

THE FLUSHING WATER-WORKS.

Description of the Buildings and Machinery—A Celebration and Formal Opening To-Day.

The subject of supplying the village of Flushing with water for fire and general purposes came before the trustees of that village about three years ago. Although the importance of the improvement was set before the residents of the place with a great deal of earnestness by those who favored the project, it was some time before the opposition was conquered; but the victory of the progressive element was at last assured, when, in 1872, the legislature passed an act empowering the trustees to issue bonds to the amount of \$125,000 for the purpose of introducing water. As this amount did not prove to be sufficient an additional appropriation of \$75,000 was voted, making a total of \$200,000.

With \$35,000 of this fund, a body of water, known as Douglas Pond, at Bayside, four miles from Flushing, was purchased. This pond covers an area of about fourteen and a half acres, and has a depth in the deepest part of sixteen feet. It is supplied by springs of pure water, having no water-shed at all. It has an overflow of nearly two million gallons every twenty-four hours. This is a much larger supply than the village can possibly use for many years.

At the edge of the pond is a filtering well, built of brick and filled with gravel, in passing through which the water is freed from all impurities. It is then led through twenty-four-inch pipes to the engine-house. This is a rectangular building of brick and stone, 32 feet 6 inches by 26 feet, with a boiler-room 23 feet 4 inches by 30 feet. The cost of this structure was twelve thousand dollars. A neat frame-house is built near-by for the use of the engineer.

The Holly machinery is a system of water works manufactured at Lockport, New York, and had been successfully tested in more than sixty towns before it was adopted by the trustees of Flushing. It consists of four combined steam engines, having an aggregate of four hundred and fifty horse power. The pumps take water from a pumping well, which is about fifteen feet below the base of the engine frame, and is supplied with water from the conduit which runs directly through the foundation wall of the engine-house from the pond. The well is a part of the cellar made water-tight by brick and cement.

By means of an ingenious contrivance the demand for water is met by self-regulating machinery, and an extraordinary supply is furnished as soon as called for without the intervention of hands. Another contrivance regulates the pressure upon the service pipes in dwellings when the machinery is working up to fire pressure. Still another contrivance is a water safety valve, so constructed that if from any cause, as, for instance, the sudden closing of one or more hydrants, the extraordinary pressure from the recoil is removed, and the water is allowed to escape until the reaction has slowed the machinery by the action of a hydrostatic regulator, and the pressure is then instantly brought to the required service standard. Were it not for this contrivance, the recoil of the water from the sudden closing of the hydrants would be so great that it would be impossible to lay pipes that could withstand the extraordinary pressure. The cost of the engine alone was \$30,000.

Thirteen miles of pipes have been laid in and to the village, of which four miles are main pipes and nine those of distribution. The pipes vary in size from four to twelve inches, the smaller size being put in short side streets, and they are from one-half to three-eighths of an inch in thickness. In connection with these pipes there are sixty-nine hydrants, situated in different parts of the village, each of which is supplied with two outlets for fire streams. In addition to the hydrants there are three public drinking fountains on Main street and Broadway.

The total cost of the improvement, including all items of expense, is a little less than \$200,000. Work was begun in June last, and has all been done in the most careful and thorough manner. The progress of the improvement has been watched with a good deal of interest, which finally culminated in the formal delivery of the completed works to the village to-day.

At an early hour this morning the streets wore a holiday aspect. Flags were hung out from places of business and private residences, and on the streets were throngs of the curious, anxious to witness the tests to which the works were to be subjected. At 10 o'clock, the hour for opening the exercises of the day, was announced from all the church-bells in the village, and by a salute of fifty guns fired at the Park. The first tests were made simultaneously at Madison and Parsons avenues, and also on Barclay street and Sandford avenue, where streams were thrown to the height of one hundred and twenty-five feet through a one and one-half inch nozzle, at a point fifty feet higher than the works. Satisfactory tests were also made at other points. A stream was thrown twenty feet higher than the flagstaff at Broadway and Main street, which is one hundred and thirty-three feet high. Subsequently, six simultaneous streams were thrown to a height of one hundred and twenty feet, all of which were discharged through one and a quarter inch nozzles.

These tests were all made without the assistance of fire engines, the hose being attached directly to the hydrant, and the water turned on at a pressure of one hundred and sixty pounds at the works. The water pipes have been subjected to a pressure of one hundred and eighty pounds to the square inch, but so great a strain as that will, in all probability, seldom occur.

The water has as yet been introduced into but few dwellings, but it will, it is thought, be generally in use in the course of a few months. The pressure obtained is sufficient to raise it in the greatest abundance to the upper stories of the highest building.

At twelve o'clock the crowds had increased in numbers, and an influx of visitors from neighboring towns began. The visiting military and firemen were properly received at the railroad depot, and the visiting firemen soon after sat down to a bounteous collation provided for them by the authorities. The bands of the Fifty-fifth and Seventy-first regiments and one from Willet's Point soon after arrived, and at half-past 2 o'clock a procession of military, firemen, carriages containing invited guests, the children of the schools, one hundred laborers who were employed on the works, carrying their picks, and a general representation of the tradesmen, artisans, farmers and market-gardeners and their occupations, will parade through the principal streets. At 6:30 in the evening a display of fireworks will take place, and the Town Hall will be illuminated.

At 8 o'clock there will be a meeting in the Town Hall, where there will be vocal and instrumental music, addresses by Messrs. L. Bradford Prince, W. T. B. Milliken and B. W. Downing; and Mr. R. H. Tucker, who has been prominently identified with the improvement since its inception, will read an ode written for the occasion. The arrangements have been made by the following committee, which includes many of the leading citizens of Flushing, who fairly represent the character of the undertaking: Morris Franklin, Charles Lever, W. R. Burling, C. Augustus Willets, Henry Carpenter, Patrick Clarke, Milton Smith, John H. Chapman, Benjamin W. Downing, Isaac Bloodgood, John T. Vandewater, Benjamin W. Hitchcock, Rufus W. Leavitt, Isaac Peck, John G. Graff, Joseph L. Hicks, J. L. Steele, R. H. Tucker.