

## VII.

## PARKS AND SQUARES.



SQUATTER SETTLEMENT, 1855.—NOW CENTRAL PARK.

THERE are eighteen public and several private parks and squares on Manhattan, covering in all over a thousand acres or one-fourteenth of the entire island. Many of the early parks have either disappeared or been greatly changed during the last few years. The Battery, which now contains twelve acres, was originally somewhat smaller, and was early profusely set with Lombardy poplar trees, all of which have now disappeared. This park, affording a fine view of the bay, and fanned with the cool breezes from the ocean, was for many years the most popular resort of the city for all classes.

It is being again improved with walks and trees, after being long neglected. Bowling Green, so named because the

favorite bowling place of the military officers of King George, is a small oval enclosure at lower Broadway. It was fenced with iron before the Revolution, and the heads of the posts were broken off and used as cannon balls during the war. The City Hall Park contains ten acres. Many great and beautiful trees in this were cut down after the erection of the Marble Hall, to enable the populace from all quarters to get a view of the edifice. St. John's Park, which contained four acres, is said to have once presented, besides its beautiful fountain and beds of rare flowers, a greater variety of trees and shrubbery than any other spot of its size in the world. It is now covered with the Hudson River R. R. freight depot, ornamented with the costly bronze statue of the present railroad king, who has just demolished a fine church, and many other costly structures in another part of the city, to make place for the erection of another immense depot, the largest on the continent. Stuyvesant square contains four acres, and was presented to the city by the late Peter G. Stuyvesant.

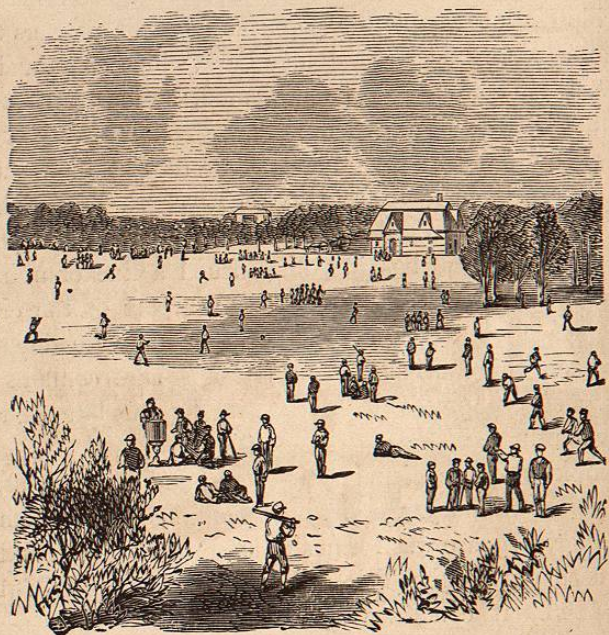
Tompkins square contains ten acres, and is much used as a place of military parade. It contains few ornaments. Washington square was formerly the Potter's Field, and was thus used during the Yellow Fever periods of 1797-1798, 1801-1803. It contained until recently nine and a half acres, and is believed to have received the bodies of 125,000 strangers. The recent extension of Fifth avenue has somewhat marred this beautiful park, by forcing a wide street through its center.

Union and Madison are very attractive centers, surrounded with high iron enclosures, containing beautiful fountains seats for visitors, and a fine growth of young trees.

Murray Hill Park, adjoining the distributing reservoir, is being much improved, though the absence of shade has hitherto prevented it from being a place of general resort for the neighborhood. New parks are being formed on the upper parts of the island, among which we mention Observatory

Place, containing 26 acres; Manhattan square, containing 19 acres; and Mount Morris, containing 20 acres.

Central Park, the largest of all, was laid out in 1857; is two and a half miles long, three-fifths of a mile wide, contains 843 acres, and is twice as large as the renowned Hyde



CENTRAL PARK PLAYGROUND.

