

A HISTORY
OF THE
CITY OF NEWARK
NEW JERSEY



EMBRACING PRACTICALLY
TWO AND A HALF CENTURIES
1666-1913

ILLUSTRATED

VOLUME II.

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the only means of transportation. The pettiauger was a two-masted vessel, without a deck, a little shelter in the stern, almost impracticable for conveying horses, which had to be hoisted in and out, unless you could make them jump. In unfavorable weather in crossing this boisterous water there was more observation and caution before starting than an ocean steamer would make now.

"I remember my father, about 1810-12, moving his family to New York, reaching Paulus Hook about noon expecting to go right over, found the ferry-master and a small crowd consulting, and deciding it was too dangerous. We were obliged to lodge there for the night. When there was much floating ice, the rowboat was the only means of conveyance, by a series of dragging and launching by the sailors as you met floating ice or clear water, to the great discomfort and danger of the passengers.

"The first improvement was in the use of twin boats driven by horse power, the horses first moving in a circle, afterward on a tread power. I am under the impression, and am almost certain, that until the twin boats were put on the North River, the travel to Philadelphia went chiefly by way of Elizabethtown. The horse power soon gave way to steam power." * * *

About the time Mr. Wallace has reference to, the following interesting statement as to the health conditions of the community appeared in the Centinel of Freedom, on January 2, 1810:

"The remarkable and increasing healthiness of the town of Newark can not better be attested than by the following exhibition of deaths for the last five years:

"1805—Grown persons, 47; children, 43; total, 90.

"1806—Grown persons, 27; children, 29; total, 56.

"1807—Grown persons, 38; children, 31; total, 69.

"1808—Grown persons, 38; children, 32; total, 70.

"1809—Grown persons, 19; children, 16; total, 35.

"Thus, notwithstanding the rapid increase in population in this town, the deaths in 1809 have been considerably less than one-half the number in 1805 and much fewer than in any year for five years."

NEWARK'S FIRST WATER COMPANY, 1801.

"Previous to 1812," says William C. Wallace, "there had been laid water pipes to conduct water; almost every house, too, had its well till Mr. Sheldon Smith undertook to supply Newark with drinking water drawn from the many springs around into two reservoirs in Orange street, west of High street, and on his own

grounds west of High street. He replaced the wooden logs with iron pipes, which sufficed until the present system was organized."

The "present system" mentioned above was that of pumping Passaic River water into reservoirs. As a matter of fact, Newark relied upon its wells exclusively for drinking water only until 1801. An aqueduct association or company was organized in 1800. It was a patriotic enterprise, like all the other movements for public benefit at that time. Its promoters agreed to supply each family with water for \$20 a year, and a book for the subscription to stock was opened in Tuttle's Tavern on February 5, 1800. Before subscribing to stock the people of the village were asked to go and view the place from whence the water was to be drawn, apparently to satisfy themselves of its good quality. The first reservoir was about 150 feet south from the line of what is now Seventh avenue, where there were a number of springs. The water area also extended some little distance northward and westward from High street, and probably took in one or more of the most ancient quarry holes, close by Mill Brook. The first directors were: Colonel John N. Cumming, Nathaniel Camp, Jesse Baldwin, Nathaniel Beach, Stephen Hays, James Hedden, Jabez Parkhurst, David D. Crane, Joseph L. Baldwin, Luther Goble, Aaron Ross, John Burnet and William Halsey.

"This Company," says Alden's New Jersey Register and United States Calendar, published in 1811 and 1812, and perhaps longer, and printed by William Tuttle, here in Newark, "furnishes about two hundred families with water, conducted two miles and a half by bored logs, from three springs situate in the Western part of the town. The company meets annually in March to choose its officers." At that time Nathaniel Camp was president of the company, Caleb Bruen, superintendent; Stephen Cooper, engineer; Jabez Bruen, treasurer, and Joseph Walton, secretary. Not long after the first wooden pipes were laid (some of which are occasionally dug up by street excavators to this day, 1913), it is believed that the system was extended westward to take in some of the ponds and springs back of the Court House. In 1804 a dividend of \$3 a share was declared. About the time the water supply was put in running

order, the association adopted a by-law which shows that it found necessary at the very start to protect itself against greedy and unscrupulous individuals. The by-law explained that a stockholder would forfeit his stock if he supplied any other than his own family, "manufactory, beasts, etc.," with water from his house connection. After a time there were as many as seventy-three different springs and wells in the system.

