

It was believed that with the above improvements completed, the city could rely on obtaining a supply of about 40 million gallons per day, or sufficient for a population of about 400,000 consuming 100 gallons per head per day. As the system then stood it consisted of 2,300 feet of 6-foot wooden conduit out into the lake with an extension of 365 feet of 6-foot steel conduit, then 6,060 feet of 5-foot steel conduit to Hanlan's crib and 4,400 feet of 4-foot steel conduit and about the same length of 3-foot cast iron pipe from Hanlan's crib to the engine house well.

In the fall of 1892, repairs required at the engine house well, necessitated the removal of the screens of the well, which were taken to the shore crib and placed directly over the entrance to the 5-foot steel pipe, a man being engaged to keep the screens free from weeds entering from the lake. This, unfortunately, was not done carefully enough, the result being that the entrance to the pipe became blocked with weeds, thus cutting off the supply, and causing 1,400 feet of the 4-foot pipe north of Hanlan's to come to the surface, with sufficient force to break its way through six inches of ice, the 5-foot pipe also rising in two places for a distance of 100 feet each. It might here be stated that up to the time of the accident, the Water Works Department was not under the control of the Engineer's Department, but immediately after the Engineer's Department was given control and the necessary repairs completed.

The examinations made of the conduit discovered, first, that the steel lake extension, which had been resting on trestles part of its length, had broken in two and was lying on the bottom and filled with sand. Second, that the level at which the 5-foot pipe was laid would not admit of more than 27 or 28 million gallons of water passing through it during periods of low water.

The city, prior to this rising, had been troubled with a large quantity of sand coming into the engine house well, which was attributed to a break in the old 4-foot wooden pipe at Hanlan's Point, caused by driving a pile through the pipe in extending one of the docks there, so that no further trouble was anticipated after the repairs had been made to the breaks in the steel pipe, the 6-foot steel lake extension restored, and the screens removed from the shore crib to the engine house well. Further examinations, however, of the 6-foot conduit from the shore crib outwards brought to light several openings at the joints, which were not bolted together properly (in one case there were no bolts coupling the pipe); and that there was a deposit of  $2\frac{1}{2}$  feet of sand in the pipe, extending at least from the shore crib to a point about 800 or 900 feet south or as far as the diver dare venture in. To remove this sand, manholes were sunk to the top of the pipe, and