of the desired spot, though not quite parallel with the line of the piers, an irregularity which was taken out in the framing of the upper works. An additional amount of stone was thrown in and an unyielding bearing obtained on the bed rock, which was swept clear of sand by the current.

On the 23d of September, 1868, the round caisson, which had been ready on the launching ways for nearly a year, was successfully launched. The bottom and caulking proved tight, and no pumping was required to keep it afloat. An additional section nine feet high was put on, built of oak staves with hoops and rings, and differing from the lower section only in having no bottom ;* a wall of rubble masonry was laid between the rings of the lower section to give weight. The caisson was then dropped around Pier No. 1, and swung into position ; it was handled entirely by lines, made fast to the two draw rests and adjoining piers, no false works being erected at the pier site. It was sunk by admitting water above the false bottom, and in two hours settled to a bearing. By pumping out, and readmitting a portion of the water, it was several times raised and lowered a few feet, until, on the 11th of October, it was brought into its final position, and firmly grounded on the rock. Soundings taken a few days previously had shown a deposit of from two to five feet of sand ; but this was soon swept away by the current, when the iron edge was raised a few inches above its surface. Besides the hempen cables used to handle the floating tub, a two-inch wire cable was made fast to the upper draw rest, and attached by a bridle to the tub, being made two feet and

* This section is shown with the first, on Plate III.