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A HISTORY
OF
INDUSTRIAL PATERSON;

BEING A COMPENDIUM OF THE

ESTABLISHMENT, GROWTH AND PRESENT STATUS IN
PATERSON, N. J.,

OF THE

SILK, COTTON, FLAX, LOCOMOTIVE,
IRON AND MISCELLANEOUS INDUSTRIES;

TOGETHER WITH

OUTLINES OF STATE, COUNTY AND LOCAL HISTORY, CORPORATE RECORDS, BIOGRAPHICAL
SKETCHES, INCIDENTS OF MANUFACTURE, INTERESTING FACTS
AND VALUABLE STATISTICS.

ILLUSTRATED WITH VIEWS AND PORTRAITS ON STEEL,

AND INCLUDING A

MAP OF THE CITY,

CAREFULLY REVISED AND CORRECTED TO DATE.

By L. R. TRUMBULL.

PATERSON, N. J. :
CARLETON M. HERRICK, BOOK AND JOB PRINTER.

1882.

CHAPTER XLII.

THE PASSAIC WATER COMPANY.

AN old charter, granted for the formation of a "Passaic Water Company" as early as February 13th, 1849, was in 1854 resuscitated, and the present company was formed under legislative enactment, the bill being approved February 9th, 1854, with Thomas D. Hoxsey, John J. Brown, Cornelius S. Van Wagoner, John Drew and Samuel Smith incorporators. Of the \$100,000 in shares of stock issued, John Ryle took about \$75,000. The books were opened at Judge Van Wagoner's office, in Market street, the present site of the Masonic Hall. For the first few years the water was pumped up to what is now the lower reservoir--there was then no other--from the river at the Gun Mill; about 1860 or a little earlier the works at the Falls were commenced, and the pumping station was removed to its present location in 1862. The late General Thomas D. Hoxsey was the first engineer of the works. The first reservoir was built by John Garside, under the direction of John Ryle. The motive power for pumping at the Gun Mill was supplied by the powerful water-wheel that run the machinery, the pumping being done each night. Auxiliary power, in times of drought or special need, was furnished by a beam engine that stood where the blacksmith shop of Benjamin Buckley was afterward built. The suction pipe used in pumping extended to the river at the quarry, in the rear of the mill. The first pump used was built by Morris & Co., of Philadelphia, and was placed near the engine at the Gun Mill. The pumping main crossed the river on a bridge constructed from the Gun Mill dye-house to the Valley of Rocks; thence it extended up a chasm near the Easterly end of the lower reservoir. This bridge was carried away by the ice in February, 1867, and thereafter the pipes were laid across on the river's bed. Water was first turned on for use in that portion of the city South of the river in the Autumn of 1856, and in the Northern portion, then called the North Ward, October 30th, 1857. This supply was carried across the bridge at the foot of Main street. In March, 1857, the first city hydrants were being placed. The middle reservoir was built and used in 1868; the Totowa reservoir in 1872. The pumping was done entirely by an immense turbine wheel until 1878, when a duplex Worthington steam pump was added, and in 1880 the pumping capacity was further increased by the addition of a

powerful steam engine. The total pumping capacity of the works, which was greatly increased in the Spring of 1882, is estimated at 18,000,000 gallons in twenty-four hours, there being an aggregate of about 400 horse-power at command. The maximum daily consumption of water by the city in 1881 was 6,000,000 gallons, or about 115 gallons *per capita*. The capacity of the reservoirs, according to L. B. Gardiner, hydraulic engineer, who made a careful examination of the works in 1880, is as follows: Totowa reservoir, 829,000 gallons; middle reservoir, 10,779,000 gallons; lower reservoir, 6,552,000 gallons; total capacity, 18,160,000 gallons. The Second and a part of the Eighth Wards are supplied from the first-named; the Fourth, Fifth, Seventh and the rest of the Eighth Wards are supplied from the middle reservoir; the First, Third and Sixth Wards are supplied from the lower reservoir. It is in contemplation by the company to greatly enlarge the storage capacity by an additional reservoir, to be built in the near future. The capacity of the forebay, or pumping basin, was estimated by Mr. Gardiner, in 1880, at 4,100,000 gallons, gross, but vast improvements were afterwards made by the removal of rocks, etc., and the completion of a strong dam at the very brink of the precipice at the Falls, so that the capacity is greatly increased. With additional flashboards on this dam, to be erected when necessary, the capacity will be at least quadrupled as compared with the estimate made in 1880. There are more than forty miles of street pipes connected with the works, ranging in size from six to twenty inches in diameter. The number of fire hydrants supplied exceeds 500.

