

One cable was hauled across at slack water on the 15th August, one on the 18th, and one on the 19th. By 23rd August everything was ready to begin hauling. The cables had been examined by the diver and tightened up with their blocks and tackles.

To each of two of the cables was attached a tackle consisting of a pair of 3-sheave blocks with one of the 120 fathom 6-inch Manilla ropes rove through them worked by a capstan to each tackle driven by one or two horses. The other cable had two tackles, with a pair of 3-sheave blocks attached to each tackle, each tackle worked by a capstan. The drum of the capstan was 18 inches in diameter, and the lever arms 11 feet each. The cable, however, with the two tackles attached, had been left taut too long; the flood tide caught it and carried it up channel about 100 feet at the centre, drawing two lengths of pipe slightly out of line before it could be loosened. It was necessary to draw it back to the north side and haul it across afresh. This had been done by Saturday, August 25th, and everything found to be in order. Passing vessels had caused some inconvenience when getting the lines across.

*Monday, August 27th.*—Hauling began at mid-day at low water with four horses, i.e., one at each capstan, and was also continued on the slack water in the evening, lasting altogether about five hours, and moving the main about 178 feet. The work could not be carried on longer as the tide when stronger would have caught the cables and carried them out of line. After the first hauling the manager went down in diving dress, examined the pipes that had moved, found that they had been drawn straight, and that the joints were uninjured.

*Tuesday, August 28th.*—Hauling was carried on from noon to 2 p.m., and from 5 to 8 p.m. The main was hauled 194 feet: in all, 372 feet. Four horses had been used, i.e., one at each capstan.

*Wednesday, August 29th.*—Up to 7 p.m. only about 35 feet had been hauled. The horses had been doubled on two capstans and had not pulled well together; the tide also had not served well. Hauling was carried on from 7.10 to 7.30 p.m., when it was stopped by a signal from the other side (the light put out). It was found that one side of the chute had sunk where swampy ground was crossed, and that the pipes were slipping off. About 78 feet had been hauled; in all 450 feet.

*Thursday, August 30th.*—The chute was strengthened early in the day. In the morning the tide was not favorable for hauling, which was not begun till about 6.30 p.m. Only one capstan was doubled till about 9.30 p.m., when a second horse was put on No. 1 capstan.