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THE STORY  
OF THE  
OTTAWA VALLEY

OTTAWA  
GOVERNMENT PRINTING BUREAU  
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## HISTORICAL NOTES OF THE OTTAWA VALLEY.

*Compiled by C. R. Coutlee, M. Can. and Am. Soc., C.E.*

### INTRODUCTION.

An investigation of the Ottawa would be incomplete without some reference to the history of the development of the settlement of the valley and the origin of the commerce that has induced thousands of people to make their home and perform their life work in the district.

The valley represents a bay or inlet of a very ancient geological sea, which covered everything to the south, and washed the bold gneissic shores—now known as the Laurentian hills—along the north, while the southerly shore of the inlet was the granite ridge, which crosses Ontario from Portage du Fort to Brockville and forms the Thousand Islands of the St. Lawrence.

The present town of Mattawa represents the head of this inlet, thence up Lake Timiskaming to the Cobalt mining region was probably 'a defile or narrows,' connecting the main sea with an interior basin.

The floor of this interior basin is from 800 to 1,000 feet above the present Atlantic, and Grand Lake Victoria is its centre.

The sources of the Ottawa and the upper 300 miles of its length lie in this interior basin. It is a granitic area, thickly wooded with pine, spruce and hardwoods, and dotted with numerous lakes. There are only a few isolated farms, upon which oats, hay and potatoes are raised in connection with the lumber industry.

The discoveries of mineral at Cobalt and railway extension northward have created thriving settlements within the last few years, however, at the head of Lake Timiskaming, and thence southward to Mattawa.

From Mattawa the river, now half a mile in width, flows due east for fifteen miles to the head of a series of rapids at Deux Rivières village. Both shores are rocky and, on the north, the river may almost be said to flow along the foot of the Laurentian chain.

Below Deux Rivières is another river stretch of fifteen miles, broken by several rapids and finally plunging down the Rocher Capitaine. The next stretch, bordered by bold bluffs like a western cañon, leads to Des Joachims falls, which complete the descent of 135 feet from Mattawa to the surface of Deep river.

Deep river extends, in an almost direct line for forty-five miles, to Pembroke. The north shore is a bold chain of hills 500 to 1,000 feet above the water, the most prominent being Oiseaux rock, whose echo responded three centuries ago to the song and shout of the fur trader. The lower end of Deep river divides around the north and south of Allumette island. The north branch is known as the Culbute, and the south is Pembroke lake in front of Pembroke. A small rapid, at Morrison island, connects this lake with Allumette lake in front of Westmeath, and it, in turn, empties through the Paquette rapids into Lake Coulonge, where it is rejoined by the Culbute or north branch. Coulonge lake extends about twelve miles to Coulonge village, where the stream divides again into a north and south branch around Calumet island. The north branch leads by a sandy channel to Bryson, where it descends by the Calumet falls. The south or Rocher Fendu branch leads,



by some twenty rapids or falls, to rejoin the northern one, about five miles above Portage du Fort.

The Portage du Fort rapids are chiefly above Limerick island; below, the river flows between high rocky banks to the Chenaux rapids, which fall one to four feet into the head of Arnprior lake. This lake, 16 miles long and 4 wide, lies in front of the town of Arnprior, its surface being one hundred feet below Coulouge lake.

At the foot of Arnprior lake, are the Chats rapids, pouring over a rocky ridge into Deschenes lake, which extends twenty-seven miles down to Deschenes rapids. On both banks the land has been cultivated for many years.

From Deschenes down for eight miles, is rapid water, culminating in the Chaudière falls, the descent being altogether sixty feet.

Below the city of Ottawa, is an uninterrupted river reach sixty miles long, ending at Grenville and Hawkesbury, whence there is a continuous rapid for five miles to Greece Point. From Greece Point to Carillon is a still basin, artificially maintained by the Carillon dam. The fall between this basin and the lake of Two Mountains or Oka lake is overcome by the Carillon canal, built by the Royal Engineers about 1830. See page 16.

Oka lake is twenty-five miles in length,—the last reservoir of the whole Ottawa system. It extends from Carillon and Point Fortune past Hudson and Oka villages to Ste. Anne and St. Eustache.

The connection between the waters of the Ottawa and those of the St. Lawrence is made by four branches:—

The most westerly is the Vaudreuil branch, separating the mainland from Ile Perrot.

Next, the Ste. Anne branch, separating Ile Perrot from Montreal island.

Then the Back river, separating Montreal island from Ile Jesus, and, lastly, the St. Eustache branch, separating Ile Jesus from the mainland.

#### EARLY VOYAGEURS—1600-1700.

In 1600, the Rideau, South Nation and Rigaud river valleys were occupied by Algonquins. The so-called Petite Nation division of this tribe occupied the vicinity about Papineauville. The Grand Nation division inhabited Allumette island.

Samuel Champlain left Montreal (1613) and proceeded up the Ottawa to Allumette island, remaining some days with Chief Tessouat, who had a village and cultivated gardens near the present site of Pembroke. It was decided not to embark in any way that season, so the French returned to Montreal. In 1615, however, Champlain, accompanied by eight white men, passed up the Ottawa to Mattawa, thence to Lake Nipissing and down the French to Georgian Bay and by the Trent valley to Lake Ontario.

Paul Maisonneuve founded Montreal 1642.

Nicolas Gatineau dit Duplessis, lived at Three Rivers and traded up the St. Maurice and down the Gatineau river, 1650.

In 1660, the Ottawa river was deserted by whites from Oka lake to Nipissing, and was under the domination of the Iroquois. They had systematically driven out all other tribes, to secure the monopoly of the beaver catch, which they sold at Albany on the Hudson.

By the treaty of 1669, they were still at liberty to hunt over the district, but this was stopped in 1683 and never resumed. Nevertheless, till 1697 they constantly attacked traders. Fights took place at Carillon, L'Original, Calumet, Rideau falls, Chaudière falls, Deschenes lake, Calumet island and Lake Nipissing between 1684 and 1697. Dollard's fierce fight was to intercept a foray of these savages upon Montreal and the ferocious massacre of Lachine, August, 1689, was another evidence of the Iroquois fury.

François Marie Perrot married a daughter of Intendant Talon and was governor of Montreal in 1670. He obtained a grant of Ile Perrot and became a lawless pirate. He was placed in the Bastille, 1674, but afterwards resumed his evil practices.

Capt. Jacques Bizard, a Swiss in the guards of Frontenac, was town-major of Montreal, 1674, and died there 1692. The island at the entrance to Back river was granted to him.

Philippe Carrion du Fresnay, of the Carignan regiment, established a trading post in Carillon island about 1665, and carried on illicit trade like Perrot. The name of the island has been corrupted into 'Carillon.'

Daniel Greysolon du Lhut, in 1689, defeated a party of Iroquois somewhere on Oka lake. Next year the Iroquois chief, Chaudière Noir, massacred a party of French traders near Carillon and kept the district in terror for five years. He was finally killed by a young Algonquin Indian.

About 1700 France inaugurated a new policy and forts were built along the St. Lawrence, which then became the military route, but fur traders still passed by the Ottawa river.

Their canoes, heavily laden with fur, had no choice but to creep along the north shore of Lake Superior to the Sault, avoiding the danger of gales by closely hugging the shores and cutting from headland to headland. Below the Sault, a fairly sheltered passage could be had between the Manitoulin islands and the north shore, leaving only about fifty miles of dangerous navigation to the mouth of the French river, whence the whole route was very much less exposed to wind than that by the St. Lawrence, although very many portages had to be made.

This trade, however, only meant a journey up in the early summer and a return during the Autumn, so that no settlement whatever was made along the route during the succeeding two hundred years. Even the commerce of the North-West Company, although great in itself and pregnant with romance, was selfish in its nature, and did not tend to civilize or develop the valley nor to open its broad fields to the benefit of humanity or turn its water powers to the manufacture of the world famous pine forests, that crested its shores.

Thus, at the close of the eighteenth century, Ste. Anne was the last church where the voyageur committed himself to God's care for the half year, that must elapse before he could return to the habitations of his fellow men.

#### PHILEMON WRIGHT'S SETTLEMENT.

It remained for a man from Massachusetts to break the spell of inactivity and win to Canada the lumber markets of the world.

Having made a reconnaissance in 1798 and '99, he boldly left his interests near Boston and, with five families and a score of able bodied workmen, accomplished the winter journey with sleighs to Montreal, where they arrived in February.

His name was Philemon Wright. Of Kentish stock, born at Woburn, Massachusetts, in the year of Wolfe's victory, he, in time became, like his father before him, a successful farmer and cattleman.

Land was rather scarce in Massachusetts, and the adherents of the old British regime had a none too enviable existence among the extremists of the late revolution. He was of Puritan descent and had learnt to do things, but the space and environment were not congenial to the attainment of his ambition. Thus we find him in mid-winter at Montreal, undaunted by snow and ice, but eager to take a trip far into the interior with men, who had never undertaken such an enterprise, and during the season, when even the hardy voyageur would never have attempted such a feat.

In a few days the caravan of horses, oxen and sleighs left Montreal, and in five days, arrived at the absolute western boundary of civilization, that is, at the head of

Oka lake. So far, the party had slept each night in farm houses. Now there was no road, no farm house, and the battle began with the forest primeval. A road had to be cut through the bush up to the present site of Hawkesbury, a distance of twelve miles—which occupied four days. At night the men slept beneath the blue canopy of heaven, well content to once more rest upon ground ruled by their beloved old Sovereign, George III.

At Hawkesbury the party took to the ice, which was covered by a foot of snow, and this was their first experience of such travel. The men preceded the teams, testing with axes at every step. In this way, on the fifth day (7th March, 1800) they reached Hull, which had previously been chosen by Mr. Wright as the site of his future colony.

Without delay trees were cut down and camps built, and, so soon as the snow had gone, ground was put under cultivation. By the autumn of the same year (1800) a mill had been built, and the good Massachusetts farmers were delighted at the abundant harvests yielded by the new land.

#### THE WRIGHT FARMS.

Farm after farm was brought under cultivation by Mr. Wright, and, in his evidence before a committee of the Quebec legislature in 1823, the following list of his cultivated properties was presented.

'No. 1. 1880.—This farm was begun by P. Wright, junior, and is called the Grand or Ottawa river and was used as a farm for raising stock upon. Owing to the spring waters covering it about once every seven years, sometimes we are obliged to put the stock and cattle on the high lands, as the waters remain about ten days upon this fine meadow. This farm is now managed by Sarah Wright.

'No. 2, 1820.—This farm was begun by P. Wright, and is now superintended by T. Brigham, and is called the Waterloo farm; it is chiefly made use of as a meadow and hay farm; cleared land about 120 acres.

'No. 3, 1810.—This farm was commenced by E. Chamberlin, and is called Chamberlin farm, and is now superintended by Asa Meech, and has about 200 acres of cleared land.

'No. 4, 1817.—This farm was commenced by John Rousenstrum, and is called Larnard farm, and is superintended by Larnard; has about 35 acres.

'No. 5, 1818.—This farm was commenced by Andrew Sandstrum, and is called the Swedish farm, and is superintended by T. Brigham, and is used as a grazing farm for the Columbia farm, and has about 15 acres cleared.

'No. 6, 1818.—This farm was commenced by David Benedict, and is called Benedict farm, is superintended by R. Wright, has about 30 acres under improvement and is used for grazing, pasture and mowing.

'No. 7, 1818.—This farm was commenced by Chase, and is called Richard's farm; is superintended by Richards, has about 80 acres of cleared land.

'No. 8, 1821.—This farm was commenced by P. Wright, jr., and is called the Chaudière Lake farm, and is superintended by Charles Sims (Aylmer), has a good house and store and lies upon the borders of the lake and is used as a public stand and tavern.

'No. 9, 1821.—This farm was commenced by G. Gilson, and is called the Gilson farm, and superintended by Gilson, and has about 15 acres cleared.

'No. 10, 1821.—This farm was commenced by John Underhand, and is called the Buckingham farm, and is superintended by Underhand, and has about two acres of cleared land.

'No. 11, 1821.—This farm was commenced by Wyer Levit, and is called Templeton farm, and is superintended by Levit, and has about 60 acres of cleared land.

'No. 12, 1821.—This farm was commenced by Vallie, and is called Vallie farm, and superintended by Vallie, and has about 40 acres cleared land.

'No. 13, 1822.—This farm was commenced by C. C. Wright, and is called the Gateno Height farm, and superintended by C. C. Wright, and has about 60 acres cut down and 30 under improvement.

'No. 14, 1822.—This farm was commenced by Abijah Lardord, and is called Lock Harbour farm, and is superintended by J. Foubert, and has about 12 acres cleared.

'No. 15, 1822.—This farm was commenced by Thomas Brigham, and is called Brigham farm, is also superintended by him, and has about 12 acres of cleared land.

STOCK AND EQUIPMENT.

Number.	Houses,	Barns,	Stores,	Cleared acres of land,	Saw Mills,	Horses,	Oxen,	Cows,	Sheep,	Pigs,	Goats,	Tons of Hay,	Acres of Oats,	Acres of Wheat,	Acres of Potatoes,
1	2	1	0	350	0	5	4	12	12	20	0	130	15	25	20
2	1	1	0	120	0	2	2	3	0	2	0	60	10	10	20
3	2	1	0	200	0	2	2	9	0	3	0	110	12	15	15
4	1	1	0	35	0	0	0	2	0	0	0	20	0	6	6
5	1	0	0	15	0	0	0	0	0	0	0	0	0	0	0
6	1	0	0	30	0	0	0	0	0	0	0	5	0	0	0
7	1	1	0	80	0	1	4	3	0	7	0	50	8	15	20
8	1	1	2	30	1	2	2	2	0	4	0	0	0	4	0
9	1	1	0	15	0	0	2	2	0	3	0	15	2	3	3
10	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
11	1	1	0	60	0	2	4	3	0	9	0	20	8	10	15
12	2	1	0	40	0	1	2	3	0	6	0	10	0	4	6
13	1	1	0	60	0	1	6	5	0	16	2	10	2	15	10
14	1	1	0	12	0	1	1	0	0	2	0	5	2	2	2
15	1	1	0	12	1	2	2	3	0	4	0	5	1	6	5

It is here reproduced as an astounding record of perseverance and well directed energy. In 1806, Mr. Wright took out his first raft of square timber, which he succeeded in conveying safely to Quebec. His proposition, to take cribs down the Long Sault and Carillon rapids, was regarded as impossible at the time, but nevertheless he accomplished the feat, arriving at Montreal island in twenty-eight days, whence he descended by the Back river, finding it preferable to the route by the St. Lawrence.