The directors of the company in the Summer of 1881 were: John Ryle, John J. Brown, William Ryle, John Shaw, William T. Ryle, all of Paterson, and William H. Fogg and Harold F. Hadden, of New York city. Of these, two, William Ryle and John Shaw died within the year. The officers of the company are: President, John Ryle; Treasurer, John J. Brown; Secretary, John C. Ryle; Superintendent, William Ryle. The last-named, who is a relative of the above-mentioned William Ryle, deceased, has been Superintendent since 1871, and through his energy and efficiency has contributed much toward the great improvements made in the past few years. The plans, drawings and superintendence of the works were all his. John Ryle has been President of the company for very many years, and it has been largely owing to his public spirit and wonderful enterprise that Paterson may boast of one of the most complete systems and best equipped water works in all this section of the country, the supply being ample and assured for all purposes and under all circumstances.

A brief space should, perhaps, be devoted to a description of the respective rights and privileges of the Society for Establishing Useful Manufactures and the Passaic Water Company, which were long in dispute. The dam, as constructed in 1838-40 by the Society, remained in the same condition until 1864, when three feet in height was added at the top, in part of stone and part of wood (the wooden portion known as flashboards) to back a still greater volume of water toward the opening gate into the raceway trunk. This afforded the Society a greater facility for depleting the river and, of course, kept back the water from reaching the pumping station of the Water Company. Legislative power was acquired in 1868 to maintain this additional height, but the Passaic Water Company claiming, as an offset to the in-

terference with the flow of the river, openings in the original dam, below the coping, six inches in width by eight feet in length, this was finally conceded by the Society. Also, there are three gates above the coping, each six inches in width, four feet in length, equivalent to an opening six inches by twelve feet in all, that are to be opened under certain conditions. The whole arrangement may be summed up thus : First, if there is not an inch of water running over the top of the dam (flashboards) then the three upper gates shall be opened at night. Second, if the flow through these is not full and ample then the lower gate, in the original dam itself, below the coping, may be opened—also at night, and on Sundays.

SANITARILY CONSIDERED,

Paterson has much to boast of, although her good name in this regard has been attacked from time to time in the columns of sensational New York city and other newspapers with a mendacity that is difficult to account for. The exhibits of the Bureau of Vital Statistics, when compared with those of other cities, furnish abundant refutation of the charges of insalubrity, and more especially when it is considered that Paterson, as a manufacturing city, naturally attracts to itself a large number of a class not usually the most careful to preserve those conditions conducive to health. According to the statistics of the above-named bureau, carefully prepared by Registrar George Boyd, the rate of mortality in Paterson has been as follows in the years named, the reports covering from March 29th to April 1st, in each instance : 1878-9, 18.8 ; 1879-80, 21.5, and in 1880-81, 23.3 deaths per thousand inhabitants per annum. Compared with other cities, even those which have not a manufacturing population, this rate is not excessive. The annual mortality per thousand inhabitants, as computed from the monthly death rates published in some other well known cities, is as follows : New York, N. Y., 34.6 ; Brooklyn, N. Y., 24.6 ; Buffalo, N. Y., 26.5 ; St. Paul, Minn., 22.5 ; Milwaukee, Wis., 19.3 ; Chicago, Ill., 31.1 ; Vicksburgh, Miss., 30 ; Bismarck, Ga., 36 ; Fall River, Mass., 25.2 ; Philadelphia, Pa., 22.9 ; Newburgh, N. Y., 28.2 ; Camden, N. J., 27.5 ; Orange, N. J., 27 ; Hudson County, N. J., 37. James W. Ensign, a citizen of Paterson who, from being engaged in the business of undertaking for many years, has been led to pay much attention to mortuary statistics, furnishes figures as follows : Rate of mortality in Paterson from May 31st to June 1st, 1879-80, based on a population of 50,950, 22.06 per thousand ; rate for a like period in 1880-81, based on a population of 52,500, 22.8 per thousand.

Through the efforts of the present excellent City Physician, Dr. Charles F. W. Myers, and the very efficient Assistant City Physician, Dr. William S. Hurd, together with the intelligent and valuable co-operation of City Surveyor John T. Hilton, Leslie S. Menger, the engineer in charge of sewer construction and drainage, and other active and capable city officers, the sanitary condition of the city has been greatly improved and is constantly improving. To the advantage of excellent natural grades has been added a thorough system of sewers, which is being extended yearly. The health of the city is a subject that is receiving the fullest attention at the hands of the municipal government, and wholesome ordinances have recently been passed bearing