

caisson, while the material under the edge was but slightly disturbed ; the sand round these holes would then fall in, bringing with it considerable quantities of sand from the outside ; but the slides seldom extended far enough along the edge to cause any material settlement in the caisson. A water jet, attached to a long piece of gas pipe, and handled with lines from above, was passed around the edge of the caisson on the inside, which helped greatly to clear away any interior sand bearing, to level off the material, feed the dredges, and let the caisson down ; the dredges were usually run during the greater part of the day, excavating a moderate quantity of silt and sand, but causing no perceptible descent ; they were then stopped, and the pumps started, when an hour or two of jetting would be accompanied by a few inches settlement. The material excavated was at first a fine silt ; but as the depth increased it changed to a coarse sand, in which were found occasional masses of clay, and a few stones. In one instance the caisson reached what appeared to be a thin continuous layer of clay, which the dredges worked through without producing any general effect, and which had to be cut in pieces with chisels from above.

On the 27th of April a second section was added to the caisson, which was loaded with a wall of rubble masonry, between the timbers, like the first section. On the 5th of May the machinery was stopped, the dredges rearranged by transferring their support to the top of the second section, and started again on the 14th. To secure additional weight, a box five feet by four was built around the caisson, supported by brackets on the outside and filled with sand. On the 5th of July a third section was added, and the sand boxes were raised to prevent their taking a bearing on the outside sand. About this time the summer flood covered the sand bar, so that these works could only be reached in boats. The level of the bar, between this pier and No. 7, was raised by a fresh deposit of two or three feet of silt, and its general line was extended about twenty yards towards the south, carrying it beyond the site of No. 5, but no material changes occurred immediately around the caisson ; the current caused by the obstructions of the work, and the frequent sand-slides about it, prevented the accumulation of any deposit, leaving the works in a little bay by themselves, and the operations were not in the least disturbed by the high water.

On the 15th of August the base of the caisson reached an elevation of 80,