In May, 1808, after years of labour, a fire destroyed Mr. Wright's mill and buildings, but his raft was saved and the profit of its sale was utilized to build another mill in the autumn. In 1811 a thousand bushels of wheat were raised on the various farms, which were disposed of at \$3 per bushel, owing to war prices.

In 1817 Mr. Wright was married by a notary at Grenville, the wedding party having proceeded down the river in four large bark canoes, but in 1819 he had built a steamboat, ninety-three feet keel, which plied between Hull and Grenville. He also stated (1823) that it was his intention soon to place a boat upon Aylmer lake.

STEAM NAVIGATION.

The matter of early steam navigation in Canada is very interesting, and it may not be out of place to here review it at some length. The first application of steam to the propulsion of a boat is a rather vexed question, and several rival claims are put forward for the honour. In 1773, Fitch, an American, propelled a steamer on the Delaware river by paddles, but the project was soon abandoned. Five years later, Patrick Miller, of Edinburgh, fashioned a steamboat, which went at the rate of five miles an hour, and in the following year, with Symington, built another steamboat, that attained a speed of seven miles an hour towing a load. Robert Fulton was an

American artist, who went to England inspired by the success of Benjamin West. He was introduced to the Duke of Bridgewater, and, under him became a canal engineer, and made many experiments with steamboats. In 1803 Fulton launched a boat upon the Seine, which, however, immediately sank with the weight of its machinery. In 1807 he, having studied the various experiments in Europe, built a steamer, with engines by Boulton and Watt. This made the voyage up the Hudson from New York to Albany, a distance of one hundred and fifty miles, at the rate of five miles an hour, which was regarded as an astounding feat.

Inspired by this, Mr. John Molson, of Montreal, built a boat called the *Accommodation*, on the shore behind his brewery. She was launched sideways, and fitted with engines made by Boulton and Watt at the Soho Works. The *Accommodation* went from Montreal to Quebec in November, 1809, at the rate of four miles per hour. Between 1809 and 1812, Mr. Molson built the *Swiftsure*, *Malsham*, *Lady Sherbrooke* and *John Molson*, which steamers were engaged in the transportation of troops and supplies between Quebec and Montreal during the war of 1812.

The first ship actually to steam across the Atlantic without sails, was a Canadian—the *Royal William*—launched at Quebec, 1831, her engines coming from England. In 1832 she went from Pictou, N.S., to Gravesend, arriving September 11, after a twenty-two days' passage. This boat was built by Mr. John Molson, of Montreal. In 1834, she was sold to the Spanish government and named the *Isabel Segunda*, and was the first steamship to fire a shot in action.

#### DEVELOPMENT OF STEAM NAVIGATION BELOW OTTAWA.

The Ottawa, not only had the first steamboat west of Montreal, but maintained a steam navigation equal to the St. Lawrence till the 40's.

The Ottawa valley was opened to settlement about 1800. In 15 years a wooden lock was built at Vaudreuil, and Durham boats began ascending from Lachine to Point Fortune and St. Andrews. All goods, till 1825, were carted from Montreal to Lachine because there was a good road, and there the Durham boats were loaded for both the Ottawa and St. Lawrence routes. By the latter the boats proceeded, by the help of several small canals, to Kingston, but, by the former, their usefulness ended at Point Fortune or St. Andrews. Above this, cartage was resorted to for 12 miles to the head of the rapids at Grenville, and then bark canoes to Hull, till Mr. Wright's steamboat in 1819 revolutionized the navigation of that stretch of river.

Mr. Wright's steamer the *Union* was built at Grenville in 1819. The motive power consisted of two heavy marine side lever engines, made by Messrs. Boulton & Watt at the Soho Works, Birmingham, and imported by Mr. John Molson of Montreal.

The timber commerce so increased the trade that the Durham boats were insufficient, and, in 1826, the first steamboat line was operated between Lachine and Carillon by Captain Johnson on the *William King*, and the next year Captain Lighthall brought out the *St. Andrew*. The latter had formerly been in charge of Judge McDonell's Durham boats that did all the business, freight and passage between Montreal, Point Fortune and St. Andrews.

In 1828, McPherson, Crane & Co., put the steamer *Shannon*, Captain Grant on this route. Meanwhile a great improvement was pending. The American War (1812-14) had emphasized the need of an interior route to Kingston, and, in 1827, the Imperial Government began the construction of the Carillon and the Grenville canals, and also the Rideau canal, Ottawa to Kingston. These were finished in 1833, and immediately we find the Ottawa and Rideau Forwarding Company established, with John Molson a director. He built the steamer *Ottawa*, Captain Lyman the *Shannon*, and other boats for the Montreal-Kingston trade. The journey was stage to Lachine and boat to Carillon 2 days; stage again to Grenville and boat to Bytown and Kingston 3 days, the freight being towed in barges.

The next year saw an experiment launched at Ottawa, the *Nonsuch*, a stern wheel boat, in which the old Boulton & Watt engine of the *Union* was placed. She ran for three seasons, but proved a failure.

In 1841, Captain Shepherd, the esteemed veteran boatman, accomplished several feats of river navigation. In July, he took the steamer *St. David* from Brockville through all the Cornwall and Coteau rapids to Lachine in one day demonstrating the possibility of the now world renowned tourist route. Next day he went to St. Anne and made the first trip of a steamer with passengers on board up the Grenville canal. The same year he initiated the towing of rafts with steamboats, by taking one down Oka lake to the Lallemand rapid for Messrs. Hamilton & Low.

In September 1841, the Ottawa was so low that boats were unable to run the St. Anne rapid, and the first lock there was only being constructed. There was a lock at Vaudreuil, which, however, was owned by a private company that taxed all traffic except their own very heavily. At the request of other shippers, Captain Shepherd examined the rapids and found a channel outside the lock, through which he successfully piloted their barges. This broke the monopoly of the St. Andrews Trading Company at Vaudreuil, which they had enjoyed since 1816.

The completion of the St. Anne lock, autumn 1842, opened the first daily passenger route, without barges in tow, between Montreal and Ottawa. The steamer *Oldfield* was operated on the lower part, Montreal to Carillon, and the *Albion* on the upper portion, Grenville to Ottawa, with a stage line between Carillon and Grenville. The owners were Sir George Simpson, Governor of the Hudson's Bay Company, and Messrs. Momarquette, Gibb & Shepherd.

The route, however, faded into only local importance with the opening of the St. Lawrence canal system, 1846, and the old proprietors sold out to engage in the larger field of enterprise.

The existing railway was built in 1857 by Sykes and De Berg, and bought by the present navigation company in 1864. See page 15.

The towing business on the Ottawa received a great impetus about the fifties when the Chaudière water powers began to be developed and sawn lumber was shipped to Montreal and, via Whitehall, to New York.

Some of the best known steamers were the *Pioneer*, 1848, *Britannia*, 1852, *Queen Victoria*, 1865, burnt at Carillon, 1879, and the *Peerless*. Propellers began to be used after 1840.

The Montreal and Ottawa Forwarding Company was dissolved in 1884, and succeeded by two freight lines, the Ottawa Forwarding Company and one organized by Captain Hall, of L'Original. These amalgamated in 1890, and have now, several staunch propellers carrying local freight, salt, hay and farm products to and from the fifteen or twenty wharves between Ottawa and Montreal.

The lumber transport is done by powerful tug boats, towing four to six barges each, carrying from a quarter to a third of a million feet. The fleet of six tugs and eighty barges is owned and operated by Captain Denis Murphy, of Ottawa, who has been engaged in this business since 1856. The traffic amounts to about half a million tons per year, of which 80 per cent is lumber.

The passenger traffic is still carried on by the Ottawa River Navigation Company, founded in 1842. They operate a side wheel steamer, 5 feet draft, between Ottawa and Grenville, and a similar one from Carillon to Montreal via St. Anne and the Lachine rapids.

It will be seen that the early canoe traffic continued for 200 years till the bateaux began to be used between Lachine and Point Fortune about 1810.

In 1819, Mr. Wright's steamboat, *Union*, between Hawkesbury and Hull initiated the steam era in the valley. In 1825, steamers were run between Lachine and Point Fortune, and 12 miles of rapids from Carillon to Hawkesbury constituted the only break between Lachine and Hull.

The opening of the Carillon, Chute-à-Blondeau and Grenville canals in 1833, made continuous navigation to Bytown and thence by the Rideau canal to Kingston, where the lake schooner took the business, the steamboats descending the St. Lawrence rapids to Montreal.

This circuitous system continued in vogue till 1846, when the 9 ft. draft canals down the St. Lawrence turned both the up and down traffic to that route.

#### DEVELOPMENT OF STEAM NAVIGATION ABOVE OTTAWA.

West of Ottawa, of course, the lumber trade required a navigation system. The first steamer on Deschenes lake was the *Lady Colborne*, Capt. Blackburn. Bouchette states, 1832, that it is 'hoped the benefits of steam navigation will soon be secured,' so the boat was probably launched, 1833. In 1846, the *Emerald* and *Oregon* (iron plate hulls) were built by Messrs. Egan and Aumond, thus inaugurating the Union Forwarding Company, whose steamers did all the transportation for the valley west of Ottawa during the next thirty years.

The first step in this route was the eight mile drive from Ottawa to Aylmer, long famous as the Holt stage line. There was a good macadam road, and freight was forwarded by large wagons carrying as much as five tons in one load. Supplies for the lumber camps, pork, beans, molasses, tea and axes, chain and rope were hauled daily all summer to the steamer wharf at Aylmer.

A side wheel steamboat left Aylmer each morning for the Chats Falls, 25 miles up. Passengers were landed at a low level wharf in Pontiac bay, and elevated by a rising platform about 40 feet to the top of the rock cliff. They then embarked on a tram car drawn by two horses in tandem, and were carried three miles to the foot of Chats lake, where they boarded another steamboat that proceeded up the lake, and through the Chenaux current at low water to Portage du Fort. See page 29.

On Chats lake, the steamers *Oregon*, *Alliance* and *Prince Arthur*, all side-wheel boats of about 5 feet draft, did the freight and passenger business. During high water an auxiliary steamer was used between the head of Chenaux island and Portage du Fort, because the current was then so swift that passengers and freight had to be landed at the foot of the island.

The more usual route, however, was for the Chats lake steamer to land her passengers at Farrell bay below Chenaux current, whence they proceeded by stage to Cobden. Here a stern wheel steamer plied down Muskrat lake and river to Pembroke, following the ancient Indian trail over which Champlain passed in 1613. See pl. 9.

From Portage du Fort to Bryson, 12 miles, stages were again in requisition as the Grand Calumet falls and rapids below prevented navigation.

The steamer *Calumet* ran from Bryson up the north channel to LaPasse thence up Coulouge lake to Paquette rapids, which it was able to surmount and continue up the lake past Westmeath to the foot of Morrison island. Here the passengers walked up the length of the Allumette rapid and took a ferry to Pembroke, the capital of the upper Ottawa. During low water the steamer up Coulouge lake continued through the Culbute channel to Chapeau, where there was a stage line across the island and a ferry to Pembroke. The steamer *Calumet* was burnt and replaced by the *Sir John Young*.

This route from Bryson to Pembroke bid fair to become important and, after much agitation, combined locks, of wood, 200 feet long, 45 feet wide with 6 feet of water on the sills were built in 1877 to overcome the Culbute rapids. They were, probably, the largest wooden locks ever built, but were hardly used, as the railway was about that time extended to Pembroke and northwards, completely diverting the traffic.

Above Pembroke there was uninterrupted navigation for forty miles through the beautiful *Deep river* to Des Joachims rapids. The first passenger boat on this route

was the *Pontiac* in 1854, then followed the *Pembroke* 1860, the *John Egan* 1873, the *Christopher O'Kelly* the *Empress* and the *Ottawa*, 1882. At present the *Victoria*, 1896 gives a daily service.

Above Joachims, there was the steamer *Kipawa* to Rocher Capitaine and, between these rapids and those of Deux Rivières, the steamer *Deux Rivières*. The final stretch to Mattawa was made by the steamer *Mattawa*. But the glory departed from the route with the advent of the railway. First the passengers slackened; then the freight and then the rafts disappeared and the present boats are used for log towing alone

#### ECONOMIC DEVELOPMENT OF THE VALLEY.

The following is a detailed account of the condition of the river at the present day, its wharves, bridges, canals and industries, together with brief historical notes regarding various points of interest. The extreme easterly end of the river may be considered as Bout de l'île, or lower end of Montreal island. The landscape at this point reminds one of a Dutch sea-coast scene, and the alluvial flats won from the early voyageurs the name 'des Prairies', signifying meadows.

A short distance from this easterly end of the river is the Great Northern railway bridge, which crosses from Bout de l'île to Ile Bourdon, and thence to Charle-magne situated at the mouth of the Assomption river.

#### BACK RIVER.

Ile Bourdon derives its name from the Captain of the first sail boat that made its way up to Montreal. It was built at Quebec.

Two or three miles further up is the east end of Ile Jesus where the St. Eustache branch of Mille Iles river joins the main stream.

At mile 8 is Des Prairies village. Here the first indication of rock is seen, and the out-crop creates a rapid of about seven feet fall. Advantage of this was taken many years ago to build a small grist mill, which is still in use.

