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Hiram Sibley

THE INDUSTRIES

OF THE

City of Rochester

A RÉSUMÉ OF HER

PAST HISTORY AND PROGRESS,

TOGETHER WITH A

CONDENSED SUMMARY OF HER INDUSTRIAL ADVANTAGES AND DEVELOPMENT,

AND A

SERIES OF COMPREHENSIVE SKETCHES

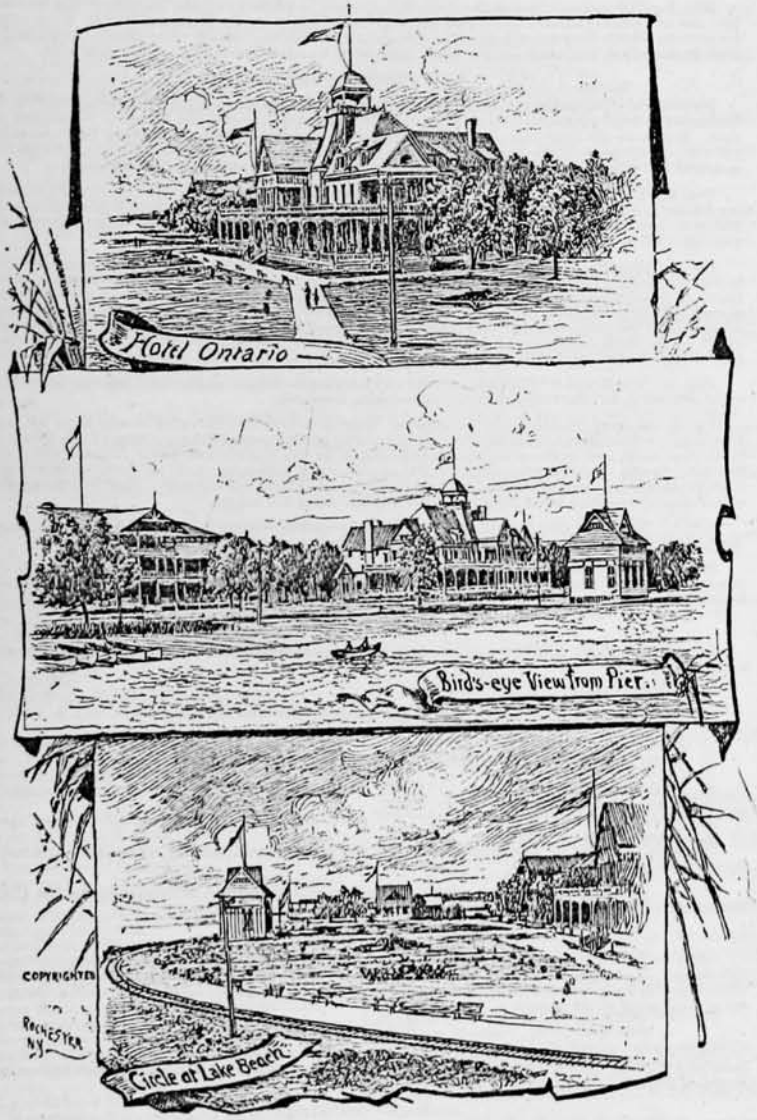
OF HER

REPRESENTATIVE BUSINESS ENTERPRISES,

INCORPORATING A

Condensed History of the Chamber of Commerce.

ROCHESTER, N. Y.:
THE ELSTNER PUBLISHING COMPANY.
1888.



VIEWS AT CHARLOTTE BEACH.
(By permission of the Editor of the Municipal Manual).

ROCHESTER'S WATER SUPPLY.

HEMLOCK LAKE—HOLLY WATER WORKS—TWO SYSTEMS IN ONE—AN ABUNDANCE OF PURE WATER UNDER POWERFUL PRESSURE FOR MANUFACTURING, FIRE EXTINGUISHMENT AND DOMESTIC PURPOSES.

PREVIOUS to 1872 the citizens of Rochester were entirely dependent upon wells, cisterns and private pumping from the river for their supplies of water, notwithstanding several previous suggestions of waterworks—one as early as 1838, when Elisha Johnson, then Mayor, published a pamphlet setting forth the practicability of constructing a reservoir on elevated ground, to be filled by pumping from the Genesee. No action was taken, however, and the subject remained in abeyance until 1860, when at the instance of the Council the City Engineer investigated, mapped, planned and made a comprehensive report to the municipal legislature in which he compared the advantages, accessibility and cost of several sources of supply, among them Lake Ontario, Hemlock lake, Conesus lake, Honeoye outlet, the river, and certain of its tributaries. The report expressed a decidedly favorable opinion of the waters, surroundings, lofty situation and auxiliary attractions of Hemlock lake, thirty miles southward, but it was not until 1872 that any decided action was taken looking to a solution of Rochester's water problem. In the year last named a commission of five was appointed under a special act of the Legislature with authority to provide the city with an adequate water system, the population having by that time increased to some 70,000 souls. Referring to this subject, Mr. Thomas J. Neville writes in the *Union and Advertiser*:

