

A TOUR
OF
ST. LOUIS;
OR, THE
INSIDE LIFE OF A GREAT CITY.

BY

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JAMES W. BUEL, } *St. Louis Press.*

PRICE, :::: \$1.50.

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PUBLISHED BY THE
WESTERN PUBLISHING COMPANY,
JONES & GRIFFIN.

ST. LOUIS:
1878.

PUBLIC INSTITUTIONS.

ST. LOUIS WATER-WORKS.

The rapid growth of St. Louis is well attested by the increase in the capacity of the various works that have from time to time supplied the city with water. In 1850 water was distributed throughout the city by means of seventeen miles of pipe. In 1874 there was used for the same purpose one hundred and fifty miles.

The first reservoir was constructed on Ashley and Collins streets, on the east side of Fifth Street, in 1832. It had a storage capacity of two hundred and thirty thousand gallons. In 1849 these works were abandoned, and on Benton Street, about a mile west of the river, new works were built with a capacity of seven million gallons. Another reservoir was added in 1854 with a capacity of forty million gallons. In less than two decades these works were found inadequate to meet the requirements of the fast growing capital of the West. At Bissell's Point a tract of land adjoining the river, and situated in the northern part of the city, a new site was purchased at an expense of ninety-eight thousand dollars, and in 1871 was completed the magnificent works from which the city now derives its abundant supply of wholesome water. With a capacity of sixty million gallons, and machinery capable of pumping fifty-eight million gallons daily, the present system of water-works bids fair to endure much longer than its predecessors.

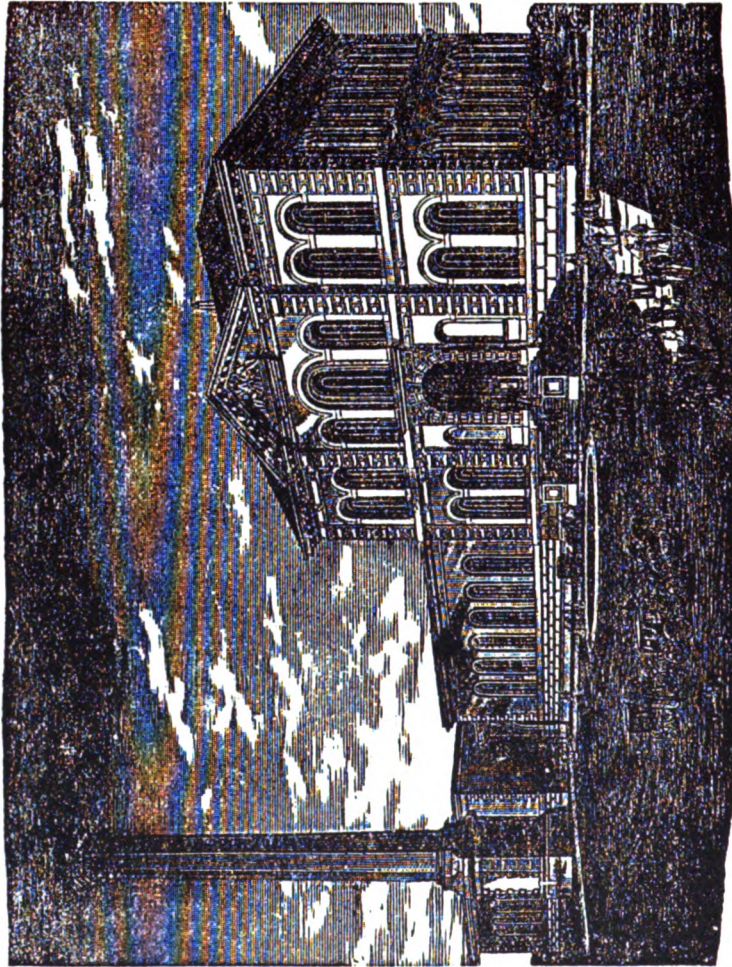
The Water-works comprise two series of buildings, known as the "high service" and "low service" buildings. The latter are located on the river bank, and the former about a quarter of a mile distant. Two hundred feet from the river bank, and united with it by means of a foot-bridge, is the inlet tower. From this tower, by means of an induction pipe five feet six inches

in diameter, is pumped the water needed by the city. The tower is oval in form, twenty feet long by ten feet wide. Its foundations rest on the bed-rock of the river; the greater part of the tower is, of course, submerged. The "low service" group of buildings consist of an engine and boiler-house, coal storage-house, and smokestack one hundred and twenty-five feet high. In their construction—though built pre-eminently for use—much good taste has been displayed. The material used is brick, with bases, quoins and mouldings of Joliet stone. The engine-room is fifty feet long and forty-one feet wide; the walls are wainscoted with oak and black walnut, and the floors are laid with cast-iron plates and encaustic tiles. Here are situated three pumping engines—two of them are of the Cornish "Bull" pattern, and were built by the Knapp Fort Pitt Foundry Company, of Pittsburgh, in 1870. The steam cylinders and pump plungers have each a diameter of fifty-six inches, and a twelve-foot length of stroke. Each pump is provided with a stand-pipe located in the engine-room. The capacity of each pump is seventeen million gallons in twenty-four hours. The third engine, of a more powerful type, and capable of delivering twenty-four million gallons in twenty-four hours, was built in 1874; the contract price was one hundred and eighteen thousand five hundred dollars. It is a crank and fly-wheel engine, and works two single-acting plunger pumps, one at each end of the beam and placed in the pump-pit. Steam for these engines is furnished by a battery of double-flue Cornish boilers, seven feet in diameter and thirty feet long. Two boilers are used with each engine.