Park of London. It has cost in the purchase of land, and its improvements, over \$11,000,000; and is now maintained and steadily improved, at an annual expense of \$250,000. It has twelve grand entrances, contains five and a half miles of bridle path, nine and a half of carriage roads, twenty-seven miles of walks, so admirably arranged with arched passageways, that the pedestrian is never obliged to step on the carriage or bridle ways. Near the south-east corner stands a large three-story stone building, formerly a State arsenal. This has been purchased by the Park Commissioners, and was, until recently, filled with animals and serpents, with

many ancient and modern curiosities. It has recently been rejuvenated, and adapted to the convenience of a Society lately incorporated, and known as the "American Museum of Natural History." This society has in a short time collected an



CENTRAL PARK CHILDREN'S SHELTER.

astonishing number of stuffed and mounted birds, serpents, mammals, fishes, insects, and other curious skeletons, valued at more than \$100,000; and rendering their Museum one of the most attractive centres for the naturalist, the antiquarian, or the curious, on the entire island. The building contains three stories, and the collection is so arranged for exhibition, that the visitor is enabled to contemplate by progressive stages the various phases of animal life from its lowest to its highest developments. On the first floor he finds sponges from the East Indies, dome-shaped corals, and specimens of

the lowest known orders of animal existence. He next finds hundreds of specimens of fishes, including the dolphin, bladder fish, etc. Reptiles follow, with a fine exhibit of the boa constrictor. Cases are devoted to conchology, exhibiting the principal mollusca found in the different parts of the world. 10,000 specimens of Lepidoptera, presented by C. T. Robinson, exhibit all known varieties of American and European moths and butterflies. 4,000 varieties of beetles and other insects have been presented by Baron Osten-Sacken. Birds from all countries, exhibiting nearly every variety of size, habit, and plumage, from the humming-bird to the eagle, are interestingly grouped. The collection of mammals exhibits the kangaroo, fox, tiger, wild boar, ibex, leopard, lion, camel, stag; all crowned on the upper floor with a large variety of monkeys, which form the climax of the lower tribes, and approach nearest to man. The entire collection of the late Prince Maximilian, comprising 7,000 specimens, and various large and small collections, have been here classified for the study of the people. The first reception was given by the managers of the Museum on the 27th of April, 1871, to a thousand delighted visitors. A large and eligible structure is soon to be erected on Manhattan square for this Museum of natural history; also appropriate accommodations for the Metropolitan Museum of Art. The Department of Public Works has been empowered to proceed with the arrangement of these structures, at an expense not exceeding \$500,000 for each. The trustees of the Museum of Natural History design it to equal, if not surpass, any similar institution in the world.

Around the arsenal are buildings and cages with bears, eagles, serpents, and numerous other varieties of animals. The collection of rare living animals, reptiles, and birds is very large, numbering in all about six hundred, or over one hundred and thirty varieties.

On the northern extremity of the Park, stands what was originally St. Vincent's Convent. The chapel of this has

been remodeled and decorated, and now contains the statuary, one of the most attractive collections in the country. A little north-east of this building are the nursery grounds, covering two and a half acres, where choice trees and shrubs are grown. Contiguous thereto is a vegetable garden, containing specimens of most of the esculents that will thrive in this climate, properly arranged, and the name of each so conspicuously placed, that a person passing by can readily recognize it. A spacious greenhouse, with approved heating apparatus, has recently been added, to preserve the tropical collection which has recently been greatly increased, 353 valuable plants being donated at one time by James Lenox, Esq., and 71 by Dr. Wood.

A large zoological garden is being constructed, with underground accommodations for bears, seals, the walrus, beaver, etc.

The best meteorological observatory in the country has been established, and a fine astronomical observatory is soon to be completed.

A Palæozoic Museum, containing life-size representations of most of the animals believed to have existed in America, during the secondary and post-tertiary geological periods, is being prepared. This will certainly be a cabinet of great interest.

A line of stages now carry visitors through the Park, halting at its chief places of attraction. No pains or expense are spared to make the Park all the most fastidious could desire. A bronze figure for a fountain has just been cast in Munich for the Commissioners, and the basin for the same is a block of polished Westerly granite, seventeen feet square. Several costly and ornamental structures for the sale of pictures, refreshments, and mineral waters, have recently been erected.

