

the motor would be increased to 4,653 horses, or a gain of 1,090 h. p., representing about 18 run of stones additional,—this, too, without increasing the current in the canal.

2. *Power at St. Gabriel Lock.*—The water-power at St. Gabriel Lock was originally leased by the Government to a Company, who constructed the requisite head and tail races, sub-letting to various parties; and there is now at that point 21 manufacturing establishments, giving employment to mechanics and others, whose dwellings constitute one of the most flourishing suburbs of Montreal. The works referred to are as follows:—Two flouring-mills and stones, capable of grinding 310 barrels of flour per day, with storage capacity for 114,000 bushels of grain and 5,500 barrels of flour; three saw-mills, one dry-dock, two foundries and finishing shops, one cotton-factory; one machine-shop, bolt and nut factory; one nail-factory, one rubber-factory, one woollen-factory, one agricultural-implement and two furniture factories, one saw-factory, one axe-factory, one cordage-factory and plaster-mill, one tannery and glove-factory, and two door and sash factories. The power required for these operations is 1,061 h. p., equal to about 88 run of stones, employing 1,248 cubic feet of water per second. If all the surplus water passing through the canal (that is, 2,053 cubic feet per second, before referred to as used for the works at Basin No. 2) were brought into operation at the St. Gabriel Lock, there would be an available force equal to 1,745 h. p., or about 145 run of stones, without augmenting the current in the canal. It would seem, therefore, that a power equal to about 684 h. p. disappears at the Government sluices.

3. *Power at Cote St. Paul Lock.*—Twenty hydraulic lots have been laid off at Cote St. Paul Lock,—the available power being about equal to that at St. Gabriel; only one-half of it, however, is in use. The works at this point are:—Two flouring-mills, capable of grinding 460 barrels of flour per day, with stores and elevators having storage capacity for 105,000 bushels of grain and 6,000 barrels of flour; one axe-factory, one shovel-factory, one scythe-factory, one nail-factory, an auger-factory, a door factory, a sleigh-bell factory, one large saw-mill, and one cooperage with saw-mill attached.

Summary.—It thus appears that the water-power in actual use is:—

In the City (Basin No. 2).....	3,563 h. p.
At St. Gabriel	1,061 h. p.
At Cote St. Paul.....	about 500 h. p.
Total.....	5,124 h. p.

But if the *entire* power could be made available at the different points, the result would be:—

In the City (Basin No. 2).....	4,653 h. p.
At St. Gabriel	1,745 h. p.
At Cote St. Paul	1,745 h. p.
Total.....	8,143 h. p.

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