

HAMILTON AND ITS WATER WORKS.

Before giving a description of these splendid works we may, with interest to the reader, glance at what Hamilton was and what it now is.

At the time of the French alliance with the revolted colonies of North America, since the United States, the date about 1775, Col. Hamilton held a commission in the army of France. He declined to serve against Britain, his native country, retired from the service, came to Canada and settled as a merchant at the town of Niagara, then the seat of government in Upper Canada. His second wife, Catharine, being one of a picnic party at Twelve Mile Creek with Governor Simcoe, was greatly charmed with the locality then uninhabited, and had influence sufficient to obtain a patent granting to her son Robert, then a boy, a tract of land on which has arisen a town. That town is named after Catharine Hamilton, with the prefix of St., and so we have St. Catharines.

Ten years afterwards, about 1811, a grant of land was made to George Hamilton, another son, on the south-western shore of Lake Ontario. There an infant settlement was formed and named Hamilton.

In 1850 Hamilton contained a population of 11,000. In 1858 the inhabitants had increased to 25,000. In the three following years through commercial revulsion, partly owing to bad harvests, and excessive speculation throughout the whole province, the number diminished to 18,000. At the census of 1860 it was 19,000. In 1862 it was estimated at 22,000. In September, 1863 the population is at least 23,500. The increase in 1862 was due to the presence of a military garrison; this year it is due chiefly to an influx of strangers from the United States, some of whom are settling in the city as manufacturers, and others in various avocations of trade.

In 1857, the assessed value of property was one million of dollars; three years afterwards, it was barely half as much. Even now, with an augmented population the value of property has not materially risen, owing to the uncertainty about the City Debt, which was incurred, we may say, as an act of self preservation, owing to unwise legislation. Had the act setting forth that the Great Western Railway from Hamilton to the Detroit river should be the western end of the Trunk line of railway through the province been sacredly adhered to, as it should have been, the city of Hamilton would not to-day have had to ask any favors from its creditors, but the granting of a charter to extend the Grand Trunk west of Toronto, forced the municipality in order to maintain its commercial position—to expend a large amount on railways, so as to save to the city the trade which it had created, and which by wrong legislation was in danger of being diverted. Unfortunately the amounts expended on the Preston and Berlin Railway, and the Port Dover Railway, have proved a total loss to the city. Large as the amount is, that has been expended on the Water Works, the city would never feel the burden were it not for the heavy responsibilities incurred in railway construction, to defend its commerce, and for which the legislature of the country of the day was to blame.

Even now, Hamilton asks only the concurrence of the Provincial Legislature to its proposal to defray its debt and accumulated arrears of interest by spreading the payments over a larger period of time, only asking an abatement for some years of a portion of the interest, and not of the principal—a proposition which, if acted upon, will ultimately pay the debt, and meanwhile allow the city to save its existence. It has been owing to the hostility of sister cities, from which nothing was asked, and to the perverse misrepresentation by newspapers in other places, on their part a continuous persistence in distorting the facts, either for the "fun of the thing," or for the pleasure that disparagement of Hamilton gave to some of the inhabitants of some other city,

that the British shareholders have not before this acceded to the honorable terms, offered by a corporation and people who are straining to the uttermost the sinews of industry and of final resource. Indeed, it seems to us that the idea has taken strong hold of some of the bondholders in England, that the municipality has been trying to repudiate. Never was there a greater slander; all that is sought for is what any reasonable merchant would grant to any honest debtor who had got into difficulties.

Hamilton did not borrow from the Municipal Loan Fund, as did 46 other municipalities in the province, the greater number of which are now behind in their payments to the government; but the people boldly endeavored to do for themselves, and now are assailed and railed at while our assailants are silent toward municipalities which owe the government, and are not even trying to pay, which we are.

On the 25th June 1863, a report from the Finance Committee was adopted authorizing Robert Cassels, Esq., manager of one of the banks to act for the corporation in England, in submitting proposals of settlement to the bondholders. That gentleman has done us good service, and is justly entitled to the thanks of the community. Our city member, Isaac Buchanan, Esq., is now battling to get the Bill through the House. We have strong hopes now that a settlement will soon be arrived at, and that Hamilton will emerge from its financial difficulties and take a new lease of prosperity. The geographical position of the place, coupled with the energy of the people, will soon bring things right, once the arrangement with the creditors becomes a 'fixed fact.' Let there only be a settlement—that is what is wanted—remove the encumbrance that is crushing the municipality, give it breathing time; and it needs no seer to predict the result.