"As the first step in this most important enterprise the source of supply was to be selected, and to this end a careful examination of all former projects in this direction was made, the choice narrowing down to the two great natural reservoirs, Lake Ontario and Hemlock lake. Seven miles north of the city, or from Lake Ontario, the water would have to be pumped or forced by artificial means to a height of 444 feet to supply the city, while from Hemlock, thirty miles to the south, the water would flow by the law of gravitation from its great basin, cradled in the hills 388 feet above the city's level, into the home of every inhabitant. The relative purity of the respective waters, considerations of first cost and future expenditures, engineering obstacles and general feasibility of plan, deter-

mined the selection in favor of Hemlock lake. This beautiful sheet of water has a length of six and one-half miles, a width of nearly three-quarters of a mile, and an average depth of sixty-five feet. Its surface covers 2,000 acres and is 900 feet above tide-water, and a precipitous range of hills which border its shores affords a drainage area of 27,554 acres. The lake rests above the limestone formation in a basin of marcellus shale, from the springs of which the supply of water is in great part obtained. The shaly shores are narrow and fall away rapidly to great depths, while on either side rise the steep hills covered with primitive forests, which must remain for all time undisturbed because of the impossibility of their cultivation. The surface and borders of the lake are protected from pollution, and aquatic vegetation or other natural impurities are almost unknown. From this great reservoir is conveyed the water through a conduit sunk thirty feet below its surface to an artificial storage basin covering an area of twenty-seven acres, situated eight miles from the city and 245 feet above its level, and holding within its boundaries 18,000,000 gallons of water. The reservoir from which the water is distributed to the city is located within the southern boundary of the corporation, about one and a-half miles from its center, having an area of sixteen and a-half acres of land, on the summit of a hill 127 feet above the level of the city, with a capacity of 35,000,000 gallons of water. In the center of this artificial lake is placed a fountain, constructed of masonry, at the top of which are twenty-one two-inch and one six-inch adjustable orifices, from which the water is forced to a height of sixty feet, falling in mist-like form, aerated and purified, into the reservoir basin, from which it flows into the city. Two iron conduits leave this reservoir and enter the city, one on each side of the Genesee river, and through 176 miles of pipe about 120,000 of people in this prosperous community of about 130,000 souls are supplied with pure and wholesome water. The total capacity of the water-works is estimated at nine million gallons per day. The average daily consumption at present is four and a-half million gallons.

"In conjunction with the gravity system of water supply there is also what is known as the Holly system, so designated after the inventor of the pumping machinery by which it is operated. This system is designed chiefly for the suppression of fires in the center or business portion of the city, and its source of supply is the Genesee river. It is utilized also for power in the running of elevators, and from such uses a liberal revenue is derived. About thirteen miles of Holly water mains are now laid, and, with the gravity pressure of the auxiliary lake system, the impetus developed is sufficient to force streams direct from the nozzles of the hydrants in such volume and force as to effectually aid in the extinguishment of large fires. Since the existence of our water-works system the fire department has successfully controlled and suppressed every fire without the aid of fire engines, and yet maintain the loss of property at a minimum; the consequence has been the reduction of insurance rates to an amount aggregating many thousands of dollars every year."

Connected with the water-works, and in use now, are 1,700 fire hydrants, 1,538 water meters, and 19,347 services, supplying from the mains the business houses and homes of our citizens with a water whose purity is thus attested by Prof. A. R. Leeds, of Stevens' Institute of Technology, New Jersey, before the New England Water Association, in 1887: "It

seems to me astonishing that at the present time, so far as I know, only two large cities in the country have water of unexceptionable quality. These I believe to be Brooklyn and Rochester." Neither Washington, Baltimore, Philadelphia, New York or Boston supply water of equal purity, and it may be said with just pride, and without fear of successful contradiction, that no European and few American cities equal, and none excel for general domestic uses the water that flows from Hemlock lake.

A party of engineers have been for some time engaged in locating a route for a new conduit for an additional supply of water for household purposes to the city from Hemlock lake. The general plan of the work is: First—The erection of a pumping engine on the shore of Hemlock lake, which may take its suction from the supply well which furnishes the present conduit. To pump the water about three and three quarter miles to a summit about 90 feet above the lake into a small reservoir, from which the water will flow into the present Rush reservoir by gravity with an average grade of eighteen feet per mile. Second—From Rush reservoir an additional conduit will be laid to the city and an additional reservoir constructed on the same level as the present Mt. Hope reservoir, but at a different location and at a considerable distance therefrom. Additional provisions will be made for connecting the systems of mains on each side of the river by several pipes crossing the river at convenient locations.

THE GENESEE AND ITS BRIDGES.

At no other spot in America can so peculiar a scene be found as is presented by the Genesee river at Rochester. Numerous bridges span the stream, connecting the eastern and western sections of the city, and the most remarkable of these is that which carries Main street on solid masonry across the foaming torrent, the bridge itself forming a solid and enduring roadway, broad, smooth, provided with ample sidewalks, and built up on both sides for its entire length with tall and spacious factories and mercantile structures, the arches that form their foundations finding a support in the living rock that forms the river bed. A short distance above is the aqueduct of the Erie canal, and still further south the court-street bridge, from the center of which, looking north, says a local annalist, "the scene is not only picturesque, but pregnant with a quaintness more suggestive of some old world city than an almost brand new American municipality. The ponderous aqueduct that crosses the stream before you, a few hundred feet down the river, which here makes a rapid descent along shelving rocks, revives, by its solid stone masonry and graceful arches, recollections of old-time bridges over more classic rivers than the Genesee; and, when still a little further down, the water disappears altogether under the Main street bridge, the vision is suddenly arrested, a sense of surprise such as a man might feel who walks in darkness against a blank wall affects one, while the general appearance of the structures that skirt or cross the river is such as to produce an impression of foreignness, enhanced by the towers and temples that rise yet further down."