Sheldon Smith's iron pipes, referred to above, were not laid until 1828. The Newark Aqueduct Board was established in 1860, under an act of Legislature, and by that authority the transfer was made to Newark of the stock, franchise, real and personal property, etc., of the old Newark Aqueduct Company. ¹ "Driven wells were also tried by the Newark Aqueduct Board, near their pumping station above Belleville, in the alluvial sand and gravel on the west bank of the Passaic. A large number of them, about forty, were driven to depths varying from forty to forty-eight feet, and they yielded to steady pumping one hundred thousand gallons each twenty-four hours. The water in the tubes rose and fell with the rise and fall of the tide, though not to the same extent. The water was probably Passaic River water which had filtered through the sand and gravel. * * * The water is raised by means of steam pumps, and forced into reservoirs in the city of Newark."

The real estate owned by the Newark Aqueduct Company when it turned over its plant to the city in 1860 consisted of: "Eighteen different parcels, including the Branch Brook, Spring lots, Mill properties along Mill Brook, several smaller tracts in the neighborhood, and the reservoir property on South Orange avenue." In 1889 the Branch Brook property was dedicated by the city for a public park, but it did not become one until after the Essex County Park Commission began its great work in 1895. (See Appendix B.) Newark has been blessed with its present water supply since 1892. (See Appendix C.)

¹ See Shaw's History of Essex and Hudson Counties, vol. 1, pp. 17-18.

the improvement of this tract, including the purchase of the additional land, amounts to \$100,000 and was authorized by the Legislature of 1909. The estimated cost of the improvements is \$60,000. The plans provide for one main entrance at the corner of Bloomfield and Maple avenues and the other at the corner of Maple and Woodland avenues.

Yantacaw Park—This park was located in obedience to an act of the Legislature passed in 1911, providing park facilities for Nutley. Its boundaries have not yet been fully determined and no improvement has been attempted. So far as acquirement is concerned the commission has secured nineteen acres at a cost of \$39,242.50.

The Legislature has authorized appropriations for Caldwell, Belleville, Glen Ridge, Verona and for an addition to Westside park. These improvements have not been acted on by the board and, therefore, have not been incorporated into the park system.

Eagle Rock Reservation—Its area is 408.54 acres. The cost of the land was \$235,745.73, and of the buildings thereon \$22,500. The improvements cost \$90,908.52. Eagle Rock Reservation occupies the northeast corner of West Orange and a little strip of Montclair and Verona. Directly east of it lies the southern part of Montclair, further east the northern part of Bloomfield and the southern part of Franklin. The beautiful residence district of West Orange, known as Llewellyn Park, touches its southern extremity; Verona lies to the north of it. The reservation is six miles from Broad street, Newark; five miles from Branch Brook Park, and two miles by the electric railway from the Orange station of the Lackawanna Railroad.

South Mountain Reservation—This is the largest of the reservations, containing 1,983.32 acres. The extreme length is 3.75 miles, and its width varies from 1 to 1.25 miles.

Geographically South Mountain Reservation is situated in the eastern part of the southwest quarter of Essex county. Its northern end juts into the town of West Orange, the middle part of its eastern half lies in the town of South Orange, and the remainder, amounting to about half its area, is in the town of Millburn. Its south end is directly west of Lincoln park, in Newark, while its north end extends about as far north as the north end of Branch Brook park. Its south end abuts upon the villages of Millburn and Wyoming, and its north end upon the village of St. Cloud. The principal approaches from Newark and the residential districts west of it are, to the south end by Springfield and Millburn avenues, to the middle by South Orange avenue, and to the north end by either Central avenue, Park avenue or Main street to Valley road, in West Orange, and thence by Northfield avenue. The land has cost \$239,479.04, the buildings \$49,277, and the improvements \$102,846.48. It has 14.85 miles of roads. [In 1913 the Commission purchased the Lighthipe quarry tract at the southern end of South Mountain Reservation, and on September 1 of that year the stone crushing plant ceased operation after many years of work in the course of which the beauty of the region was seriously marred and a section of the rock on which Washington is thought to have stood watching the retreat of one column of his army from Newark toward New Brunswick in November, 1776, entirely carried away.]

The total acreage of the park system, as far as developed, is 3,233.28, the cost of the land is \$3,192,243.11, and the cost of the improvements is \$3,529,532.68.

APPENDIX C.

NEWARK'S WATER SUPPLY.¹

Since 1892 the city of Newark has been blessed with a water supply of rare purity, giving this city what is considered by engineers and others

¹From an article in the Newark Sunday Call on May 12, 1912, prepared by Morris R. Sherrerd, City Engineer.

informed on this subject as good water, if not a better one, than any other city of its size in the world can boast. The surest test of the quality of a water supply is the degree of immunity which the city using it enjoys from the dread disease of typhoid fever. A comparison of the typhoid rates of Newark with those of other communities shows that this terrible disease is here reduced to a very low percentage, and that the cases reported are invariably traceable to some other cause than infection from the water supply, being almost always contracted while the victims are away from the city.