The site of this Park was originally perhaps the most broken of the island, and considered by many irredeemable; yet the toil of thousands of men, aided by powerful machinery, has crushed the rocks, so graded and enriched the sur-

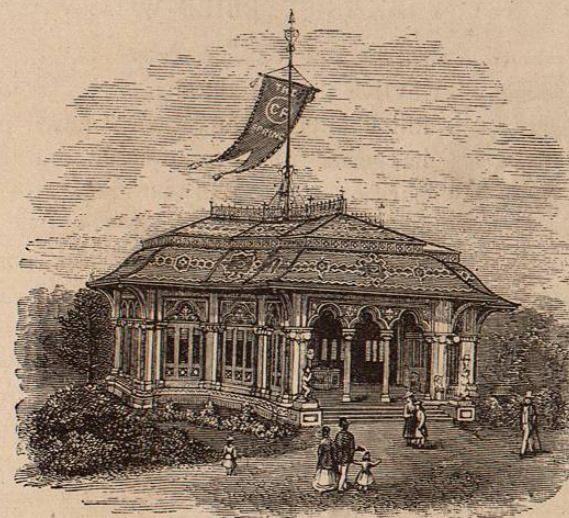
face, as to have made the "desert blossom as the rose." Verdant lawns spread away, where only rocks and poisonous laurel once appeared. Trees from all countries wave in the breeze and the broken places still remaining are so artfully



CENTRAL PARK CASCADE.

concealed with dense rows of choice shrubbery, that the delighted visitor rarely discovers them. Appropriate space is laid out for ball play and military parade. Placid lakes covering forty-three acres, dotted in summer with pleasure boats and snow-white swan, are no less attractive to skating parties in winter. The Commissioners offered \$4,000 for the best plan for laying out this plot of ground, and thirty-five studies were presented, some of which came from Europe. Mr. F. L. Olmsted and Mr. C. Vaux proved the successful competitors. The millions already invested in this undertaking have by no means completed the improvements of this imperial park. Thus far they have made wonderful progress. The portion completed is so finely ornamented with

fountains, terraces, stairways, arcades, sculpture, statuary, rustic arbors, and pavilions, that one wearies with the repeated yet ever-diversified exhibitions of genius, beauty, and taste. It is the favorite resort of all classes, and is visited by about ten millions annually.

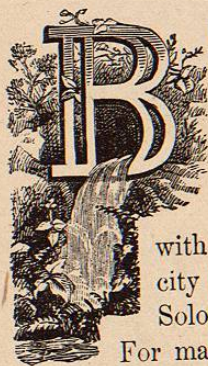


CENTRAL PARK MINERAL SPRINGS.

A stranger, spending a day in New York, should pass through Broadway, Washington market, ascend Trinity steeple, and visit Central Park. In the first, while he thinks of "Vanity fair," his attention will be perpetually attracted to objects of unrivaled and substantial costliness; and at the market will behold such an accumulation of commodities, and commingling of nationalities, as none can well describe. From Trinity steeple, two hundred and fifty feet above the pavement, he obtains a bird's-eye view of neighboring cities, of the broad rivers and bay whose waters are whitened with ten thousand sails; he hears the distant roar of innumerable wheels, and looks down upon the masses of diminutive creatures that are ceaselessly surging below. At the Park everything is charming, nature on parade in her gayest and sweetest attire.

VIII.