As we descend, the river banks become higher on both sides, but especially on the north, where they attain a height of seventy feet at the village of St. Vincent de Paul, and maintain that height up to Sault au Recollet.

There are several small islands below St. Vincent de Paul, also two large ones—Cheval de Terre, whose surface is as high as the north shore, and Ile Visitation, which stands at the foot of Recollet rapids.

These rapids extend up four miles to Bordeaux, and consist of a lower fall of twelve feet, a river slope of four feet and an upper fall of ten feet. Their name is derived from the drowning of a Recollet father. He was accompanied by an Indian boy called 'Ahuntsic,' after whom the summer resort at Pont Viau has been named.

Three bridges cross the river within three miles; Pont Viau, a highway bridge, by which a large amount of garden produce reaches Montreal; Bordeaux railway bridge, by which the Canadian Pacific railway leads out of the city to the north shore, and Cartierville bridge, a highway structure, by which St. Martin and St. Eustache farmers cross to the island of Montreal. At each of these three places a large number of persons spend the summer months, and there is an electric railway connection with the city.

For five miles above Cartierville the river has only a moderate current, expanding into almost a lake at Patton island. Above this the river narrows, and a swift current—the Whitehorse rapid—with a fall of four feet intervenes.

For two miles above to the foot of Ile Bizard the shores are about ten feet high, and the Bigras islands divide the river into several channels.

Ile Bizard stands in the entrance of Back river, dividing it into two channels. The northern one is practically a long bay extending down from Oka lake, which



ends in the Lallemand rapids about a mile long with a fall of eight feet. The south channel begins with a rapid, the Cap à l'Orme, falling three or four feet from Oka lake level, then a stretch of lake extending a mile below Ste. Genevieve and joining with the Lallemand rapids at the foot of the island by a one mile stretch of moderate current. Ile Bizard derives its name from a French official, to whom it was granted.

#### ST. EUSTACHE CHANNEL.

The most northerly branch of the Ottawa or Mille Iles river leaves Oka lake just near the head of the Lallemand rapids. The entry is a rapid of about five feet fall, at which the St. Eustache grist mill is located. Below, for fifteen miles to Terrebonne, is a pond dotted with numerous islands, from which it receives its name. The village of St. Eustache was the scene of fighting during 1837, and the church in which the defence was made is still pointed out to tourists. At Ste. Rose, seven miles below, the river is crossed by the Canadian Pacific Railway on its way to Ste. Therese and Hull. Ten miles below Ste. Rose is Terrebonne with a good water power, which has made it a manufacturing centre. Five miles below this the Mile Iles river joins with the Back river again, at Lachenaie.

#### ST. EUSTACHE VILLAGE.

During the autumn of 1837, feeling ran high in the village and surrounding country. The news of the outbreak on the Richelieu arrived the 26th of November, and a band of extremists, four hundred strong, from the village and surrounding country marched to Oka and pillaged the government store, taking all guns and ammunition. They were unable to induce the chief of the Indians, however, to part with three small cannon that were in his care. A Swiss named Girod, plausible, pretentious and without truth, assumed the title of Commander-in-chief and inflamed the mob by his fiery eloquence and false representations.

On Sunday, December 10, the rioters, despite the appeals of the curé, occupied the church, to the exclusion of all other parishioners. They forcibly entered an unfinished building intended for a convent, and appropriated to themselves provisions from the priests' house.

On December 13, Sir John Colborne left Montreal with two thousand men and eight guns, arriving at St. Eustache the following morning. The main body crossed the ice four miles east of the village, covered by a small detachment that occupied the river bank opposite the town. Chenier, with one hundred and fifty men, attempted to cross the ice and oppose this detachment, but the cannon of the main body began firing and he was obliged to take refuge in the church. The troops then took up the position in the village and bombarded the church and convent for about an hour, when, through the overturning of a stove, the building took fire and the rioters surrendered. Chenier was shot through the head while endeavouring to escape. Girod fled before the arrival of the troops, and, hard pressed, committed suicide four days after at Pointe aux Trembles. As was then the custom, he was buried at the corner of the two cross-roads, now St. Lawrence Main and Sherbrooke streets in the heart of Montreal city.

Seventy men lost their lives in this unfortunate affair. The column left the town at four o'clock in the afternoon and marched to St. Benoit. There they met Captain Mayne with his company of the 24th and eight companies of volunteers that he had marched from Carillon on December 12.

There was no further disturbance, and the troops returned to Montreal on December 15, but the village of St. Benoit was set on fire despite the efforts of the

troops to prevent further destruction. The 24th Regiment, it will be remembered, was cut to pieces in Zululand, 1878.

#### FORT SENNEVILLE.

The eastern end of Oka lake is blocked off from the St. Lawrence (Lake St. Louis) by the upper end of Montreal island and Ile Perrot. The upper end of Montreal island was granted to Du Gue of Bois Briant by the King of France in 1672, and in that year the first house was erected. Seven years later it was sold to Le Moyne and LeBer, prominent fur traders of the time. LeBer in 1688 erected a windmill, ruins of which may still be seen. It was loop-holed for musketry defence against the Indians, but was captured two years after the massacre of Lachine despite the gallant defence of Le Ber and his people.

This set-back was only temporary, however, and the indomitable Le Ber family erected a fort and a manor house near the site in 1693, the ruins of which are still pointed out as Fort Senneville. This was for one hundred years the most westerly mill and settlement of the colony.

Montreal was held during 1775-6 by Congress troops, and Cedars, 30 miles west, was occupied by them as an outpost.

#### AFFAIR AT CEDARS.

On May 12, 1776, Captain Forster left Oswegatchie, now Ogdensburg, with thirty-six of the 8th Regiment, and proceeded down the St. Lawrence to Cedars, gathering on the way two hundred Indians.

Captain Butterfield, who was in command at Cedars, surrendered May 19, with three hundred Congress troops. The day after, Sherburn's force of one hundred Congress troops, marching to relieve Butterfield, was captured by Forster, who then advanced to Vaudreuil village. On May 23, two hundred and fifty of his prisoners were placed at Fort Senneville, the remainder being left at Vaudreuil, while the American officers were sent to the Indian mission at Oka.

On May 24, Forster advanced towards Lachine, but found General Arnold entrenched there with two thousand men, so he was obliged to fall back to Vaudreuil.

Arnold advanced to Senneville and burnt the fort, but the prisoners had been removed by DeMontigny to Ile aux Tourtes. Forster's force fired upon Arnold's scows and obliged him to retire. During the next day a cartel for exchange of prisoners was sent to Arnold, and the congress troops were liberated on the 30th of May; Arnold having the 28th returned to Montreal, while Forster went back to Oswegatchie.

Owing to the falsity of Arnold's report of the affair and the animus of Congress, the exchange of prisoners was repudiated and a corresponding number of British prisoners was never released.

#### STE. ANNE, VAUDREUIL AND OKA.

Ile Perrot was granted to a fur trader of that name about the year 1670 (the date of the incorporation of the Hudson Bay Company) and it had its windmill and trading post. It will be remembered that no development of water power was undertaken, the windmill being more cheap and simple and of sufficient capacity for the requirements of that day.

Across the rapids, that divide Ile Perrot from Montreal island, is the pretty town of Ste. Anne. A church was erected here in 1703, at which the voyageurs placed themselves under the protection of their tutular 'Saint Anne' ere they set out on their 400-mile canoe trip to Georgian bay. Here the season's voyage was considered to begin, and the weather-beaten canoemen first welcomed home and friends on their

return in the autumn. This fact so imbued the immortal Moore that he was inspired to write his Canadian boat song:—

“Row brothers, row, the stream runs fast,  
‘The rapids are near, and the daylight is past.’

At the west end of Ile Perrot is another rapid, separating it from the mainland and the village of Dorion or Vaudreuil station. This was the headquarters of the St. Andrew's Trading Company, and stone building bearing the date 1797, is still in existence. A wooden lock was built to overcome these rapids in 1816. Here again the ruins of an old windmill are to be seen.

Six miles above Montreal island the lake is narrowed in by Oka Point from the north. This is a mountain corresponding with that at Montreal. It is remarkable that all these mountains, Rigaud, Oka, Montreal and St. Hilaire, are nearly in the same straight line. Oka was an Indian settlement established in 1721, when the tribe was transferred from Sault au Recollet. Four chapels were built upon the mountain in rear about 1740.

Four miles east of the village is a Trappist monastery and farm established in 1802. Across the lake are the villages of Hudson and Como.

Near the upper end of Oka lake is Carillon island, about five miles below the town of that name. The island and point just above it are practically a presqu'île, formed by the silt from the North river, which flows in at this place.

#### ST. ANDREWS.

St. Andrews may certainly lay claim to being the earliest and most thriving town of the Ottawa valley, although now rarely heard of, as it gradually gave way to Lachute, the village it contributed to build up in the early days. It is situated two miles up the North river at a small fall, that furnished power for its industries and barred further navigation up stream.

In 1810, one Davies, from New Hampshire, opened a store at St. Andrews. He seems to have been an old time surveyor, and to have made a plot of the town site in 1799. He opened a tannery, harness shop, saw mill, grist mill and ashery, and a paper mill—the first in Canada—which was sold in 1810 to a Scotchman named Brown. In 1816 Davies built a lock at Vaudreuil for the St. Andrews Trading Company, which gave them a hold upon the trade of the valley for many years.

During the early days there was a stage line from Montreal to St. Eustache, and up to St. Andrews and Grenville. The trip took 3 days, or two trips per week, and the stage driver's hat was the post office of the valley. In 1826, when steam-boats appeared, the stages were placed between Carillon and Grenville, in competition with the south shore stage line from Point Fortune to Chute à Blondeau, in Hawkesbury.

St. Andrews was the distributing port for the territory now included in the counties of Argenteuil and Two Mountains. In 1814 the following prices ruled for provisions: Corn, \$2; rye, \$2.50; and salt, \$2.40 per bushel; sugar, 40 cents and tea, \$1.80 per pound; coloured cotton, 60 cents, and cambric, 74 cents per yard.

South of this is the town of Rigaud on a small river of the same name. About a mile up from the mouth is a dam and mill. In rear of the village is Rigaud mountain, upon the summit of which is the so called ‘Devil's Garden,’ an aggregation of rounded stones the remains of a glacial moraine.

#### CARILLON.

The lake ends at Carillon rapids, 50 miles from Montreal. There are two towns, Point Fortune to the south and Carillon on the north. Carillon is likely named after Philippe Carrion.

The land here was granted by the Seignior before 1800, but Captain Schagel was the first to build house (1804). The settlement was of small importance till the military canal was begun, 1827, when it at once became the headquarters of officialdom.

Commissary General Forbes was its leading figure and motive force. He was born in 1786, and fought as a young ensign at Waterloo. When ordered to the Montreal command, he became attracted by the exquisite charm of the view from Carillon hill, so built a residence — 'Bellevue' — in 1827, where he entertained lavishly the different governors and distinguished civil and military personages. The residence still exists, and also a stone hotel built by him and occupied by the Royal Staff Corps during the canal construction, but a mill, a brewery and other ventures proved failures and have gone to decay.

During 1837 Forbes acted as military adviser to Sir John Colborne. Strangely enough, a Swiss, the tutor to the Forbes family, was Girod, who incited the habitants of the district to riot, but deserted there when conflict became imminent. He boasted that he and his 'staff' would eat their Christmas dinner at 'Bellevue,' and wash it down with the commissary's wine.

The citizens of Carillon and the neighbourhood organized eight companies of militia under Captain Myers of the 24th regiment and occupied St. Benoit in December, 1837.

The commissary was also a magistrate and tried local cases, so that the Bellevue cellars frequently held rowdy shanty men as well as sherry.

When canal construction was completed in 1834, Carillon of course diminished in size, but still had the increased boating business. This, however, disappeared on the completion of the St. Lawrence canals, (1846) never to return, but a revival of trade set in with the development of the lumber industry at Ottawa in 1860, and, twelve years afterwards, the canal was enlarged and the Carillon dam completed.

#### CHUTE-Â-BLONDEAU.

Before the Carillon dam was built, a rapid existed between the Carillon and Grenville canals, which was overcome by a short canal and lock along the Quebec shore. This rapid is extinguished now by the dam, but on the south shore opposite Greece Point is a sawmill and the old village of Chute-à-Blondeau on top of the steep bank. The pioneer was Wyman, who came from Massachusetts in 1840 and erected a grist mill. It was a stopping place for the men engaged in working the square timber rafts through the Long Sault rapids, and Kirby's hotel was a well known hostelry in the old days.

Rafts usually consisted then of 72 cribs. They were anchored at Grenville, the head of the Long Sault, and were divided into 'bands' of six cribs for running the rapids. It required one pilot and thirteen men for each band, and this crew made three trips a day from Hawkesbury to Point Fortune. A number of jobbers or extra hands squatted in the vicinity of Chute-à-Blondeau, and when the raft running was over, they lived the rest of the season as best they could, without farms or regular employment. The settlement became notorious for thieving and lawlessness, and at one time the Chatham farmers organized a raid upon the squatters to punish their misdoings.

Near Chute-à-Blondeau is supposed to be the site of the defence of Dollard and sixteen associates against a party of 300 Indians in 1660. The Indians seem to have made the locality a favourite resort and camping ground. Many relics and bones have been found about the farm and quarry of Mr. Ross, who settled here in 1840.

In 1857 a railway was constructed between Carillon and Grenville as the commencement of a line between Bytown and Montreal. Work was commenced also at

Montreal and St. Eustache and St. Andrews on an extravagant scale. A stream mill was built at the latter place to saw lumber, wells being bored to supply water for the boilers. Construction proceeded for two years, the financing being done by the firm of Sikes & De Berg, but the latter gentleman was accidentally drowned, and it was found impracticable to proceed. Carillon to Grenville was the only portion completed, and serves to transfer passengers and avoid the loss of time in passing the canals. It was, therefore, bought by the Navigation Company in 1863. It is the only Broad gauge railway in America, being 5 ft. 6 in.