The great boon of a wholesome water supply is no doubt but partially appreciated by those who have only to turn a faucet to get it. The purity of Newark's water supply is maintained on the basis of the old adage "an ounce of prevention is worth a pound of cure." The collecting ground is the head waters of the Pequannock river, one of the highland branches of the Passaic river. This particular branch was selected because of the natural purity of the water and because the locality was a sparsely settled portion of the State. The drainage area tributary to the Macopin intake is sixty-two square miles in extent, and upon this watershed there are located four large storage reservoirs known as the Oak Ridge, Canistear and Clinton reservoirs, and the natural body of water called Echo Lake.

From the Macopin intake, situated about twenty-five miles from the city, there extend two steel pipelines, one forty-eight inches and the other forty-two inches in diameter, and this intake reservoir being at an elevation of over 500 feet above sea level makes it possible to supply Cedar Grove reservoir and all parts of the city by gravity. Near Great Notch, a branch line from these two pipe lines extends for a mile to the Cedar Grove reservoir, where sufficient storage is provided for about twenty days' supply to the city. All the water brought to the city is passed through this reservoir and transmitted by a tunnel through First Mountain to a pipe line down through Montclair, Glen Ridge and Bloomfield to the city. Thus three separate lines of pipe are provided, from any one of which water may be furnished to the city, and guarding against an interruption in the supply due to accident to any one of these lines.

Delivery from Cedar Grove—The pipe arrangements of Cedar Grove reservoir are such that the water is taken in at one end of the reservoir, which is about a mile long, and delivered to the tunnel from the other end, thus insuring the advantages of sedimentation and giving an opportunity for clarification before the water is delivered to the city. It is also the practice at times, when the streams in the watershed become rolled after a heavy rainfall, to shut off the pipe lines at this point, so that no water is delivered from the watershed to the Cedar Grove reservoir. This prevents the necessity of taking muddy water into the distribution system of the city. * * *

Referring again to the purity of the water, it may be interesting to state the policy inaugurated by the Water Department of the city to protect the supply from possible contamination and to outline the steps gradually being taken to make absolutely certain that, even by accident, no polluting matter shall find its way into the reservoirs. The first move in this direction was the sanitary inspection of the watershed, when probable or possible sources of pollution were located. Territory near the streams throughout the watershed were individually investigated and arrangements made with the owners of the land to so provide for the disposal of their waste that by no possible chance can the same reach the streams through the watershed. There was then inaugurated a system of constant inspection of the watershed under the co-operation of the Board of Health, the territory being divided into six districts, one of which is inspected each day. The entire watershed is covered each week by the inspectors for the purpose of reporting on any possible attempts to lay drains from houses into any of the brooks, or to give early notice of any conditions in the watershed which might, by any possibility, affect the quality of the water.

Legislation was also obtained which gave the State Board of Health authority to regulate the use of toilets on public conveyances, and as a

result, the toilets on the Susquehanna Railroad trains traversing the watershed are not used along this portion of the railroad. This precaution may seem at first sight to be an extreme one, but when it is remembered that the typhoid epidemic at Scranton, Pennsylvania, and a number of others were positively traced to the polluting matter distributed in watersheds from railroad trains, and also that the railroad traversing the Pequannock watershed crosses the main streams at least four times, the possibility of pollution from this source becomes apparent. This has been prevented by the measures taken, in which the railroad officials have co-operated.

Safeguards by Legislation—Legislation was also obtained which would allow the city to build and maintain a sewer and water supply system in the watershed for the purpose of guarding against possible future contamination of the water by the growth of the several communities in this territory. This legislation, however, created considerable local opposition. The city of Newark was prepared to spend upwards of \$100,000 on the installation of a sewer and water supply for the town of Newfoundland, the largest single village in the watershed. The only drastic provision of the law was that the city should be given the right to connect outhouses existing along the line of the sewer system with the sewer, but the use of the sewer and water supply for the purpose of flushing the same was to be without cost to the people. Although Newark proposed at its own expense, to make these connections, Newfoundland people felt the law gave Newark an arbitrary right, and it seemed to arouse the land owners' antagonism. In the face of this opposition the plan to so protect the water supply in the future was abandoned and the policy of the city's acquiring the properties bordering on the streams was then inaugurated. This policy has been in vogue for some five years, and at the present time the city owns more than one-half of the entire watershed.

