

R E P O R T

ON THE

QUEBEC WATER WORKS.

HAMILTON, 30th JUNE, 1860.

W. SHORDICHH, Esq., Manager Quebec Water Works, Quebec.

SIR,

I have the honor herewith to submit my report "on the various and best modes by which a greater supply of water could be obtained through the present line of pipes"—as directed in your letter of instructions of 21st February last. I was also then requested "to report on the practicability of a scheme which was lately proposed by a certain Gentleman, and adopted by the City Council, which scheme, although it had been in operation since the 20th of January, had not turned out to be altogether satisfactory." The scheme alluded to had been abandoned previous to my arrival in Quebec—but as there had been some complaint made against the summary removal of the machinery by which it was attempted, I may still be expected to refer to it.

The water having fallen away from the highest streets within the City, some of which were at least two hundred feet under the source of supply, it was supposed that by forcing more water into the pipe at Lorette, the difficulty could be remedied—and for this purpose a wheel was placed in the well of the Gate-House (or chateau d'eau) which wheel was driven by a line of shafting from another wheel turned by the fall of water over the dam. This first wheel was in its action similar to the rotary or centrifugal pumps now generally applied to coffer-dams, wrecks, or places where a large quantity of water is to be lifted a few feet in the shortest possible time and without regard to cost of motive power. The water power by which this pump was worked was derived from the surplus of the River St. Charles, flowing over the dam built for regulating the supply at Lorette. In estimating the value of this power it must be borne in mind that the greatest deficiency of water in the City will be in the dry summer and cold winter months when the flow of the St. Charles is a minimum. The length of the dam is two hundred feet and the fall four and a quarter feet, the depth of water flowing over the breast of this dam being reduced in dry seasons to two inches. This would give a discharge of about fifty cubic feet per second, or less than twenty horse power on the whole fall of the dam. The best wheels could not be depended upon, under these circumstances, to furnish more than about fifteen horse power for the purpose of aiding the delivery of the pipe. Now if the water in the City falls away from the Grande Allée to a point one hundred feet below it, the supply at Lorette must be lifted at least a corresponding number of feet to counterbalance this depression. The whole supply, therefore, say three hundred cubic feet per