#### MILITARY CANALS, CARILLON TO GRENVILLE.

Carillon was a military post during the construction of the canal there by the Royal Staff Corps, in 1827.

Regarding this canal I quote from Mr. T. C. Keefer's Canals of Canada, 1894, page 17: 'The St. Lawrence route was by the Royal Engineers considered to be too near the frontier for a military one. The influence of the Imperial government was exercised in favour of an interior route between Montreal and Kingston, via the Ottawa and Rideau rivers. The Government of Upper Canada was offered financial aid in 1824 to undertake the Rideau canal, but declined upon the ground that the St. Lawrence would best serve the interests of the country. The British government decided in 1826, however, to carry out the inland communication which had been commenced upon the Ottawa at Grenville in 1819.'

The Imperial government operated these canals till 1856, when they were handed over to the provincial authorities. The 9-foot St. Lawrence canals, completed 1845, rendered the Rideau and Ottawa system commercially of little importance. All the canal records were burnt in the ordnance office, Montreal, during the riots of 1849.

The Carillon canal originally ascended 21 feet of a rocky bluff by two combined locks at the foot, the walls of which were formed by the rock cutting itself. It then descended 13 feet back into the Ottawa. The summit was supplied by a feeder from the North river. This canal may be traced upon the ground at the present day, and the two locks at Carillon and that at the upper end are in good enough condition to show all the details of construction. The length of the canal was 2.9 miles. A defensible house of stone is yet to be seen at the upper lock. The weir for feeding the summit from the North river can yet be traced, but is much fallen to decay. The locks were 106½ feet long, 19½ feet wide, with 6 feet of water on the sills.

About 3¼ miles above the Carillon canal was the Chute-à-Blondeau rapid, named after a resident drowned there in the early days, but anglicized into 'Shoot-a-Blunder.' To overcome this a lock of 3-6 feet lift, with a short canal, was constructed along the main shore. The lock wall consisted of the natural rock, upon which a masonry wall was built, as the rock surface was not high enough. The lock gates are in place and the construction can be clearly traced.

The proposal to use the natural rock as part of the sides of the lock chamber in the present project, is only a return to the practice of 1828.

One mile above the Chute-a-Blondeau was the lower entrance to the Grenville canal, which surmounted the Long Sault. The length of canal was 5½ miles, with seven locks rising 45 feet. The three lower locks were first constructed of the same dimensions as the old Carillon canal below, that is, 106½ feet to 108½ feet long by 19½ feet wide, capable of passing vessels 96 feet long, 19 feet beam and 4½ feet draft. The four upper locks were, however, 129½ feet to 131½ feet long by 32½ feet wide.

There seems to have been a great variation of ideas as to the proper length and width of the early locks in Canada. In this connection I append a table from Mr. T. C. Keefer's Canals of Canada, 1894.

DATES AND DIMENSIONS, CANADIAN LOCKS.

Year.		Length.	Width.	Depth.
		Ft.	Ft.	Ft.
1798	Sault Ste. Marie	38	8½	2 on sill.
1780	Locks at Cascades and Coteau	35	6	2½ "
1804	Locks at Cascades and Coteau	110	20	4 "
1819	Military canals, Ottawa River (Grenville)	106½	19½	6 "
1825	Lachine Canal	100	24	4½ "
1829	First Welland Canal (wooden locks)	110	25	5 "
1832	Rideau Canal	134	33	5 "
1834	Grenville Canal (Ottawa River)	130½	32½	6½ "
1834	Carillon Canal (Ottawa River)	126½	22	6 "
1834	Chute-a-Blondeau (Ottawa River)	131	33	6 "
1843	St. Anne Lock (Ottawa River)	190	45	6 "
1843	Chambly Canal (Richelieu River)	118	23	7 "
1843	Corwall Canal (St. Lawrence River)	200	55	9 "
1846	Beauharnois Canal (St. Lawrence River)	200	45	9 "
1846	Second Welland Canal	150	26½	10½ "
1847	St. Ours Lock (Richelieu River)	200	45	7 "
1880	Culbute (Ottawa River) wooden lock	200	45	5 "
1890	St. Lawrence Lock and Welland	270	45	14 "
1890	Grenville (Carillon and Ste. Anne)	200	45	9 "
1892	Sault Ste. Marie	900	60	19 "

The Trent canal locks were of similar dimensions to those of the Rideau.

It appears that seven locks were constructed between 1819 and 1826, that is the three locks of the old Carillon, the Chute-a-Blondeau lock and the three lower locks of the Grenville Canal, of a length of 106 feet and width of 19½ feet, with 6 feet of water, but the remaining four locks on the upper end of the Grenville were made 129 by 32 feet, with 6 feet depth. The Carillon locks and the Chute-a-Blondeau locks seem to have been enlarged to 129 feet by 32, but the three lower locks of the Grenville canal were still only 106 by 19 and limited the size of vessel until 1865 at any rate.

The St. Anne rapids were not included in the military scheme. There is only about 3 feet fall, and probably boats were towed up or passed by the wooden lock at Vaudreuil. As the Lachine locks were only 100 x 24 x 4½ compared with 134 x 33 x 5 for the Rideau, it is possible that the intention was to have the military system of canals extend down the Back river instead of via St. Anne. The Grenville locks were commenced before the Lachine.

The St. Anne lock was begun in 1839 and completed June, 1843. It was 190 feet x 45, with 6 feet depth.

The Lachine canal was first proposed in 1791, but, as the wagon road was excellent from Montreal to Lachine, only seven miles, no canal was undertaken and Lachine was made the starting point. This is why the canals and locks at Cascades and Coteau were constructed before the Lachine. The Lachine was built between 1821 and 1824, with seven locks 100 feet long, 20 or 24 feet wide and 5 feet depth.

ENLARGEMENT OF OTTAWA CANALS.

The navigation between Carillon and Grenville was enlarged, in 1871 at Grenville and 1873 at Carillon. Carillon was completed in 1882 and Grenville in 1887. The traffic on the military canals between 1858 and 1867 had doubled, due to the rapid development of lumbering at Ottawa. A dam was built across the Ottawa river at Carillon, raising the water 9 feet and obliterating Chute-a-Blondeau rapid. The old summit canal at Carillon was abandoned, and a new one, three-quarters of a mile long, with two locks, constructed along the north shore.

The river stretch to Greece Point, at the foot of the present Carillon canal, is nearly six miles. The Grenville canal enlargement followed closely the old military

canal, and the locks were used as weirs for the new canal. There are three locks in the lower mile and a half, then a three mile reach and two locks in the upper mile and a half,—total lockage, 45 feet. All the locks are now 200 feet x 45 x 9 feet of water, the scale fixed for the Ottawa and Lake Champlain route, but the Chambly canal has never been deepened, nor has the New York State canal between Lake Champlain and the Hudson river.

#### CARILLON DAM.

The plans adopted for the Carillon dam, after the survey of Mr. Bell in 1879, were similar to those proposed by Mr. Clark in 1860, but the locks were built on the north side instead of Clark's location on the south. The outside bank of the Carillon canal is of clay and rock, protected on the river side by cribwork, this toe crib in turn being protected with rip rap. On the canal side is a cement rubble wall, with 3 feet of puddle behind it.

The dam is an arc about 1,700 feet long, with a double timber slide near the south shore; originally the river was divided into three channels by reefs of rock, the south channel 100 feet wide, the centre 400 and the north 100 feet, the bottom being covered with gravel and boulders.

At the end of three years, only the crib foundations of the dam in the shallow parts had been completed, a length of 1,500 feet. A new contract was let in 1879 and the plan modified to detached piers with gates between. In 1881 the old military canal was closed and the new one opened to traffic, but in 1883 the current had undermined the shale rock beneath the cribwork, and practically a reconstruction had to be undertaken. A crib was sunk 1,000 feet above the break, and from it other cribs were let down by cables until a ring dam was formed above the gap. The deep hole scoured out in the rock was filled with cribwork of a very solid kind; the other portions of the dam were repaired and the whole work completed in the autumn of 1884.

The depth of water flowing over the dam varies from a foot at low stages to 10 or 14 feet at high.

The dam is equipped with a timber slide, and, being the last on the route, its records indicate the growth and decline of the square timber business. In 1882 there were 73 rafts of 50 cribs, or 3,650 cribs passed; in 1895 only 6 rafts of 200 cribs, or 1,200 cribs. In 1870 there were about 1,400 cribs of timber. Of late years practically no square timber has been taken down, as detailed orders for dimension timber and plank are sent from the British and other markets.

#### POINT FORTUNE.

Point Fortune was for thirty years after 1800 the Castle Garden of the Ottawa valley. All the settlers passed by there till the canal was constructed in 1833 on the north shore, giving Carillon the pre-eminence.

Colonel William Fortune received a grant of 1,000 acres on the Ottawa in 1788. He was an old time surveyor and the village was named after him, but there was another Fortune—a bad Fortune, who, as is ever the case, constantly became mixed with the good Fortune. At L'Original he is reputed to have had a hotel, but got into difficulties and was obliged to remove. The village was situated just on the boundary line between Ontario and Quebec, so sagaciously enough, he built a house straddling the line, and then defied the excise officers of both provinces.

After 1763, several individual fur traders trafficed in the Ottawa valley and northward, encroaching upon the territory of the Hudson's Bay Company (founded 1670). About 1784 these traders combined to form the Northwest Fur Company, with headquarters at 'Beaver Hall,' Montreal. Brigades of this company's canoes left Lachine each spring and Point Fortune, 40 miles west, and just at the foot of the first for-

midable rapid was the natural stopping place, St. Anne being but a current in comparison. In busy seasons thirty canoes each with eight to twelve men, laid up for the night at the village to gum the joints of the birch bark and prepare for the arduous work of the morrow.

In 1810, J. J. Astor of New York started a canoe line up the Ottawa to the north-west states. One or two large canoes carrying four tons did go through, but the war of 1812 stopped the scheme.

Colonel John Macdonell, who was an old 'Norwester' settled at Point Fortune in 1813, and four years later built a stone house which remains to the present. There were then but six permanent habitations, but soon this energetic gentleman built a grist mill and embarked in other ventures—storekeeping, potash making, lumbering and farming. Thus does one orderly and disciplined mind found a settlement, where for 200 years, there was nothing more abiding than the tent of the nomadic voyageur.

It is stated that Colonel Macdonell built a short canal, with a lock to pass boats up the worst part of the rapids above the village. No trace of this is to be seen to-day, but possibly the Carillon dam effaced it.

Miles Macdonell, a younger brother of the Colonel, and of Bishop Macdonell of Glengarry, was one of the romantic and devoted young men who attached themselves to the Selkirk schemes.

The Carillon canal, opened in 1833, allowed business to passup without paying tribute to either town, but still a stage line for passenger traffic continued on both sides of the river till the opening of the St. Lawrence canals in 1846. Steamboats hitherto had been obliged to ascend by the Ottawa and Rideau route to Kingston, their return trip, however, was by the St. Lawrence, running all the rapids to Montreal.

There is a ferry service between Point Fortune and Carillon. It was begun by Schagel of Carillon, probably about 1827 when the canal was commencing. Some years later a horse-power boat was put on by Monmarquette, and operated by Kelly, for 15 years, when it was sold to Poitras who placed a steamboat in the service.

A railway from Rigaud to Point Fortune was built in 1892, and is now a branch from the Canadian Pacific main line. This has improved conditions, and the isolated village now shares in the suburban trade of Montreal.

#### GREECE POINT AND STONEFIELD.

Greece Point, the foot of the Grenville canal, is located on a grant given Brigadier General Allan McNab of the 84th Regiment, the location ticket being dated 31st December, 1788. The grant was 5,000 acres in Chatham, county of York, as the district was then called. It was sold to Major Lachlan McLean, 60th Regiment, in 1790, and by him to John William Greece for \$3,000. Parts have been sold outright, but about 1,000 acres are leased to various parties, who farm or are employed upon the barges or steamboats.

Stonefield, halfway between Greece Point and Grenville, is most appropriately named, boulders being strewn about in all directions, the moraine of an ancient glacier. It is remarkable that people settled on these forbidding lands at a date when splendid areas could be had for the asking. Even yet it is hardly realized that stoney soil will produce a more valuable crop of trees than anything else, and by leaving occasional seed trees the supply will maintain itself.

The early settlers, however, depended on the ready cash from potash, which was a brisk trade till 1830. Sixty large maple trees were felled, cut up and burnt to supply the ashes for one barrel of boiled down lye, which weighed 650 and 700 pounds, worth \$8.50. As the hardwood disappeared, the potash makers went elsewhere, being perforce good axemen, they sought employment with the lumbering firms.

In the lumber shanties they found social enjoyment among their co-workers, and the dangers and excitement of the river driving in the spring conduced to form a



wild, roving and romantic strain that still declares itself in the district. They were brave, generous and proud as Lucifer of their individual prowess in axemanship, woodcraft and river driving. They formed a democracy as perfect as that among school boys. The final resort was fisticuffs and rough and tumble, but never the cowardly firearm of the west and south. Unfortunately, mature years did not bring affluence, ease and mental attainments, so a great Spartan force was lost to Canada.

The stirring lumbering work made farming appear drudgery and humdrum. His farm was but *pie'd-a-terre*. His wife and children sowed the crop, and his home coming was harvest time, but, as youth and strength waned, the farm was seen to be the mainstay. Unfortunately, it often proved to have badly located and poorly tilled, at a time, too, when declining health and lack of knowledge made it impossible to correct the mistake.

#### GRENVILLE VILLAGE.

Grenville was a military village at the time of the canal construction. Its position at the head of an impassable barrier in a great stream, gave it importance as a transfer point, but with the completion of the canals, it ceased to levy toll upon commerce.

In 1802, Archie McMillan, from Lochaber, Inverness, received grants of land in the townships of Grenville, Templeton and Lochaber, the latter named from his native town. He brought out many Highland settlers, and the surveys of the lands and their erection into townships took place between 1803 and 1808.