In connection with the acquisition of numerous large tracts of land the policy of reforestation has been adopted, and each year from 150,000 to 200,000 trees are being set out in the watershed, some of these being raised in nurseries conducted by the city. In connection with the acquisition of these tracts of land a scheme of drainage for swamp areas is also in progress, by which the color of the water heretofore affected by standing on the swamps is greatly reduced.

It has been the practice of the water department until recently to use some of the available buildings for housing its own employees. Since, however, the acquisition of the properties was intended to reduce the possibility of pollution from these very locations, a new line of policy has been adopted, by which the city proposes to construct a small town of its own, immediately below the intake, which it was at first proposed to name "Aquavilla," but which our newspaper friends have since insisted should be changed to "Macopin," retaining the old old Indian name which has become historic. [The town is now—1913—nearly completed and its name, Macopin, is apparently fixed for all time.]

In changing the ownership of these large tracts of land from the individual holding to the municipality the question as to the effect on local ratables has created considerable friction, and some antagonistic feeling against the city among the county authorities in which the townships concerned are located. Newark, however, pays taxes on the value of the land, not counting the improvements thereon, and as the new policy of the city is to remove the buildings immediately on acquisition, using such as may be available for its new town, the ratables are thereby naturally decreased to some extent. Appreciating the fact that the local townships would be burdened in the maintenance of roads, etc., by this situation, the Newark Water Department has undertaken to construct improved roads at the rate of from a mile to two miles a year along its holdings, and is prepared to maintain these roads in lieu of the effect of its policy upon the ratables of the townships. Incidentally, it may be said, that if this policy can be continued for the next few years, it will result in creating in the Pequannock watershed

one of the most beautiful parks in the whole Eastern United States, a park in which the natural beauties of this rugged country will be maintained, and in which, so far as possible, everything that would detract from the natural condition of the surroundings will be eliminated, except that one may travel through this entire territory on good roads.

The Supply's Future—It is possible that one who visits these reservoirs, which have a capacity of 9,000,000,000 gallons of water, may be lulled into the belief that here exists an inexhaustible supply of pure and wholesome water, adequate for the city of Newark for many years to come. It will, however, be wise to interject a word of caution to those who are inclined to carelessly waste water—that due consideration be given to the difficulty of augmenting this supply to keep pace with Newark's rapid growth. In fact, it may be authoritatively stated that the present supply will only be adequate for the next three years—in other words, that should nothing be done to increase this supply, and should we be visited by such a severe drought as so seriously affected the New York city supply last summer, Newark might find itself in a similar unenviable situation, practically facing the possibility of a water famine. * * * *

In the selection of a water supply for a municipality the first requisite is to obtain the purest water available, and if an entirely satisfactory supply can not be had in its natural state, it becomes necessary to resort to filtration, or sometimes to get water from deep wells. This latter source of supply invariably gives a water which is much harder in character and can not be as advantageously used for manufacturing or potable purposes. In the case of filtration an added cost is put on the distribution of the water supply, and vigilance in the operation of such a plant is the price of safety. Newark is particularly fortunate in having secured the first requisite, a pure source of supply, and it has developed this supply in such a way that any natural disadvantages in connection with taking a surface water supply are practically eliminated by the storage provisions obtained at Cedar Grove reservoir.

There is one other feature of a supply of water, which, while not dangerous to health, is always a source of objection. At certain times there exist growths in the water, which if allowed to propagate, cause a bad odor and give a noticeable taste. It may be remembered that Newark has had one or two experiences with vegetation in the water. There has, however, been inaugurated a careful system of collection of samples at least twice a week. A microscopical examination is made of them, from which any tendency toward the development of these growths in such quantities as would become objectionable is anticipated. When such discoveries are made the water supplied to the city can be taken from some other reservoir. The water supplies of both New York and Boston have at times been seriously affected by such growths. However, since the water department of Newark has established this extra surveillance there has not been noticeable any of these tastes in the water delivered to the city.

In conclusion, the writer may be pardoned if reference is made to the financial asset which the city has in its water supply. The so-called "gravity system," including the Cedar Grove reservoir, has cost approximately \$9,000,000. The estimated value of this plant, figuring its reserve capacity, may be conservatively stated as \$20,000,000. The water department is, however, still paying interest and sinking fund charges not only on the new plant, but on a portion of the bonds still outstanding for the old plant. Each year some of these older bonds are being paid off. In 1922, \$6,000,000 of bonds for the new supply will also be paid off. It is therefore possible to predict that a material reduction can be made in the charge for water at that time, and that the reduction of 6 per cent. made by the Board of Street and Water Commissioners in the meter water charges last year can probably be followed by a still further reduction in the near future.