The water pumped from the river by these engines contains too much mud and other impurities to be fit for immediate use, and has to be passed through a series of settling basins before being distributed throughout the city. The basins are four in number, each eighteen feet deep, and with an area of 162,000 feet.

The "high service" buildings consist of an engine-house, boiler-house, coal-shed, and smokestack one hundred thirty-four feet high. The engine-house is a very handsome structure, two stories high, and ninety-two feet long by eighty-six feet wide. It is constructed of brick, with base, cornice, and

string-course of cut stone. The angles are also dressed with cut stone. The main entrance is reached by a broad flight of stone steps, and above the door-way, on the pediment of the principal facade, are two sculptured figures, the "Union of Waters," symbolical of the union of the Missouri and



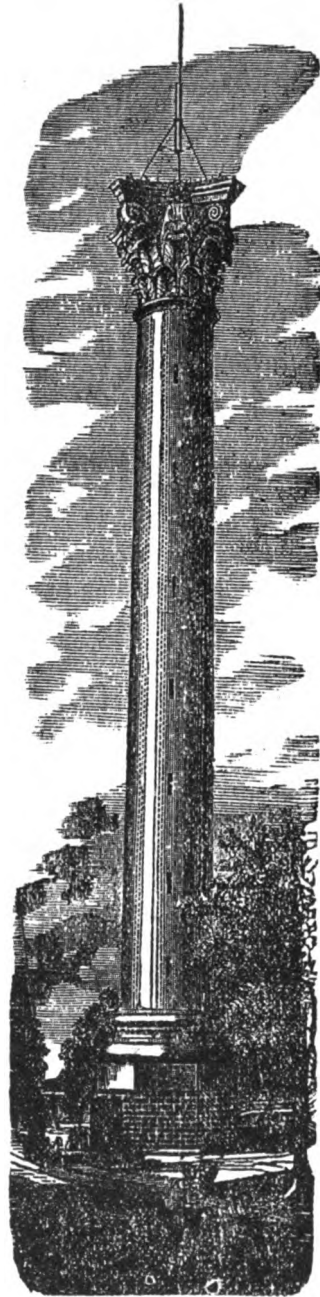
HIGH SERVICE ENGINE BUILDING.

Mississippi. The interior consists of one lofty room, with handsomely wainscoted walls and paneled ceiling. Around this room extends a balcony, which is reached by a spiral staircase. Here are three immense pumping engines, corresponding

to those in the "low service" house. Two of them were built by the Knapp Fort Pitt Foundry Company, of Pittsburgh. They are single cylinder crank and fly-wheel engines, working double-acting pumps. The steam cylinders are eighty-five inches in diameter and the length of stroke ten feet. The fly-wheels are twenty-six feet in diameter and weigh thirty-five tons. Each pump has a capacity of sixteen million five hundred thousand gallons in twenty-four hours. The third pump is worked by a pair of compound engines, connected with crank and fly-wheel, the latter thirty-two feet in diameter and weighing thirty-five tons. These engines were constructed by the Hartford Foundry and Machine Company, in 1874; for two hundred and eighty thousand dollars, and have a capacity estimated at one million gallons per hour.

Truly grand is the spectacle of all this massive machinery in motion. With very little noise these engines perform their great tasks. So little is there of the racket and seeming confusion which usually attend the movements of large and complicated machinery, that in watching the slow, dignified motions of these iron giants one is apt to forget the mighty force that animates them and the immense amount of work they accomplish.

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THE STAND-PIPE.

The motor power of these engines is supplied by six "return drop-flue boilers," six feet in diameter and twenty-four feet long, with a grate surface of two hundred and fifty square feet, and a heating surface of five hundred square feet. By these latter series of pumps, the water that has remained long enough in the settling basins to become tolerably well freed from sediment, is raised about two hundred feet in the stand pipe, a mile distant, on Grand Avenue and Fourteenth Street. This stand-pipe is concealed by a handsome Corinthian column one hundred and fifty-four feet high and forty-one feet in diameter at the base. Access to the summit may be gained by means of a spiral staircase, winding around the pipe in the interior. From this elevated position a very fine view may be obtained of St. Louis and vicinity. The water supplied to the city flows from this stand-pipe, the surplus water passing into a reservoir on Compton Hill, four miles away, which has storage capacity sufficient for sixty million gallons. The daily average consumption of water in St. Louis is twenty-four million gallons.

CITY HALL.

This building has a frontage on Eleventh Street, extending from Chestnut to Market streets. It is three stories in height,



and is built of brick, and is comparatively a new structure. For many years the Court-house was over-crowded with a swarm of city officials that were located there. The want