In 1810, McMillan built himself a large log house called the 'Old Abbey,' and began to reside at Grenville. His nearest neighbours were in Chatham township to the east, and the newly formed Wright settlement at Hull to the west; in fact there was Hull alone between him and China. The only road eastward to St. Andrews and civilization was a footpath along the river fit for sleds in winter; westward there was not even a footpath. Carts hauled freight from Montreal to Lachine, bateaux were rowed or poled up the rapids to Carillon, and then hauled along shore by men and ropes to Grenville. Nevertheless, McMillan and his Highlanders formed a militia battalion for service in 1812-14, but arrived at Pointe Claire too late for the fight at Chateauguay.

He was the first postmaster 1819-28, when the mail to Hull was carried by canoe or on foot for \$8 per trip. The Quebec government granted \$25,000 for a road to Hull, and it was let in two contracts. Papineau built the upper portion and Kains the lower, completing the work in 1830. There were then two steamboats plying to Hull; the canals were in course of construction at both Grenville and Bytown, and the first suspension bridge was about finished at the Chaudiere.

Business was brisk about 1820, due to the rafts, which began to descend in numbers every spring, Captain Pridham's being the stopping place for many river men.

About two miles above Grenville is Calumet, the railway station half way between Montreal and Hull, where the North Shore line Canadian Pacific Railway first comes in sight of the river. This railway was built by the Quebec government (1875), as the Quebec, Montreal, Ottawa & Occidental railway, and taken over five years after, as far as Montreal, by the Canadian Pacific. It passes through Lachute, Calumet, Papineauville and Buckingham, always within a mile of the shore.

#### THE ROUGE RIVER.

At Calumet a steep rock spur of the Laurentians, in which a graphite mine is located, gives the town the appearance of a Rocky Mountain mining camp. Above Calumet the Rouge flows into the Ottawa with a rapid of great beauty. The falls on the Rouge are now utilized for water-power. They have a romantic history, as legend states that they were a place of Indian sacrifice and so-called 'Manitou.' Toward the close of the seventeenth century the Iroquois made a raid upon the French

settlement near Ste. Anne. The marauders retired to the Rouge to hold a war feast, but were pursued and routed by a French punitive force. The Iroquois chief, in attempting to escape up river, was drowned, or fell into a deep fissure in the table rock near Iroquois chute.

This river, 90 miles long, drains a basin of 180 sq. miles, in which are numerous lakes. Nomining, 15 sq. miles; Tremblant, 6 sq. miles, &c., has a tributary—the Maskinonge—30 miles long, that drains Lake Labelle, 5 sq. miles and Cameron, 3 sq. miles. The first timber taken off its basin was in 1904 for the Hawkesbury mills. The year previous a whole gang was drowned in attempting to drive logs. The Hon. J. K. Ward, owned large limits on the Rouge about 1870.

#### HAWKESBURY.

At the head of the Long Sault rapids on the south or Ontario side of the river and opposite the village of Grenville, is Hawkesbury, the largest town between Montreal and Ottawa, and situated just half way from each. Colonel Cole of Vermont settled on lot 2, first concession, East Hawkesbury, in 1790, but moved to Chatham in 1805.

Judge Johnston, who was the first magistrate of the Ottawa district, settled at Hawkesbury, 1796, and his son, the first child born there, was Captain of the 'Union,' 1819, the first steamer between Grenville and Bytown.

Dr. David Pattee and Thomas Mears were the founders of the milling business, in 1805, that endures to the present day. Mears was also the builder of a paper mill—the first in Canada—previous to this, and his was the first store. He also built the steamer *Union*, 1819, referred to above, and another boat in 1823. Stevens, whose name was given to the island below Hawkesbury, was a millwright with Mears, as were also the Herseys from Massachusetts. Dr. Pattee was the first doctor in Longueuil.

The mills were sold in 1808 to the Hamilton brothers, who had come from Ireland to Quebec and begun shipping lumber to Liverpool and building ships. A remarkable series of misfortunes befell the Hamiltons in 1822. Both the brother in Quebec and the one in Liverpool, who was financial agent for the company, died, and the residence of the third brother at Hawkesbury was burned. The finances of the undertaking were thus so upset that the surviving brother was obliged to visit England. On the journey down river, his canoe was upset in the St. Anne rapids and three children drowned. Before Mr. Hamilton's death, however, in 1839, he had amassed a large fortune. Colonel McMillan, the founder of Grenville, before referred to, and Mr. George Hamilton, known as 'Judge,' were intimate friends, and notified one another when entertaining acquaintances, by hoisting flags on either side of the river. Colonel McMillan died of cholera in 1832.

In the country about Hawkesbury, many pensioners of the war, 1812-14 were settled, and lived to ripe old age, five dying between ninety and one hundred. Cobbs island, in front of the town, received its name from the village blacksmith, and some veritable wag christened the adjoining island 'Cobbstail.'

The Hawkesbury mills were a great factor in the development of the valley; the money dispersed for wages on the Rouge, the Gatineau and up as far as the DuMoine, gave great assistance to settlers in their first starts.

The Canada Atlantic, now Grand Trunk railway, built a branch into the town about 1896, and the Great Northern bridge was completed about the year 1900, giving access by that road to Quebec. There is a span of 114 feet over the Grenville canal, with flanking spans of 55 feet each; then a wooden trestle, 315 feet long, leads to the shore, whence the main bridge of seven spans, each 206½ feet, extends across the Ottawa to Hawkesbury. The piers were built in the rapid water, and considerable difficulty was experienced in removing the boulders, gravel and sawdust

which overlaid the rock in some cases. The Ontario end of the bridge is a timber trestle, 1,320 feet in length, which crosses the main street of Hawkesbury.

Lumber may be shipped from Hawkesbury by rail or by barge to Montreal or to Lake Champlain, and coal for the Riordan pulp mills is brought in by boat.

#### L'ORIGINAL.

Five miles above Hawkesbury is L'Original (the moose), the county town of Prescott. There is a saw mill here, and between it and Hawkesbury are two other mills along the shore. The river here expands into a lake for five miles, the south part being a shallow bay, that necessitates a long approach to the town wharf.

The township of Longueuil was granted as a seignioiry to Baron de Longueuil, 1672, being the only one ever granted in the area of the present province of Ontario. It was sold to N. H. Treadwell, 1796, for £1,000, but he would not take the oath of allegiance during the war of 1812-14, and, like other Americans, was obliged to leave the district. His son, however, C. P. Treadwell, recovered his father's land in L'Original, 1823. A homage title was granted, 1827, and he became sheriff of Prescott, and Russell, 1834. He was an active citizen, and advocated a Pacific railroad in 1845.

The first child born in L'Original was John Wurtiele Marston, 1806. His father came from New Hampshire, and visited L'Original with Mr. Treadwell in 1796, settling there 3 years later.

Hon. Alex. Grant, born, 1773, was a Nor'wester, but in 1805 bought L'Original Point and began trading with the Indians on his own account. He discovered Caledonia Springs, 1806. L'Original was called then 'New Longueuil,' and consisted of but a few houses, in fact there were only a few settlers in the county.

Captain Pridham came to Montreal, 1815, and lived in Lachine, leaving there November, 1820, for L'Original, to build a house for Mr. Grant. He made the journey to Point Fortune with his wife by bateau; leaving November 12, they spent the first night at Pointe Claire, the next at Ste. Anne, the next at Como, and finally at Point Fortune, whence the last stage was made afoot. In June, 1821, Pridham walked to Montreal and back; such was early travel along the river.

L'Original became the county seat only in 1825, and then it was but a hamlet of twelve houses. The courthouse was begun the same year, and, in 1828, a delinquent was condemned to the pillory, which stood in front of the courthouse. Among old documents the lash for stealing is recorded 1817, and up to the good full measure of thirty-nine.

Saw-milling and grist-milling were carried on, and later a tannery and a marble cutting shop were erected, the latter still being in existence.

Above L'Original lake both sides of the river are steep, but of only medium height up to Montebello.

#### MONTEBELLO AND PAPINEAUVILLE.

In front of the town is Ile Rosalie, a point of the Laurentian granite that crosses the river just here and gives to it the familiar scenery of the Thousand Islands. Champlain exchanged one of his crew for an Indian here as hostage. At one time, possibly the river had another bed south of this point, along the line of the Georgian lake and other ponds to an outlet in L'Original bay. See plate 6.

Dr. Ebenezer Winters, an American, who had fought at Bunker Hill, settled at Montebello between 1815-20, and practised medicine.

Montebello was the home of Hon. L. J. Papineau, a leading agitator in 1837; after pardon was extended to all participants, he returned to live here in retirement and greatly beautified the place. The seignioiry was granted to Bishop Laval in 1674,

who was, therefore, the first to hold land in the valley, just four years after the Hudson Bay Company received its charter in America. Papineau obtained the seigniorship by purchase. It was about 15 miles square, and included the lower part of the North Nation river basin from Simon lake, and all of the Salmon river basin with its head lake, Papineau. About 1800, Senator Owens purchased 128 square miles of it, and now there is a thriving lumber business at the town of Fawcett at the mouth of the Salmon river.

Papineauville is 4 miles further up, but cannot be seen from the river, owing to a long point of land extending from the mouth of the North Nation river and inclosing a narrow bay in front of the village. There is a steamer wharf on the river side of the point, whence freight and passengers are transferred to the bay and then scowed to the village. The saw-mills of Senator Owens has also a wharf for loading lumber barges.

On the Ontario shore, although steep and fairly high to the mouth of the South Nation, there are several wharfs where the navigation companies land the freight for inland towns; thus Brown's wharf, Lefavre and Treadwell give access to Alfred Centre in Alfred township and Jessup Falls in Plantagenet township.

#### SOUTH NATION RIVER.

The South Nation river drains a basin of 1,400 square miles, stretching back to within 3 miles of the St. Lawrence at Iroquois and Prescott. It was a great factor in the settlement of the townships of Plantagenet, Clarence, Cumberland and Gloucester, fronting upon the Ottawa river. Down its valley and along its tributaries, the Castor, the Scotch river and the Brook, came the lumbermen in search of pine as early as 1810. The logs could easily be brought down to the 'Pitchoff' or Jessup Falls, and here a sawmill business soon developed.

Colonel Fortune scoured land here, 1811, and with Mr. Hagar, built a dam and operated mills, 1812. Plantagenet Springs were discovered, 1800, but were little known till the beneficial effects of the water during the cholera, 1832, brought them into notice.

As settlement proceeded, the river was the highway and lumber was loaded on canoes at the falls and taken up to Casselman; in later years, a tug and scow were in the service.

Prescott county was generally settled by the same class of people as Argenteuil county across the Ottawa, but the ready communication with the St. Lawrence front by the Nation river brought in a number of United Empire loyalists.

In 1816, the Ottawa district was formed out of portions of the present counties of Prescott, Russell and Carleton; till then Prescott formed a part of Glengarry.

Just about the mouth of the South Nation is the village of Wendover, and a wharf serving the township of Plantagenet. Across the river on the north shore is another long neck or presqu'île inclosing Black bay at low water, but completely covered at high. Between Wendover and Clarence are several islands known as the Horseshoe and Thurso islands.

#### ROCKLAND MILLS.

Above these is the town of Rockland, established by the two mills of the W. C. Edwards Company. These mills have created a thriving town; a branch line of the Grand Trunk railway, from South Indian, gives access by rail, and the Canadian Northern railway is under construction. In front of the mills are extensive wharfs. The river is narrow here but very deep, so the current is not swift.

On the Quebec side of the river is the township of Loehaber settled in 1807 by Major McMillan's Highlanders. The principal town is Thurso, and through the township flows the Blanche river, which drains Echo lake and Whitefish lake and is about thirty miles long.

The south shore from Rockland to Ottawa is a narrow watershed about five miles wide, which drains to the Ottawa by small creeks. In rear of it is the basin of the

South Nation river. The land is low on the immediate river front, but rises quickly inland. The mouth of Green creek in Gloucester township is low and marshy.

The Nation is subject to spring floods, because there are no equalizing lakes along its course. At the end of April the river flows at the rate of 24,000 cubic feet per second, but early in the summer its discharge has shrunk to a couple of hundred cubic feet per second. As its flood has passed before that of the Ottawa begins, it has not to be reckoned with in the restraining reservoir system proposed.

Contrary to the general opinion, the clearing away of a forest does not necessarily produce floods. Snow in the woods not drifted, but lies in an even layer shaded from the suns of March and April. It, therefore, does not melt till the warm air, day and night in May melts it like a hot blast, and the snow is discharged suddenly into the streams, in conjunction often with copious rains.

The sources of both the Nation and Rideau rivers are to the south, and liberating slightly before their outlets, arrive on top of a gathering flood. Settlement too brings numerous bridges, each for economy, narrowing the clear way of the river. In ordinary years this does not matter, but when melting snows and falling rains unite to form an extra high flood, then each bridge becomes a partial dam and the flood level is raised a little higher than ever before known. The swamps too have been drained and no longer act as storage reservoirs.

#### TOWNSHIP OF GLOUCESTER.

The Billings were the first settlers in 1803, and it was surveyed in 1820. Billings bridge was the first one built across the Rideau river. Dug-out canoes were used because stronger than those of bark, but the bark canoe was used for light traffic.

In all these settlements the Yankees knew, that the British had to learn by experience, about clearing, fencing, building, stock raising and wintering, so they led the settlements and filled the posts of councillors, justices of the peace, &c.

The Nation river was settled from Glengarry and Cornwall. Nepean and Gloucester were settled about 1810, Goulbourn about 1819, and Osgoode among the last in Carleton. See plate I.

Men working in the shanties observed and remembered the best tracts of land, which they took up as farms when they were able.

#### TOWNSHIP OF OSGOODE.

Osgoode was surveyed along the Nation by McDonald about 1825. It had very fine pine and oak. Grist was taken to Dickenson Landing. The township was cut off from the Bytown settlement as there were no roads, while the Castor and Nation rivers gave them a highway to the St. Lawrence.