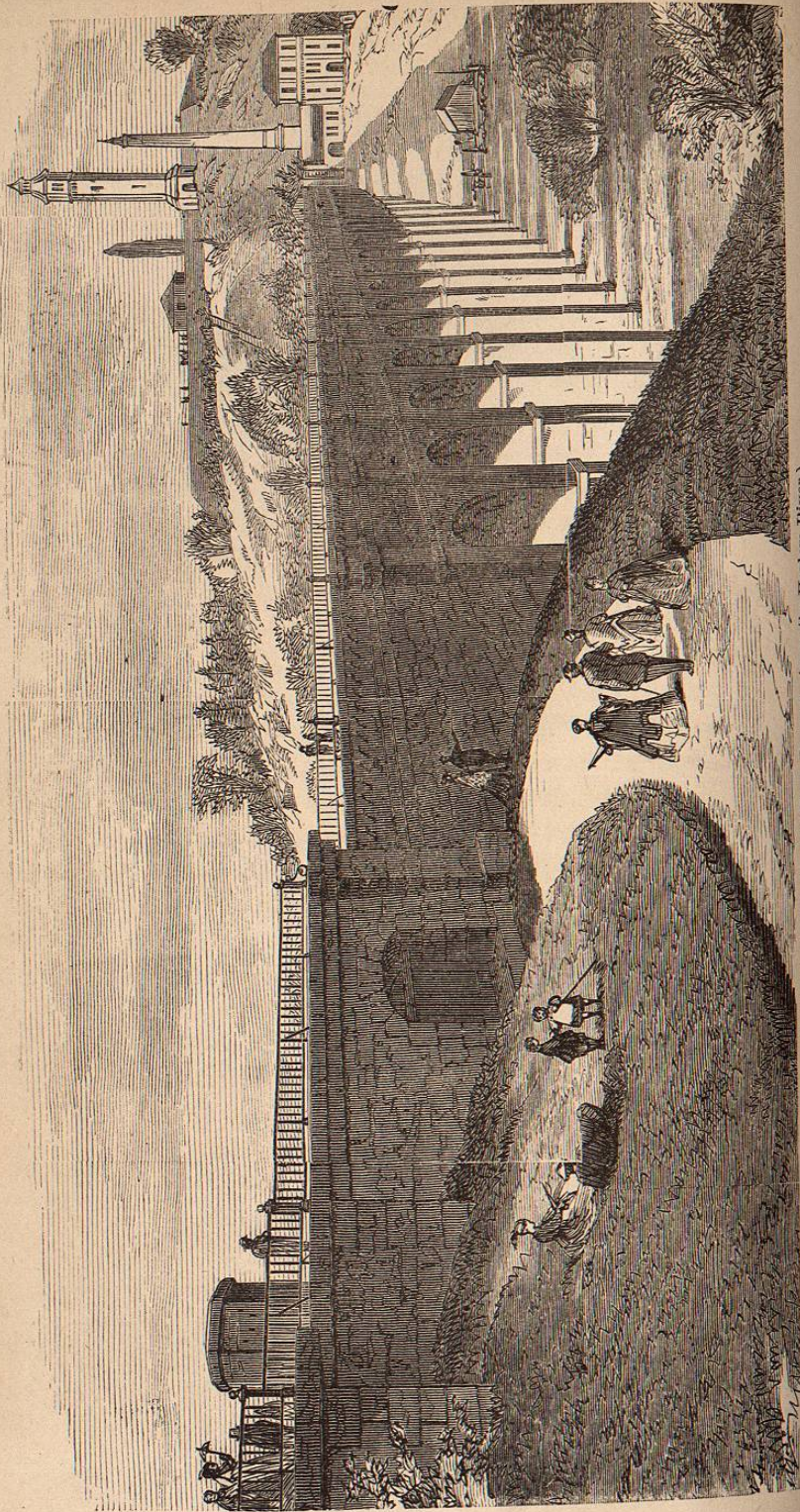
HOW NEW YORK IS SUPPLIED WITH WATER.



BEFORE the introduction of the Croton, the inhabitants of Manhattan suffered perpetual perils from fires, drought, and the impurities of their daily beverage.

A liberal supply of pure water is one of the first conditions of health and happiness, with any people; but how to thus supply a vast city has been a question that has agitated the Solomons, the Cæsars, and the Montezumas.

For many years the inhabitants of Manhattan depended upon public and private wells. In 1659, there were eleven public wells in the little city—two in Wall street, three in Broadway, four in Broad street, and two on the East river side. These were used for watering horses and extinguishing fires, the families mainly depending upon private wells in their own yards. As the city enlarged, the demand for water increased; various schemes were discussed and experiments vainly tried, during half a century, until a board of Commissioners finally took the matter resolutely in hand, and after eight years of study and toil, completed in 1842 the most extensive and magnificent enterprise of the kind in modern times. A dam thrown across Croton river raised the water forty feet, forming Croton lake. The aqueduct proper is constructed of stone, brick, and cement, arched above and below, is seven and a half feet wide, and eight and a half high, with an inclination of thirteen inches to the mile; the flow of water for some years was about twenty-seven million gallons daily, but at present reaches nearly sixty millions, its full capacity. In Westchester county it crosses twenty-five