WATER WORKS.

At the southern end of the Beach, which divides Burlington Bay from the Lake, Hamilton has established the first link in its Water Works—a large basin having been dredged out, into which the water from Lake Ontario percolates through the sand, thus forming a natural filter.

The water passes from this into the pumping well at the engine-house, where it is forced by two powerful engines to the reservoir on the side of the hill about two miles east of the city and the capacity of which is sufficient to provide, at least, a fortnight's supply of water, should any accident occur to prevent pumping and from it is distributed throughout the city. The whole system, we believe, is as complete as any on this continent. The engines are certainly a credit to Canadian workmanship, and are the most powerful and highly finished of the kind in the Province. They have worked like a charm, and nothing has arisen to cause any outlay on them since the first stroke. The pipes were manufactured by D. Y. Stewart & Co., of Glasgow, and after all were laid by the contractors, Messrs. Hendrie & Co., not half-a-dozen leaky joints were found.

The hydrants were made in Hamilton after the most approved model, and have worked well—doing good service when unfortunately required during fires.

The Engine House was built by Mr. Geo. Worthington, of this city, and is pronounced by good judges a piece of the best hydraulic masonry to be seen anywhere.

The reservoir was constructed by Mr. A. P. McDonald, and is a most substantial work. This is a favorite spot to wander about: the view from it is magnificent. To the left, the city with its spires is seen—in front, our beautiful Bay, and to the right, Lake Ontario.

The almost inestimable value of this great work to the city can scarcely as yet be appreciated by our citizens. The old sources of supply—wells—are still used by many; but when our population shall become somewhat larger, it will be seen that this source would be totally inadequate. A large supply of good water is a blessing to a city upon

which no price can be put; and this water, passing through a natural filter, is, perhaps, superior to that supplied to any city on the continent.

The reservoir is 185 feet above the level of Lake Ontario. Its capacity is about 6,000,000 gallons.

The water is now used in about 1,100 houses; but the revenue, as yet, pays but little more than working expenses.

It reflects not a little credit to the Water Commissioners, that work of such magnitude—costing \$786,479 34, was carried to completion without a single legal difficulty with any one of the contractors, and it equally bespeaks the ability of Mr. Keefer, that the expenditure was within the estimates. Mr. Keefer not only rendered eminent services as the engineer; but he showed ability in another department, namely, finance, and received the thanks of the Commissioners for the successful completion of financial arrangements, which enabled the Commissioners to proceed with the works, where otherwise they might have had to suspend operations,—however, there was not an idle hour in the prosecution of the works.

The present Principal of the Commercial College, Toronto, J. E. Day, Esq., was secretary to the Commissioners, and performed his duties in a most commendable manner.

The Mechanical Engineer who, on behalf of the Commissioners, superintended the manufacture and erection of the engines, receiving every piece of iron that was used, was Mr. Charles Robb, now mining Engineer in Montreal. He also very handsomely rendered much assistance gratuitously, in making designs for the several fountains in the city which were erected by subscription.

His Royal Highness, the Prince of Wales, was pleased to inaugurate the Works, on the occasion of his visit to this country.

One of the early promoters and best friends of the Water Works scheme, was Wm. Davidson, Esq., whose name is to be found associated with all the early negotiations on the subject.

None connected with the work, however, deserve a more honorable mention than Adam Brown, Esq., the Chairman of the Commissioners. To the discharge of the duties of his position Mr. Br. Brown brought the full power of that vigorous and enthusiastic mind which is ever foremost in matters of public interest.

Though his arduous labors have been highly appreciated by his fellow-citizens, their full value will not perhaps appear until the Water Works become a financial success.