The Bytown and Prescott railway was begun about 1853 through the efforts of Mr. Robert Bell, its president, and at one time editor of the *Packet* newspaper.

#### TOWNSHIP OF CUMBERLAND.

Robert Fraser of Cumberland introduced bob-sleighs. Previously timber hauling was done on only one sleigh, while the ends of the pieces trailed along the road. Much larger loads and greater economy were effected by Mr. Fraser's system, but it was only adopted after great opposition.

When the timber was being cleared off, there was a trade in potash from the burning necessary to clear the land for farming, and the revenue from this was considerable.

South Gower was surveyed in 1817; North Gower in 1826. Governor Simcoe's proclamation of free lands and the building of the Rideau canal attracted many settlers from the United States about 1831.

The flooding of the lands by the dams made for the canal is said to have produced malaria, and the country seems to have been unhealthy for some years. Smallpox broke out, and there were practically no doctors.

## TOWNSHIP OF BUCKINGHAM AND LIEVRE RIVER.

On the Quebec side of the river a large area of the immediate shore is flooded every year during high water. It is thickly wooded with a growth of large elm. There is a good wharf at Masson, which serves the village of Buckingham, four miles inward, where the MacLaren lumbering industry is situated. A short branch connects the mills with the Canadian Pacific railway along the north shore.

Buckingham township was laid out in 1799, being, with Chatham, lower down, one of the two first townships to be surveyed. Through it flows the Lievre river, which is one hundred and sixty miles long. Its discharge is twenty-two thousand cubic feet per second in May, decreasing to fifteen hundred in September. The basin area of this river is four thousand square miles. The mean flow for a period of seventy-five days 1st May to 15th July, is about nine thousand cubic feet per second. It is used for power purposes, and a reduction in the flow below three thousand cubic feet per second would cause complaint. There are many lakes along the course of this river, which may be used as storage reservoirs to hold back the spring floods. A number of these lakes could be dammed and allowed to accumulate water till they rose eight feet, while, during that period, an average flow of five thousand cubic feet could be passed out every second. The combined areas of these reservoirs would be equivalent to eighteen hundred square miles one foot deep, or one hundred and eighty miles ten feet deep.

The river is navigable from above Buckingham twenty miles to Poupore, where there is a lock and dam, by which boats can go twelve miles further up. Two serious landslides have occurred upon this river, one near the locks in 1904 and one at Salette in 1908.

Opposite Masson wharf is Cumberland wharf, which serves the township of the same name. The shore above Cumberland is low, and there are some islands opposite Daniston.

## TOWNSHIP OF TEMPLETON.

The town of East Templeton is on the north shore, and at the wharf are large mills, owned by the East Templeton Lumber Company. The foreshore is low, and a long point encloses a bay similar to those at Papineauville and Thurso. The little Blanch river flowing through the township has its rise in Grand and McGregor lakes, about twelve miles back. Phosphate mining was carried on in Templeton and Buckingham from 1874 for twenty years, but nothing is now mined, as the competition of the Georgia and Florida deposits have reduced prices to an unremunerative basis.

## TOWNSHIP OF HULL.

Hull, although settled in 1800 by Mr. Wright in advance of any other place in the valley except Burrit Rapids, was itself slow in growing, but was the base for the district. Men engaged to work on some of Mr. Wright's farms till they learned for themselves, and the level, fertile lands of Templeton, Hull, Eardley and Onslow, in Quebec, and Gloucester, Nepean and March, in Ontario, attracted many people from the States, among whom were some United Empire Loyalists. The closeness of the mountain range to the north shore narrowed the fertile belt, but to the south were large areas of flat farm land. Hull too, being at the foot of an eight-mile barrier to navigation, carried on a transfer business for all the upper river, as the route from Hull to Aylmer was on the concave side of a great bend in the valley. The lumber shanty was everywhere the outpost from which the settlement sprang.

## NORTH SHORE RAILWAY—Q. M. O. &amp; O.

The first direct rail connection to Montreal was in 1876 by the Quebec government road, now operated by the Canadian Pacific Railway, and the line was extended

as far as Aylmer. Previously the rail route to Montreal was via the St. Lawrence and Ottawa to Prescott, thence by the Grand Trunk railway. In 1887 the Pontiac Pacific Junction railway (now Canadian Pacific Railway) was built west from Aylmer to Quyon, Shawville, Coulonge and Waltham, its present terminus, and in 1901, the Gatineau Valley railway gave connection up that river to Maniwaki from Hull.

#### TOWNSHIP OF NEPEAN.

The earliest settler in the township of Nepean was Rice Honeywell, 1810. He came from Prescott, and the next February married there and came down the Rideau on the ice to Hog's Back with an ox and 'jumper' sleigh. During the war, 1812-14, Honeywell brought three barrels of flour from the St. Lawrence, because the price asked at Hull was too dear. He was forced to sell two barrels to neighbours, who gave him \$50 per barrel.

#### RICHMOND SETTLEMENT.

The first store on the Ontario side was kept by Collins, opposite the foot of Victoria island; he sold to Bellows, who built a wharf about 1815 called 'Bellows' Landing.'

After the Napoleon wars the army was reduced, and officers and men of the Ninety-ninth and One Hundredth Regiments at Quebec, accepted land grants and chose Upper Canada in which to make new homes under their old flag. The party of colonists left Quebec July 28, 1818, upon the same day that the Duke of Richmond arrived, as governor, and so, filled with enthusiasm, they called their new settlement 'Richmond.' On their arrival at Ottawa, August 15, the name 'Bellows' Landing' was changed to 'Richmond Landing.' They camped on the Flats, and Collins' store supplied their needs until they organized themselves and cut a road through to Britannia, Bells Corners, and up the Jock. For some reason they preferred the banks of the Jock to the Rideau or the Ottawa. Shanties were built with great rapidity in the new settlement, and by Christmas the last tents were abandoned.

In 1819, the Duke of Richmond determined to travel over the Rideau Canal route so as to report to the Duke of Wellington. He arrived in August, 1819, and the Richmond colony gave him a grand reception, but it was noticed he became very agitated at the sight of water. On going to embark in a row boat down the Jock next day, he was seized with violent convulsions, and died of hydrophobia, contracted through the bite of a pet fox at Sorel. His body was taken to Quebec.

The township of March, surveyed 1823, was named after one of the titles of the Duke of Richmond—Earl of March. Prior to the survey the farms were taken up by mutual consent along the river front from Nepean to Torbolton, and the surveyors, John MacNaughton and Hugh Falls, ran lines afterwards. There was always a good fellowship and a strong patriotism throughout the settlement. The largest and best pines were reserved to furnish the navy with masts.

An average house was of logs, fourteen feet by twenty and eight feet high, with scoop roof, standing in a clearing of five acres fenced around with poles and brush. The bush was chopped down during winter and the land burnt off in spring, then a crop was hoed or raked in between the stumps. An acre then yielded forty bushels of wheat, sixty of corn or oats, and four hundred of potatoes. Among the settlers was a sprinkling of U.E. Loyalists, who helped greatly by their knowledge of bush farming, that had been begun in the United States a hundred years before. They knew all about oxen, stock-raising, agriculture and lumbering.

Lumbering was always the first industry taken up. The horses and cattle engaged in the business created a ready market for oats and hay, but, as the lumbering moved further and further up the river, the farmers had to seek a market up the Madawaska

and Bonnechere, driving their loads up and returning empty in from one to three weeks' time. This market eventually ran out, as the upper country was cleared and nearby farmers could supply the shanties.

In 1830, the people feared frosts as they formerly did in Manitoba, and there was anxiety, lest the grain crops would not be sufficient to supply the people's wants. Flour was \$16 to \$20 per barrel at times; cotton, 25 cents per yard; butter was sold for years at 10 cents; beef, 3 cents to 4 cents, stall fed, 7 cents.

In the early days wild pigeons and other game were very plentiful. It was necessary to import pork to supply the large demand for the lumber trade. Chicago was not in existence, but it came from Cincinnati. Beef was sometimes salted and kept in wheat straw. Pemican was never used in the eastern country.

Bad roads forced both rich and poor to make the journey to Brockville, Perth or Prescott on foot, and carry home their purchases on their backs. In winter several grists would be taken to the mill on one ox sleigh. There is a story told that the settlers turned out *en masse* to find a lost darning needle because it was the only one.

In 1833 the Richmond road was only a track between stumps.

In 1820 seed grain and potatoes were packed forty miles on men's backs. Sometimes a long journey on foot to procure the implements and hardware, or the first year rations granted by the government, would result in an empty handed return. Either the supplies were not available or a bumptious agent refused them out of caprice. 'Man's inhumanity to man.'

Grist was often taken across Aylmer lake to Wright's mills or to Britannia, and there was also the Sheriffs mill at Chats rapids, and later, one at Richmond.

Richmond village on the Jock, a branch of the Rideau, was the commercial centre for years before Bytown, which was then only Richmond Landing.

#### BYTOWN.

Development at the site of Ottawa city was slow. In 1816 John Burrows took up the first land grant, and in 1826 sold the area between Sparks street and Laurier avenue, and eastwards from Concession street to Nicholas Sparks for \$400. This was then wild swamp land, a creek flowing east along what is now Slater street, and there were three houses near the falls.

The advent of the Royal Engineers to construct the canal in 1827 was the origin of Bytown. In the beginning of that year 'nothing could be heard but the clinking of hammers in building houses, the noise of drills boring rocks and a perfect cannonade of blasts.' In 1832, Bouchette describes the village as well laid out, with wide streets, and having 150 houses, mostly wooden, 'many of neatness and taste.'

The Imperial Union Bill, 1840, included Bytown as of sufficient importance to be represented in the United Parliament of Canada, and Lord Sydenham recommended it as the seat of government. The population in 1845 was 7,000, but it fell off during the great depression in the lumber trade that followed, recovering about 1850, when the number was 6,000. Telegraphic communication was established with Montreal about 1850, and there were two sawmills, one grist mill, four founderies, an ashery, seven tanneries and four breweries. There were three banks besides loan and insurance companies, also eight schools and three newspapers. The population in 1870 was 25,000.

In 1859 the central block of the parliament buildings was begun, in pursuance of Lord Sydenham's recommendation, (1841), as the seat of legislature for the United provinces of Ontario and Quebec, and at federation, 1867, the central building was taken over and two other similar to it were put under construction.



## AYLMER.

Aylmer, owing to its easy accessibility from the upper river, was for many years before railways were built, the county town of Ottawa county. The court house was built there 1852, but destroyed by fire and rebuilt 1865; in 1895 the county seat was removed to Hull.

## QUIO, FITZROY AND CHATS.

Above Ottawa the lumbermen began to penetrate and in their wake came settlement. The roads to their shanties became the travelled roads and people took up farms along them. In this way the townships of Onslow, Bristol, and Claredon were opened up at an early date.

Quyon was originally a North-west post during that company's flourishing period and, after 1820, was still kept by the Hudson's Bay Company. Bouchette describes it in 1832 as a dilapidated dwelling and an Indian trading store.

Fitzroy harbour opposite Quyon originally settled by the Sheriff family (1818), who came from Port Hope. They explored the Chats rapids and his sons also explored the Ottawa-Georgian Bay route for the British Government. The first development of power was on the Ontario side of the Chats Falls, 1825.

By 1850 a horse railway had been made on the Quebec side to transfer the lumbermen's freight from one steamboat to another and Mr. Egan had a sawmill in operation.

The Chats Falls flow over a spur of the Laurentians that extends across the river southwards to Galletta. The rugged top of this spur forms a number of small rocky islands covered with pines and hardwoods that at once suggest Thousand Islands scenery. An Archaean outcrop either in the St. Lawrence basin, along the coast of Nova Scotia or between Vancouver island and the Mainland always produces the same delightful landscape.

## CHATS CANAL.

A canal to surmount these falls was begun through the efforts of the Hon. John Egan, about 1854, but never completed. Its projected length was 2.8 miles, with six locks 190 feet x 45 feet x 7 feet depth on sills. The total lift would have been 49.8 feet. The expenditure was \$483,000. A. P. MacDonald & F. Schram were the contractors.

Above Chats Falls, Arnprior lake is pent up and near its lower end the Madawaska enters from the southwest. This river is very rough in its upward stretches and, till 1835, defied the attempts of lumbermen to gather its rich pine treasure. Opeongo lake, in the beautiful Algonquin Park 2,000 square miles, constitutes the headwaters of the river and also of the Muskoka, Petawawa, Bonnechere, Amable du Fond, Maganatawan and South rivers.

## ARNPRIOR.

At the mouth of the Madawaska is the thriving town of Arnprior, 4,500 population, surrounded by a fine agricultural and grazing country and largely supported by the McLaughlin milling industries.

A Highland Chieftain 'The McNab' obtained a grant of the land in the vicinity in 1823, and Bouchette, 1832, mentions his residence 'Kinnell Lodge' as then in existence. In 1831 the Buchanan Brothers secured from Chief McNab a mill privilege and saw and grist mills were erected, the village being named after their native town in Scotland. These mills were sold to McLaughlin Brothers and rebuilt and enlarged in 1850.

The Bonnechere enters from the west a few miles above Arnprior draining Golden lake, which lies 18 miles south of Pembroke. Castleford a small hamlet is at the mouth but six miles above is the considerable town of Renfrew at the second chute

where the Canadian Pacific crosses the river. Till 1874, Renfrew was the terminus of the pioneer railway, the Canada Central, now Canadian Pacific main line.

## PORTAGE DU FORT.

Following up the Ottawa past Chenaux island is Portage du Fort, a settlement of some antiquity, Bouchette states, 1832, that the portage was one quarter of a mile long over white marble, with only "Bissetts Chantier" and clearing, which was, however, much frequented by traders and voyageurs as a stopping place. This place as before stated, was the head of navigation on Arnprior lake. In the early times the Indians did not pass this way but landed below Chenaux island and portaged up into Catherine, Town and Olmstead lakes, then down into Muskrat lake where Cobden now is, continuing through the Muskrat river to the present site of Pembroke. This was a short cut and avoided the many strong rapids met between Portage du Fort and Coulonge lake, in following the main river.