CROTON AQUEDUCT AND HIGH BRIDGE—(over the Harlem River.)

streams, averaging from twelve to seventy feet below the line of grade, besides numerous brooks furnished with culverts. The water is carried across Harlem river in vast iron pipes on a bridge of granite, 1450 feet long, which is supported by fifteen arches, the crown of the highest being 100 feet above high-water mark, to prevent interference with navigation. Two deep valleys are ingeniously crossed, between this river and the receiving reservoir opposite Eighty-sixth street, which covers thirty-five acres, and contains 150,000,000 gallons. Several years since a retaining reservoir was added, covering over 100 acres, and thirty-eight feet deep, capable of holding one billion and thirty million gallons. Two large reservoirs have just been constructed—the "Storage reservoir," and the "High Service," at Carmansville. From the receiving to the distributing reservoir, a distance of two and one-fourth miles, the water is conducted through several lines of iron pipe three or four feet in diameter. The distributing reservoir for the principal part of the city stands on Murray Hill, between Fortieth and Forty-second streets, fronting on Fifth avenue. It covers more than four acres, is divided into two parts, is 40 feet above the pavements, 115 above tide-water, and holds twenty million gallons. The entire distance from Croton lake to Murray Hill is forty-one and a half miles. Three hundred and forty miles of main pipe have been laid, to carry the water through the city. The water has been introduced into 67,000 dwelling-houses and stores, into 1,624 manufactories, 307 churches, into 290 buildings used as hospitals, prisons, schools, or public buildings, and into 14 markets. Seventy-two drinking hydrants are now in use in the city. The Croton water supplies Sing Sing prison, all the Institutions of Blackwell's, Randall's, and Ward's Islands; forms the numerous artificial lakes and ponds in Central Park, the fountains in all the other parks, is used for sprinkling the streets, and extinguishing fires. Its original cost was about nine millions, but the continual expense of repairs, building of new reservoirs, and of pipes, have swelled

the amount to nearly forty millions, a great but never-to-be-regretted expenditure.

A water tax is imposed on every building supplied, which is graduated according to the size of the structure. A one-story of sixteen feet width is taxed \$4, a five-story with a width of twenty-five feet, \$12 per annum. In manufactories, the Commissioners design to collect one cent for every one hundred gallons used, as nearly as may be. The water tax during 1868 amounted to \$1,232,404.95, and since its introduction in 1842 to over \$18,000,000. In November, 1868, the water was shut off for five days, for the inspection and repairing of the aqueduct. During the suspension of the flow of water, the reservoirs were reduced over nine feet, reminding us that if the supply should be cut off, our hydrants would fail in about fifteen days. The Croton ranks among the purest streams of the world. Its waters are collected in a district of 352 square miles. Mountains and hills of azoic gneiss receive the rainfall, which is filtered by the pure silicious sands and gravels, to gush out in numberless springs and brooks, which flow in sparkling transparency to the lake, the great reservoir. Here the sediments are mainly deposited, before the aqueduct is reached. A stone wall has been thrown around the lake, to isolate the drainage from the surrounding farms. A careful analysis of the water shows that the amount of impurity during a whole summer amounted to but 4.45 grains per gallon, or 7.63 parts in 100,000.

Dublin is the only city in Europe supplied with water as pure as the Croton, and Boston, Philadelphia, and Trenton, only in America. Nine old wells were filled and covered in 1868, though two or three hundred still exist. Their waters are greatly polluted, and are fruitful sources of disease, the only remedy—*filling them all*—should be promptly attended to.

By means of a new purchase of water-right in the spring of 1870, the volume of water during the dry season has been much increased, and the city saved from any anxiety in relation to the supply of this indispensable element.

## IX.

## THE SCHOOLS AND COLLEGES OF NEW YORK.



HEADQUARTERS OF NEW YORK BOARD OF EDUCATION.  
(Corner Grand and Elm.)

The early Dutch settlers of Manhattan were educated in the first common schools known in Europe, and have the immortal honor of establishing the first on this continent, for the education of all classes of society, at the public expense.