The engines by which the water is pumped from the filtering basin to the receiving reservoir deserve more than a passing notice. They were manufactured by John Gartshore, Esq., Hall St., Dundas. They are of about 200 horse power each, and each engine has both a high-pressure and a low-pressure cylinder, the diameter of the former being 42 inches, with a stroke of eight feet, and of the latter, diameter 36 inches, stroke six feet. The fly-wheels weigh 25 tons each; the two receiving air vessels, six feet in diameter, 16 tons each; and the two walking beams, 30 feet between the centres, 15 tons each. The great beam or entablature, weighing 12 tons, in one solid casting, is, we believe, the largest casting ever made in Canada. A peculiarity observable in the parallel motion of these engines is that the three centres are worked by one radius rod. The power is supplied by four Cornish Boilers, 30 feet long and six feet in diameter, having one flue through each. They weigh about nine tons each; and consume about 3,200 lbs. of coal per day, working one engine. The pumping capacity of each engine is nearly 100,000 gallons per hour.

In visiting the establishment of Mr. Gartshore, where this magnificent work was constructed, we were forcibly struck by the signs of busy life pervading the great establishment, covering an area of four acres of

ground. It was commenced in 1838 by Mr. Gartshore and the late James B. Ewart, Esq. For some time it occupied a position second to the Niagara works, but it has now become the first foundry in the province. Then a casting of 4,000 lbs. was a curiosity—now the capacity of the moulding shop is sufficient to produce a casting such as the entablature of the Water Works mentioned above, weighing twelve tons, or even larger. About 150 hands are employed; and work to the value of over \$100,000 is yearly turned out.

At present the establishment is chiefly occupied in the manufacture of dry-sand castings, such as locomotive cylinders; and steam castings, such as coal oil stills, up to 10 feet in diameter, agricultural implements, and every kind of machinery. The casting of car wheels from American iron has been commenced; and pipes of the same iron cast here are used for the oil wells now being sunk at Bothwell.

The boiler shop constitutes quite a feature of the establishment. It is fitted up with punches, drills, shearing machines, &c.—indeed, the whole establishment is provided with machinery of the latest pattern, and best calculated to save manual labor.

Both steam and water are employed as motive power—two engines of 25 horse power each supplying the former; the latter is of about 40 horse power.

We were shown a large spur mortise wheel which also acts as a fly wheel, made for Wright's Cotton Mill, Dundas. It is 15 feet in diameter, and weighs 8,000 lbs., being the largest mortise wheel ever cast in Canada.

ANECDOTES OF BIRDS.

Maryat relates these pleasant anecdotes of the sagacity of birds.

There is much more intellect in birds than people suppose. An instance of that occurred in a slate quarry belonging to a friend, from whom I have the narrative. A thrush, not aware of the explosive properties of gunpowder, thought proper to build her nest on a ridge of the quarry, in the very centre of which they were constantly blasting the rock. At first she was very much discomposed by the fragments flying in all directions, but she would not quit her chosen locality. She soon observed that a bell rang whenever a train was about to be fired, and that at the notice, the workmen retired to safe positions. In a few days, when she heard the bell, she quitted her exposed situation and flew down to where the workmen sheltered themselves, dropping close to their feet. There she would remain until the explosion had taken place, and then she returned to her nest. The workmen observed this and narrated it to their employers, and it was also told to visitors who came to view the quarry. The visitors naturally expressed a wish to witness so curious a specimen of intellect; but as the rock could not always be ready to be blasted when visitors came, the bell was rung instead, and for a few times answered the same purpose. The thrush flew down close to where they stood; but she perceived that she was trifled with, and it interfered with her process of incubation—the consequence was, that afterwards when the bell was rung, she would peep over the ledge, to ascertain if the workmen retreated; and if they did not, she would remain where she was, probably saying to herself: 'No, no, gentlemen; 'm not to be roused off my eggs for your amusement.'

Some birds have a great deal of humor in them—particularly the raven. One that belonged to me was the most mischievous and amusing creature I ever met with. He would get into the flower-garden, go to the beds where the gardener had sowed a great variety of seeds, with sticks put in the ground with labels, and then he would amuse himself with pulling up every stick, and laying them in heaps of the or twelve on the path. This used to irritate the old gardener very much, who would drive him away. The raven knew that he ought not to do it, or he would not have done it. He would soon return to his mischief, and when the gardener again chased him (the old man could not walk very fast), the raven would just keep clear of the rake or hoe in his hand, dancing back before him, and singing, as plain as a man could, 'Tol de rol de rol, tol de rol de rol!' with all kinds of mimicking gestures. The bird is alive now, and continues the same meritorious practice whenever he can find the opportunity.