Every pipe, special casting, stop gate and hydrant was firmly supported and adjusted to the required alignment and grade by a wooden block and two wooden wedges, which were in general placed near the hubs of the pipe and fixtures. The blocks were of sound hemlock or oak, not less than 16 inches long, 3 inches thick, and 9 inches wide, the wedges were 10 inches long, 4 inches wide, and 3 inches thick, these blocks were evenly sawed, and remained under the pipe after refilling the trench.

The spigots were inserted into the hubs, so that the shoulder of the hub was in close contact with the face of the spigot, and were then adjusted by the wedges so as to give an even and uniform space all around for the lead joints.

Hemp yarn was securely driven into the joints, so as to leave $2\frac{1}{8}$ inches in depth and at least $\frac{5}{16}$ of an inch in thickness all around for the lead. The yarning and caulking was performed by faithful and competent mechanics.

The cutting of the pipe was done by sharp cold chisels, the cut being first distinctly marked all around and then carefully followed by the chisels.

The hydrants were set upon a large wooden block bedded securely in the bottom of the trench, at such a depth as that the top of the jacket surrounding the hydrant was about $1\frac{1}{2}$ inches above the sidewalk; the stop gates were also set firmly upon these blocks.

Iron plugs and caps were leaded and caulked into the dead ends of the lateral pipes, and behind these plugs, rubble masonry was laid in cement, reaching from the plug to the end of the trench.

The pipes were each 12 feet long, and were free from scoria, sand holes and air bubbles, and were clean in all respects. They had to pass a careful hammer inspection under the direction of the Engineer or his assistants, and thereafter were subject to a proof test by water pressure of 300 lbs. to the sq. inch.

The pumping engines consisted of two duplex, compound, non-condensing engines, each capable of delivering 750,000 gals. daily at a piston speed of 100 feet per minute with 80 lbs. of steam. The floor of the engine room was 17 feet above the surface of the water in Kenka Lake.

The force main was 10 inches diameter for a length of 200 feet connecting with a 12 inch main to the reservoir, 1600 feet away and 300 feet above the engine room.

The boiler was of homogeneous steel in 3 courses, each course in one sheet $\frac{3}{8}$ of an inch thick and with a tensile strength of 60,000 lbs. per sqr. inch. The boiler was 14 feet long and 5 feet in diameter.

The intake pipe commenced 2 feet outside of the wall of the pump house, and for 150 feet consisted of 10 inch cast iron pipe weighing 50 pounds per lineal foot, laid the same as other cast iron pipe, connecting with the lake end of this pipe were about 400 feet of standard wrought iron, lap-welded water pipe 10 inch internal diameter and 0.366 of an inch in thickness of shell, with an average weight of 40 pounds per foot, this pipe was coated inside and outside with a coating similar to that used on the cast iron pipe.

The pieces were screwed together into lengths of about 100 feet, and these lengths again connected by ball and socket joints, so as to admit of being deflected in any direction from the line of pipe at least 25°.

The outer end of this pipe was connected to an appliance consisting of a pipe with laterals and 3 vertical bells coming up to within 8 feet of the surface of the water; each of these bells had a diameter of 16 inches, and were protected by strainers.

Over the pipe, near the intake, piles were driven and planks fastened to them, to make a platform, so that the intake could be lifted out of the water by means of the ball and socket joint, and the strainers examined at any time from this platform.

The reservoir was constructed 320 feet above the surface of the water in the lake. Its dimensions were 112 feet by 120 feet inside and 12 feet deep. It was impossible to get a plot large enough anywhere