This short cut was the route taken by Champlain in 1613 and, in 1867—Confederation year—Captain Overman of the Union Forwarding Company found a small ship's instrument, an astrolabe, lost by the celebrated discoverer. Champlain fixed his position at the foot of the portage but made an error and continues his error by dead reckoning, up to Pembroke, which was the end of his journey that year.

## ROCHER FENDU AND CALUMET.

From Portage du Fort to Coulonge lake, the river divides around the east and west of Calumet island, for here the river's course is almost south. The west branch is the Rocher Fendu channel almost a continuous rapid through a rock canon. The east branch flows over the Grand Calumet falls at Bryson and the d'Argis (Bouchette, 1832) rapids and Mountain chute.

## BRYSON AND COULONGE.

At the head of the Grand Calumet, opposite the village of Bryson, is the monument to Cadieux made from the marble of the vicinity.

Above Bryson the river is narrow and shallow but navigable to the Grand Marais flats at the head of Calumet island and through Coulonge lake.

Fort Coulonge is mentioned by Bouchette (1832) as a Hudson's Bay post and agent's residence. He also states, that at that date, lumber contractors had penetrated to the Allumettes lakes.

## PEMBROKE.

Pembroke has a population of six thousand and, for a long time, has been known as the capital of the upper Ottawa. It was, as before explained, the head of the Indian short trail from Arnprior lake, being at the mouth of the Muskrat and Indian rivers where they unite and fall into the Ottawa. There was an Indian village on the site in 1613 when the first whites—Champlain's party—visited it and were entertained by the Chief Tessoüat, who had cultivated a garden. Here too, it was that Vignau confessed to the falsity of his statement, that, two years previously, he had been to Hudson bay and seen British ships attacked and the crews killed and eaten by cannibalistic Indians.

Champlain held a pow-wow with the Indians and went no further that year but retraced his journey to Montreal. This is said to have been the first assembly of its kind in Canada; it at least, was the first in the Ottawa valley.

The first settlement of Pembroke was in 1825 when emigrants from Miramichi, N.B., came to found new homes after the disastrous fire of 1825, naming the village Miramichi, after their old home. In 1828, Peter White and his family paddled their

way up from Bytown, the journey occupying 14 days. A daughter born that same year is said to have been the first white child born in the locality.

The first mill was erected by W. A. Moffat, 1840, and the site of the present town was divided into lots.

In 1850, the township of Pembroke had a population of 420 and the village possessed a saw mill, a grist mill and residences of persons connected with the lumber trade. At this date Ottawa was endeavouring to attract mill owners to the Chaudiere, as the completion of the St. Lawrence canals five years before, had changed the traffic route and cut deeply into business prosperity.

The basin of the Ottawa was little known in 1850 because immigration did not pass that way. Onl one-eight was organized into townships, which contained a very sparse population. Another eighth would include all the extent lumbered over, therefore three-fourths was wholly unoccupied, except by the remnants of Indian tribes, and unknown, except to a few Hudson's Bay traders.

#### RAILWAY DEVELOPMENT IN THE OTTAWA VALLEY.

Into this wilderness however a potent force was on the eve of entry. Steam had already won to civilization the lower valley, through the transportation facilities offered by the steamboat but a new application of this wonder-working steam—the railway—was coming. It was capable of transporting, not only up river and into the tributaries but also across the valleys and into adjoining ones, thus gaining almost the very doorsteps of settlers and carrying, not only in summer, but through the frosts and snows of the severest winter.

The following railways were in operation in Canada in 1850:—

Montreal-Lachine. . . . .	8 miles.
Champlain and St. Lawrence (St. Johns to Rouse Point). . . . .	43 "
St. Lawrence & Atlantic (Laprairie to Sherbrooke). . . . .	95 "
Montreal and New York (Caughnawaga to Moores). . . . .	32 "
Grand Trunk (Toronto to Norval). . . . .	27 "

Besides this, 628 miles were under construction, of which the Prescott to Bytown railway, 54 miles long, was nearly completed.

In 1857 the project for a railway along the north shore of the Ottawa took shape and twelve miles from Carillon to Grenville were built but the projector died and nothing more was done. It remains a broad gauge to the present day. See page 516.

The necessity for a railway in the Ottawa valley was great, and, in 1847, Mr. T. C. Keefer the veteran engineer of Ottawa published an article to advocate a road from Montreal to Toronto, in which he said. 'If Montreal, the natural market for Bytown does not exert herself the latter will make no great effort to avoid a connection with Ogdensburg, N.Y., which is only half as far as to Montreal.'

#### ST. LAWRENCE AND OTTAWA RAILWAY.

The first steam railway built in the Ottawa valley was the St. Lawrence and Ottawa, south through the Rideau watershed to a junction with the Grant Trunk main line at Prescott and to a connection by boat with the American system at Ogdensburg. This road was completed in 1854 and served as the only route to 'the Front,' and Montreal, till 1871. Its opening was coincident with the advent of mill industries to the Chaudiere Falls (1851-57) and a branch extended around the western part of the town to the lumber district.

#### CANADA CENTRAL RAILWAY.

The more important development, however, was westward, through the main valley. This began with the Canada Central (Brockville and Ottawa) railway from Ottawa

to Carleton Place and thence to the Grand Trunk at Brockville. There was also a branch from Carleton Place to Sand Point (1871) where connection was made with the Union Forwarding Company's steamers to Portage du Fort and Pembroke.

Lumber supplies now began to be carried in winter, men and horses were carried by rail instead of making the long up-river journey through the snow. The line was soon extended westward to Renfrew (1874) and then enthusiasm began to be shown toward the, so far, little understood transportation by rail.

Pembroke desired the advantages of a railway and a deputation interviewed the Canada Central manager and arranged to give free right of way and \$75,000 bonus for an extension to their town. Work was completed about '76 and till 1881, Pembroke enjoyed the prestige of a terminus but the Pacific road was taking form under government management. It was intended to extend westward from Renfrew, following the Bonnechere, passing 20 miles south of Pembroke and south of Lake Nipissing. Influence was at once set on foot to prevent this, the argument that 30 miles of railroad were already built, being pressed. The extension was made from Pembroke and the main river secured the Pacific road to Mattawa and North Bay. Pembroke later secured a grant to recoup it for the \$75,000 bonus given to the original Canada Central Company. The railway at once changed the whole district and branch lines and improvements have followed and many more will yet ensue. North Bay was nothing in '78, now it bids fair to be the distributing point for a Northern Territory larger than the original upper Canada of the Iroquois conquest (1650).

#### FRENCH RIVER.

From North Bay the navigation route crosses Lake Nipissing to the head of the French river. The shores are rock and the river entrance is filled with islands that again recall the Thousand Islands of the St. Lawrence.

The Chaudiere Falls of the French river are wildly grand scenery, the descent being 20 feet into a lake stretch 9 miles long called in Indian Ho-chick-awa-chick or Las des Jeunes Maries as an Indian wedding party is said to have perished in crossing. Into this reach flows the Restoul river from the south and the Wolsely from the north. The latter extends almost to the west arm of Lake Nipissing where the flourishing Monnette settlement has sprung into existence during the last few years.

At the foot of the lake the French river divides around Eighteen-mile island, the north channel extending down 5 miles on the same level like a narrow rock-bound bay. There is then a succession of falls and rapids for two miles with almost mountain scenery on either side. Below this is a long river stretch widening into occasional lakes, down to Dry Pine lake where, by a 7 foot fall, it reaches the main French again.

The main river below Lac des Jeunes Maries is a succession of rapids for five miles. Below is a magnificent river stretch bordered by bold rock shores with deep narrow bays resembling Norkeigan fjords. Eighteen-mile island forms the north bank and, though wild and rugged along the river, there are a few good farms further in.

#### INDIAN LEGENDS.

Two Indian legends are associated with this reach of river, which were related to the writer by the Old Chief Pe-ta-wachuan (I hear the rapids far away) known and respected for many years as 'Chief Duekies' of Chaudiere portage. Half-way down the reach on the north side, is a great obelisk-like rock, that much resembles a huge owl and, in the river, are three small rock islands. Their existence is thus accounted for. Once, long ago, a great hunter of fabulous skill gave chase to a huge owl and three owlets. These he pursued night and day till, in desperation, her little ones becoming exhausted, she threw them into the water, where they instantly became rock

peaks, while the mother perched on the bank and turned to stone still guarding her brood.

Near the foot of the reach is the opening scene of the other tragedy. Here, an ancient land slip has led to the fanciful tale of another great hunter, who was camped with his family near by when a monster beaver, as shrewd and wicked as he was powerful, stole the hunter's child and retreated to his dam. The infant's piteous cries proclaimed its whereabouts and the frantic father began an attack that breached the dam, as the slide authenticates, but not before the wily beaver managed to escape with the baby and take up a fresh stand behind a curious rock outcrop, some 15 miles up river in the Five-mile rapids. Hither the father pursued and again dislodged the beaver, and this time abandoned the child and beat a hasty retreat across Lake Nipissing and through Trout lake to a rocky hill between Turtle and Talon lakes. There the beaver was killed with great rejoicing, the whole tribe gathered to feast upon his carcass, but, cut up and in the boiling pot, the tail still splashed the water into foam finally upsetting it, forming Pine lake, which sure enough is 10 feet above all its surrounding neighbours. No squaw to this day lets the beaver meat boil over either, be it known.

At the foot of Eighteen-mile island the French river is really a lake, whose area is very much diminished by groups of islands. There are two outlets, that by the main river flows through a rock cañon beneath the Canadian Pacific bridge and over the Recollet falls about seven feet, continuing on with but two very small rapids to the level of Ox lake.

It is difficult to say whether the falls were named after the Recollet Fathers or after a small bird of very similar name.

#### PICKEREL RIVER.

The outer outlet is to the east of Cantin island, at a place called the Horseshoe. It flows down the Pickerel river, parallel to the main French and about one to two miles south of it, into Ox lake, where they rejoin. It was down the French river that Champlain and his followers made their voyage in 1615 to Lake Huron, and eventually into the Trent valley. So long a time has elapsed, even since the river was abandoned by the fur-traders, that no legend or evidence of those stirring days remains.

Lac de Beuf—or Ox lake for short—is an extensive area with steep rocky shores and many small rock islands, covered with spruce and hardwood. Besides being the terminal pond for the French and Pickerel rivers, it also receives the waters of the Wanapitei or Hollow Tooth river. The lake discharges itself by seven outlets, that over the Dalles rapids being the principal one and leading directly into the best harbour of them all. French river harbour was originally explored for deep navigation by the late Mr. Walter Shanly, who proved that, despite report to the contrary, the inlet was deep and well suited for a navigation entrance.

At present the French river is entirely devoted to lumbering enterprise, and a couple of steam tugs have been hauled up over the Dalles rapids and the Horseshoe falls to work on the two lower stretches of the river. There are also large mills with workmen's residences forming French River village upon the south shore of the harbour.

#### THE SQUARE TIMBER TRADE.

The first step in a lumber enterprise was to obtain a limit from the Crown. They were rented by auction, the area being usually 10 miles square, and, in 1870, the rental was from \$1 to \$2 per square mile, with an additional charge of one cent per cubic foot on square timber and ten cents per standard sawlog of 12 feet length and 21 inches diameter. The Crown rented 31,600 square miles of forest in 1867, deriving a revenue of \$361,670.

Having secured the limit, it was explored by bush rangers and a site selected for a shanty, which was built of round logs with a central fireplace or 'camboose.' A wooden crane supported the cooking kettle, and the open fire not only served for cooking but gave heat and light to the men whose berths were ranged along the walls. Provisions were carried up by steamboat and pointer boat in the autumn, augmented later on by the sleigh loads, hauled, sometimes, 200 miles over ice and snow roads. The supplies were simple:—pork, flour, beans, tea and rough clothing.

There were three grades of workmen:—timber hewers, whose wage ran from \$20 to \$25 per month; teamsters and 'swampers,' or road makers at \$10 per month for their first year.

The tree having been felled and hewn square was hauled to the nearest creek, and everything prepared for an immediate start when the ice began to move. On the smaller and more rapid tributaries, the timber was floated through by booms of loose pieces till reaching the larger stream, cribs could be formed. These were not over 26 feet wide to allow of passing the various slides and only a single timber in depth compared with a draft of 5 feet for St. Lawrence rafts. Each crib was held together by 'traverse' pieces across the top, and upon these, four 'loading sticks,' the largest and longest timber, were held between wooden pins driven into the traverse pieces. As few holes were bored in the timber as possible, of course, and, in the early days, birch 'withes' were employed to tie the pieces together; the twisting of these withes was quite a trade.

At first fifty cribs were secured together to form a raft, but, during the seventies and eighties, as many as two hundred cribs were massed together. On arrival at each of the twelve large rapids between Mattawa and Montreal the raft was broken into separate cribs, each of which was run singly and re-raftered at the foot. On the St. Lawrence rafts were run in large sections, and, owing to deeper draft and the heavy oak sticks they carried, 'whites' were always used. Sails were more used on the St. Lawrence than on the Ottawa where the lakes were less open to winds.

#### MAGNITUDE OF THE TRADE.

A pamphlet on the lumber trade of the Ottawa Valley, dated 1871 (anonymous) states that 'during the last few years' eighty million cubic feet had been cut in Canada, of which thirteen million dollars worth was exported, over half going to the States. Then fifteen thousand men were employed in the woods, and ten thousand in the mills. The transportation of timber from Quebec employed a fleet of twelve hundred large ships. Most of these were driven out of business by the Plimssoll Act, although their cargo was light, buoyant wood, and their practical sea-worthiness for that trade was attested by their purchase and use for many years after in carrying timber from Norway to Great Britain.

The Hon. J. K. Ward states in the 'Canadian Record of Science' that, forty years before, fifty wooden ships were built at Quebec, and that eighteen million cubic feet had been exported in one season. In 1894, however, only three million cubic feet of square timber went out, as the trade had changed to sawn lumber, which was handled at Montreal.

