COMMERCIAL AND STATISTICAL REVIEW

—OF THE—

CITY OF BURLINGTON, IOWA.

SHOWING HER

MANUFACTURING, MERCANTILE

—AND—

GENERAL BUSINESS INTERESTS,

—TOGETHER WITH—

HISTORICAL SKETCHES OF THE GROWTH AND PROGRESS OF THE "ORCHARD CITY," ALSO SKETCHES OF THE PRINCIPAL BUSINESS HOUSES AND MANUFACTURING CONCERNS.

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WATER WORKS.

Some of the leading and most enterprising citizens, under contract and agreement with the city, organized the Burlington Water Company in 1877, and undertook the construction of the Burlington Water Works. They contracted on the seventh day of October of that year, with the Holly Manufacturing Company, of Lockport N. Y., for the erection of complete works on the Holly system of water supply and fire protection. The works were finished and test made for acceptance on thirty-first day of May, 1878. The total cost of the works, as shown by the secretary's report, January 1st, 1882, debited to construction account, has been $232,148.94. The superintendent's report of same date shows that the engines have run almost incessantly since June 6th, 1878, having stopped only eighty-seven hours and fifty-five minutes in three years and seven months for packing, cleaning wells, etc. The service pipe laid to that date is 3 miles and 2,051½ feet, and the mains 20 miles and 2,354 feet, making a total of 23 miles and 4,403 feet of pipe. There were 208 fire hydrants of the Holly patent in use. The Water Company have given every satisfaction to the corporation and the public by the efficiency of their works. We subjoin a description of the works from the report of the superintendent for 1881.

The Holly system of water works has been adopted, and is in use in more than 100 towns and cities in the United States. This number does not include some twenty or more works built on the same or similar plan by other parties than the Holly Company. The chief advantages of this system over the older system are: 1st. Secures by variable pressure a more reliable supply of water for all purposes. 2d. Less cost for construction. 3d. Less cost for maintainance. 4th. Less cost for daily supply. 5th. Affords the best fire protection in the world. 6th. Largely reduces insurance risks and premiums. 7th. Dispenses with fire engines in whole or in part. 8th. Reduces fire department expenses.

The Burlington Water Works conform in every particular to the requirements of the ordinance. Following is a brief description of the works:

The river work consist of an inlet crib constructed of sound pine timbers, firmly bolted together, filled with broken stone, placed on the bed of the Mississippi river, in 19 feet of water at low water mark, and distant from the shore about 250 feet. A 24-inch iron pipe extends along the river bed from the crib to a filter on the shore. The filter is of stone masonry, 120 feet long, 20 feet wide, and provided with suitable filtering materials, which may be renewed or cleansed at any time. An independent inlet pipe is provided to convey water directly from the crib inlet to the pumps, should the demand at any time (as for fire protection) exceed the capacity of the filter.

The engine, boiler and coal house are located 150 feet from the river. The Burlington, Cedar Rapids and Northern, and the Burlington and Northwestern railways run between the river and buildings, making the delivery of coal convenient and inexpensive. The filter extends from the crib inlet under these railway tracks to a pump well in the engine house. The buildings are of brick and stone, have iron roofs, are substantial and fire proof, and of dimensions suitable for a duplicate of the machinery first introduced. The smoke-stack is of brick, and is 128 feet high.

The pumping machinery is of the latest design of the Holly Manufacturing Company, and embraces all recent valuable improvements. It is especially adapted to the service required, and in finish and workmanship cannot be excelled. The engine is of compound type, and guaranteed to perform a duty equal to raising sixty million pounds of water one foot, with one hundred pounds of coal, and to supply the quantity of water—3,000,000 gallons daily—and throw the fire streams as required. It has four steam cylinders, each nineteen inches diameter, twenty-seven inch stroke, with four corresponding reciprocating pumps, each ten inches diameter and twenty-seven inch stroke, attached by direct-connections, and erected on a heavy arched double frame of iron set at an angle of 90 degrees, one steam cylinder and its pump being placed at

each of the four corners. The frame supports at its top a shaft with an overhanging crank on either end, to which the four engines are connected by ordinary connecting rods. The cylinders and pumps are detachable at pleasure, and may be run singly, in pairs, or all together, according to the demands for water supply from time to time. The engine is provided with the usual air pump and jet, or surface condenser, and by a peculiar arrangement of pipes and valves, may be run on either the high, low or compound steam pressure principles, and may be changed from one to the other at any moment by the engineer. This arrangement is necessary to secure economical daily pumping for domestic supply, which is done by compounding steam and prompt increase of power for efficient fire protection, which is amply secured by converting the machine into a high pressure engine. When compounding, the steam is taken directly from the boilers into one of the cylinders, and exhausted into the remaining three, and when running high pressure, steam is taken directly into all of the cylinders, the latter operation increasing the power of the whole four to eight times. To supply this increase, reserve boilers are provided, there being three in all, either of which alone will be sufficient to meet the ordinary demand.

The rates charged for water compare favorably with those of other Western cities.

THE MISSISSIPPI BRIDGE.

The splendid iron railroad bridge which spans the river at this point was built by the Chicago, Burlington & Quincy Railroad Company, and was completed in August, 1868. It is 2,185 feet in length, and consists of nine spans. The first of these is 175 feet, the second 200 feet, the draw 310 feet, and the remaining six spans each 250 feet. It has been subjected to the severest tests, far in excess of any possible requirements, and is as solid and safe a piece of engineering work as can be foundin the United States.

THE FERRY.

The Burlington and Henderson County Ferry Company was organized May, 1873. The travel with teams crosses the river at this point by ferriage, and previous to construction of the great bridge all railway traffic was also reshipped in the same manner—the railway company maintaining a boat here for that special purpose. After the completion of the bridge the railway boat was withdrawn and only the public ferry was left. This was in striking contrast with the growth of the city in other respects, for as far back as 1840 there were two ferry boats here, and they did a large business. In 1873 the public boat, the Flint Hills, was pronounced too old, unseaworthy, and a new boat became necessary. A new boat was built at Madison, Indiana, at an expense of $9,000, and commenced service here in the spring of 1875. It was named the John Taylor, and is still in the service, being considered one of the finest ferries on the Mississippi. The boat ranks A 1, is fitted up with first class machinery, 13-inch cylinders, 4-foot stroke, wrought iron shafts and is in every respect a model of her kind.

BURLINGTON STOCK YARDS.

The business of handling live stock is carried on in what is known as East Burlington, on the Illinois side of the Mississippi, where extensive stock yards were established several years ago. Side tracks from the Chicago, Burlington & Quincy Railroad run to the yards, which are furnished with ample accommodation for loading and transferring stock, having barns, cribs, ice-houses, ample water supply, and all other necessaries. The yards are connected by telegraph and telephone with the Board of Trade, railroad offices and business houses, and there is a hotel for the accommodation of shippers and dealers.