

discovered under the lower end of the caisson. An additional diver was sent for, and after a few days' delay the log was cut through and drawn out, when it was found to be a broken pile, probably belonging to the works of the wrecked foundation. Another old pile was found near it, which extended from outside of the caisson nearly to the centre of the eastern chamber, passing under the cutting edge ; a line was made fast to it and attached through a set of falls to the upper false-works, and held in this manner while the sinking proceeded ; on the 1st of February, this pile broke off under the cutting edge and was drawn up through the well hole ; it proved to be a stout hickory stick, nearly a foot in diameter, and showed a rough broom-like fracture ; it had been carried down with the caisson several feet before breaking, and the outside portion still remained under the edge, where it was found by a diver when the caisson had nearly reached the rock. While the divers were at work upon these sticks, it became necessary to jet away the sand around them, thus forming a cavity close to the edge of the caisson ; in two or three instances this caused sand slides, the sand suddenly caving in, filling up the cavity and raising the water in the wells ; at one time the water in the wells was raised three feet above the level of the river, when the soundings showed a hole ten feet deep outside the caisson, over the point where the slide occurred ; this, however, was soon filled up by caving in and by fresh deposits.

On the 3d of February, the masonry was finished to the top of the sill of the fourth section, which had now been added, or thirty-nine feet above the cutting edge ; as this was less than two feet below the point at which the ice-breaker courses were to be started, it was thought best to lay no more masonry till a permanent bearing had been reached upon the rock. Borings recently taken had found the rock at an elevation of 56.6, though the auger had apparently been disturbed by loose stones three or four feet before it reached that depth. In the evening of the 4th the pier settled rapidly ; the machinery had never worked better, and six inches descent was noticed in an hour ; but at mid-night it came against some hard substance and almost stopped. The diver at first reported rock, but the pier went down nine inches during the next three days, and though the dredges threw out a large number of loose stones, the obstruction was found to be a mass of clay under the south edge ; the upper section