

moored on the south side of the works, by which the stones were lifted from the stone barges and placed on the car; the car was then pushed under one of the travellers, the stone raised by a hand-crab which was placed at the east end of the works till it cleared the car, and drawn forward till opposite the desired point by a steam crab, which was likewise at the east end of the works, and driven by the same engine which worked the dredges, both sets of machinery rarely being worked together. This apparatus was not mounted till the beton in the two lower sections of the caisson had all been put in.

Soon after the caisson was brought into position the rectangular openings into the lower chambers had been surmounted by timber boxes; this was continued from time to time as the sinking progressed, the successive sections of these well walls being made of such height as was found most convenient. When the hollow walls of the caisson had been filled with beton a second section was built above it; this section was an open frame structure, covered with three-inch oak plank dressed in a planer, and similar to the caissons used at Piers 1 and 3; the long sides were given a batter of one in sixteen, but the short sides of the starlings were built plumb; additional lengths were also put on the gas pipes. This section, like the lower one, was filled with beton, about one-half the full amount being put in before starting the machinery. The beton was mixed upon the platform, thrown at once into the caisson, and beaten down with a paving maul. It set rapidly, forming a satisfactory compound; the caisson thus became merely the wooden covering of a single artificial stone or monolith, of the form most convenient for the work, and which carried the masonry of the pier above.

On the 11th of December the ice closed at the bridge line, and the river froze across. A week later the ice, which was still thin, began to rot rapidly under a strong sun, and on the 19th it broke up and went out. No serious damage was done, but a large sheet of ice, jamming above the draw rest, forced inwards the ice along the north shore, which, swinging on a pivot, about the anchor piles above the works, tore out two piles on the north-west corner of the false-works of this pier, the injury being done at one of those points where the exposure was supposed to be least. The damage was soon repaired; one of the piles had only been bent over, and was drawn back into place; the other,