

**WATER-WORKS.**—Last week we gave a rather lengthy statement of the advantages of the Holly System, on general principles, and this week we give some of the results of actual experience in the construction and operation of water-works constructed by the Holly Manufacturing Company. Prominent among these are the works at Lockport, New York, which were constructed under a contract with that city in 1863.

The wheel house is a circular brick building, and is twenty feet in diameter. In the lower story is placed one of B. Holly's Patent Improved Turbine Water Wheels, five feet in diameter and of one hundred and forty horse power, under a head of nineteen feet. This wheel drives one of Mr. Holly's Patent Rotary Power Fire Pumps, which is capable of throwing 1,200 gallons of water per minute, when run at the rate of one hundred and sixty revolutions. A ten inch main leads up an elevation of about forty feet to Main street, a distance of thirty rods, and the water is thence distributed through smaller pipes of eight, six and four inches, through the streets protected by the works. Aside from the compactness and efficiency of this machinery, an ingenious invention of Mr. Holly, of indispensable value, secures an uniform pressure of the water in the pipes. This Pressure Gauge, or Register, controls the water wheel gate, so as to give just the required pressure, from twenty to two hundred pounds, and makes the works equivalent to a reservoir four hundred feet high. The agreement of the Holly Company, in the contract for the erection of the works, stipulated that, at a hydrant set fifty feet above the pump, a stream of water should be thrown through one hundred feet of hose one hundred feet high. Upon the trial, the stream was thrown not only over the test pole placed for that purpose, but full seventy-five feet higher, as near as could be estimated, when the hose burst! Next, two streams were thrown at the same time, about the same height, when the hose burst again. Then four streams, at one time, were thrown over the test pole. Next, in the language of the then Mayor, David M. Mather, who, with others of the Corporation officers, was officially present to decide upon the acceptance of the works, "the pump threw at the same time, from nine hydrants, a stream from each, through nozzles from  $\frac{7}{8}$  to  $1\frac{1}{4}$  inches in diameter, over the roofs of any of our buildings." The works were promptly accepted by the city, the trial being rather a test of the strength of the hose than the power of the machinery.

When such results have been attained, under such circumstances, who will doubt that works on this plan are the "one thing needful" for Connersville. It is proposed to establish the power at the lock west of the Cemetery, taking the water from the canal at that point, and run a main to the head of Central avenue and from there convey the water through smaller pipes to where it might be needed. This would place the power above the town instead of below it, as in the works above mentioned, and not only lessen the amount of power necessary but enable water to be conveyed to the top of the hill, enough for all purposes.