Intendant Talon made the first shipment of timber from Canada in 1667, just two hundred years before Confederation and one hundred years before Watt's patent for the steam engine.

Philemon Wright opened the raft trade in the Ottawa valley, 1806, and then had a saw mill for his local needs, but the earliest mill was built at Point Fortune, 1790. Mr. Ward describes it as having one upright saw, and, so slowly did it cut, that the owner could eat his dinner while a board was being detached. Modern band saws detach a board in four seconds.

The square timber trade received a great check in 1825 when the British duties on Baltic timber were lowered. Many small men were ruined, and only the strong

firms survived; but, with the mania for building railways in Britain culminating in 1845, the demand for timber became very brisk, and each year saw a greater output. In 1845, nearly twenty-eight million cubic feet came to Quebec, and twenty-four million was exported. All might still have been well, but, not knowing the prospective demand—for there were no cables, but only slow packets to give news of the markets—the lumbermen brought thirty-seven million cubic feet to Quebec to supply a demand of only twenty-four million (1846), and prices fell to a ruinous degree. In 1847 the left over and fresh supply amounted to forty-five million cubic feet for a demand of nineteen million, and, in 1848, thirty-nine million cubic feet were presented but only seventeen million sold.

Three causes are given for the evident over-production in Canada, the first being erroneous government regulations that required large quantities of timber to be cut each year off each limit leased. The second was a threatened reduction of the area leased from 100 square miles to 50, so that lessees pushed forward the cutting in order to have the cream off the large area. Thirdly, imperfect surveys caused disputed boundaries and encroachments, with consequent appeals to physical force. Firms, therefore, placed large gangs of picked men in the field, to fight if necessary, but certainly to make timber for their keep and wages. The large profits of 1845, however, must be considered the main incentive to the over-production.

Dues were collected on square timber at so much a stick, whether it was sixty feet or only twenty feet long. Only big timber, therefore, was cut, and soon the limit was abandoned for a fresh location, but this meant a new beginning and perhaps the loss of a good depot farm as well. A decreasing profit then, and a diminishing supply of large trees, led to the idea of manufacturing the smaller pine and shipping out sawn lumber.

#### SAWN LUMBER INDUSTRY.

Sawn-lumber has completely replaced the square timber trade in the Ottawa valley. The saw mill, beginning at Point Fortune and St. Andrews, jumped to Hull, then, as each settlement began, a local saw mill was required, the most notable being the Hawkesbury mills which, remain among the largest in Canada.

It was between 1850 and 1858 (Crimean War, Indian Mutiny and California Gold) that the Chaudiere mills at Ottawa were established by the advent of a number of American lumbermen, who were interested largely by Mr. G. M. Thompson. The reports of Mr. Wright's success at Hull had determined Mr. Thompson to emigrate in 1850 and build the first Chaudiere mill on the Ontario side.

Exports of sawn lumber were impossible till the Grenville and Carillon canals were built, for, unlike hewn timber, it could not well be rafted and floated to market. At the present day only one great manufactory of sawn lumber is in operation at Chaudiere, the improved railway communication having made it possible to manufacture much further up the river and still get the product economically to market.

#### CHAUDIERE MILLS IN 1870.

For a description of the Chaudiere saw mills at their prime, the following from an anonymous pamphlet (1871) is well worth preserving:—

'In this division of our subject we propose to lay before our readers an accurate and interesting description of some of the largest lumber factories in the Ottawa Valley, more especially those of the Chaudiere, from which some idea may be formed of the magnitude of this, the staple trade of Canada, and its great importance to the country at large, on account of the numerous branches of industry connected with and dependent upon this trade. The establishments described in this pamphlet are engaged chiefly in the export trade; they are in full work usually about five months of the year, from 1st of May to 1st October, and although much of the machinery employed is self-acting and labour saving to an extraordinary degree, a

large number of hands are also employed. There are besides these larger establishments numerous smaller mills scattered over the country, wherever favourable locations and water-powers are to be found, and engaged generally in local trade. In addition to the large amount of capital actually invested in the lumber trade, its importance to the country cannot be over estimated, because the whole of the industrial pursuits connected with it, such as for the maintenance of workmen and their equipment, must be carried on in the immediate neighbourhood.

'At the Chaudiere a series of well devised hydraulic works, have rendered available for manufacturing purposes a fall of about twenty-nine feet, and as the lowest water ever known gave a discharge of 13,500 c.f.s., the power would be equal to 33,956 horse-power; in high water the discharge is equal to 125,000 with a mean fall of sixteen feet, which is equal to 168,145 horse-power.'

## LOGS CUT, WAGES AND SUPPLIES.

The consumption of sawlogs by each of the six firms at Chaudiere, 1870, was about one hundred and fifty thousand, equivalent to thirty million feet of lumber. This required:—

450 men getting out logs,	300 men and teams
300 men piling and forwarding.	

The average number employed by each firm was 637 men, receiving \$306,000, so that the whole six firms employed an industrial army of 4,000 men, paying them annually nearly two million dollars, all spent in the neighbourhood for their sustenance.

The supplies required for the season in getting out 150,000 logs were:—

825 bbls. pork,	75 boxes axes, 1 doz. each,
900 bbls. flour,	60 cross-cut saws,
500 bush. beans,	225 sleighs,
37,000 bush. oats,	3,750 lbs. rope,
300 tons hay,	1,500 boom chains, 7 ft. each,
3,750 gals. syrup,	45 boats,
7,500 lbs. tea,	900 pairs blankets,
1,875 lbs. soap,	15 cookeries,
1,000 lbs. grindstones,	375 cant-dogs.
6,000 lbs. tobacco,	

Costing, at a low estimate, about \$54,367.50.

The principal exporting establishments of that day (1870) with a short description of each is appended:—

## BRONSON AND WESTON.

This firm was established in 1853, and was the first to take up land at the Chaudiere for the purpose of establishing a sawmill on a large scale.

They are now proprietors of two large saw-mills, a carding and grist-mill, lath and splitting mills, and own a large tract of land used as a piling ground—the whole premises extending from near the wooden bridge to the point of the island. They get out annually about 175,000 logs, producing between 30 and 40 million feet of lumber, of which from 5 to 10 million feet are always kept on hand.

The large mill contains 2 stock gangs, of 30 to 40 saws; 2 slabber gangs, 14 to 16 saws; 2 Yankee gates, 32 saws; 1 single saw; with the necessary butting and edging saws. The smaller mill contains 1 slabber gate, 1 stock gate, and butting and edging saws.

The wheels employed are Rose's improved and the Lamb wheel.

The lath mill contains 2 gangs for sawing laths, 5 or 6 saws each; a butting apparatus and picket saw; and a splitting mill for slabs; and produces 10 millions of laths.



In addition to their saw-mills this firm have an extensive grist and carding mill. They employ for six months of the year, in shipping the productions of these mills, 26 barges with 5 men each, 4 steamboats, 9 men each, in all 222 men.

It requires \$3,000 to pay the weekly wages of the employees of this establishment.

A. H. BALDWIN.

Commenced business here in 1853 and owns two saw-mills, a machine and blacksmith shop, and a ship yard for building barges.

He gets out annually about 125,000 logs, making 25,000,000 feet of lumber, and employs in the larger mill, 1 large slabber, 24 saws, 1 stock gang, 40 saws, 2 Yankee gates, 32 saws each, and 2 butting and edging tables; in the smaller mill there are 2 Yankee gates, 1 edger and 1 butter. The wheels employed are Rose's improved.

He also owns 14 barges, 2 steam tugs, and one steam barge, manned by 80 men, and gives employment throughout the year to about 400 men.

The ship yard, which has been in operation for about four years has turned out 16 barges and one steam barge, whose engines were made in the machine shop, owned by Mr. Baldwin, and employs 12 to 15 men.

Mr. Baldwin sawed and shipped the first lumber for the American market from the Chaudière, and in company with Messrs. Harris, Bronson & Co., brought the first logs down the Ottawa from Des Joachims and also himself brought down the first logs from above that point.

J. R. BOOTH.

This gentleman first established business at the Chaudière in the year 1858 by the manufacture of laths, and now carries on extensive operations in sawing pine lumber. His mills are situated on the south shore of the Ottawa, just below the falls, and manufacture annually from 26 to 30 million feet of pine lumber, of which 12 to 15 million feet are always on hand on his piling grounds, which cover a space of about 10 acres of land.

These mills are fitted with gang and circular saws as follows:—

Three gangs containing 40 saws; 3 slabber gangs containing 18 to 20 saws; 1 Yankee gate containing 36 saws; 1 large circular saw for dimension timber; and a large number of circular saws for butting and edging.

The power employed is derived from the waters of the Chaudière, assisted by 14 Rose's improved water-wheels, 2 for each gate, and upright and central discharge wheels.

This establishment gives employment in the winter time in the woods to about 850 men and 300 teams, and in the summer time at the mills to 400 men and 40 teams.

Mr. Booth gets out 3 or 4 rafts of square timber in the season.

E. B. EDDY.

Carries on the largest business in the manufacture of the products from our forests, on this continent, converting the timber of his enormous estates into every description of useful article from saw-logs and lumber to wooden ware and lucifer matches.

The business was first established in 1854 when Mr. Eddy commenced his operations in this section of the country, by manufacturing matches; and such are the resources of the valley of the Ottawa, and the immense advantages of the water power of the Chaudière, that he, with the characteristic energy of his race, has been enabled to build up a business on a gigantic scale, the productions of which are of vast utility to the people of this continent.

We give here the annual productions of these mills and will speak more fully of the processes of manufacture hereafter.

Eddy's mills and piling grounds cover a large tract of land on the north shore of the Ottawa, at the Chaudière Falls, and extend from the falls to the island opposite the parliament buildings. They consist of one large pail factory built solidly of stone; a match factory also of stone; four saw-mills of great extent built principally of wood, and numerous other buildings, offices, &c., necessary to such extensive operations, including a sash, door, and blind factory, and a general store.

In addition to these mills, Mr. Eddy has built a double track over a mile in length, which runs from his mills to the further extremity of his piling grounds, and enables him to distribute and pile the enormous amount of lumber produced, most expeditiously.

These mills manufacture annually about 40 million feet of pine lumber, of which there are always from 8 to 10 million feet in the piling grounds. They also manufacture annually 600,000 pails, 45,000 wash tubs, 72,000 zinc wash boards and 270,000 gross of matches, besides the productions of the sash, door and blind factory.

The saw-mills are fitted with gang and circular saws of all kinds and sizes, and the whole establishment gives employment to from seventeen to eighteen hundred persons, many of whom are girls employed in the manufacture of matches. In addition to these there are about four or five hundred men employed in the woods, where Mr. Eddy owns 'limits'—a tract of land of about 50 square miles in extent, the greater part of which is forest, but where there are some cultivated lands, and a growing village called Fort Eddy.

The force employed in driving the mills, is derived from the unlimited water power of the Ottawa, assisted by mechanical agencies of modern invention, and is equal to about 600 horse-power.

#### THE EDDY MATCH FACTORY.

Consists of a range of buildings containing, two machine rooms, two dipping rooms, two large packing rooms, a warehouse and shipping office, besides engine house, drying rooms, &c.

In the machine rooms the wood is cut up by two different machines. The one, which is employed in making the best matches of seasoned wood, cuts up the blocks, already prepared, by means of fifteen small knives, which divide the wood into pieces the exact size of the match and then pass them through grooves into the separate divisions in the racks placed ready for their reception at the rate of 4,000 per minute from each machine.

These racks are pressed so as to place the small pieces of wood firmly in their position, and are taken to the dipping room. Each machine employs one man and one boy.

The dipping room for this class of match is divided into two compartments, in the first is a chaldron of molten sulphur, into which the racks are passed, each piece of wood receiving a certain quantity of sulphur. The racks are then taken to the other room and dipped into the final preparation of phosphorus, &c., and then placed in iron safes built into the walls all around the room to dry, which takes about two hours, when they are ready for packing.

In the other machine room wood is cut up on another principle by a machine which contains 9 knives and cuts the match into double the required length, at the rate of 340 strokes a minute, making 9 at each stroke, or 18 matches, equal to over six thousand a minute.

These sticks being of green wood are then placed in open boxes, and taken to a drying room heated by steam pipes. When dried they are rolled up in circular form between bands of wadding by machines, which distribute each separate piece of wood into equi-distant parts. The rolls are then taken to the dipping room, where they

are dipped on each end in the preparations of sulphur and phosphorus and hung up on racks to dry.

They are then cut in two by another machine and are ready for packing.

The packing rooms are divided into several compartments, and occupied entirely by girls, who are employed in packing the matches first in the small wrappers, (which they prepare from material supplied them, in their homes), and then into boxes of  $\frac{1}{2}$  gross each which are taken to the warehouse and shipping room.

The factory gives employment to about 50 men and boys and about 90 girls.

#### THE PAIL FACTORY.

Is a large stone building of three stories high near the principal saw-mill, where pails are manufactured at the rate of 2,000 pails and 150 wash tubs per diem. Every part is made by beautiful machinery. In one room the staves are sawn into regular sizes, in another the bottoms and hoops are manufactured, in another the handles are turned, and in another the various parts are joined together, planed and finished.

The pails are then taken to the painting room, where they are painted and grained by patent India rubber rollers. They are then finished off and fitted with handles after which they are packed in hay and made ready for shipment.

#### THE SAW MILLS.

Which are four in number and of great extent, contain every description of gang and circular saw numbering, in all 243 saws. The capacity of the mills is equal to the sawing of 200,000 logs per annum.

#### PERLEY & PATTEE.

This firm was established in the year 1857, and, has very extensive mills close to the Chaudière Falls, with large piling grounds attached, through which are laid lines of rail for distributing and piling the lumber. They get out annually about 150,444 logs, producing 30 to 40 million feet of pine lumber, of which a considerable amount is kept always on hand. They employ a large number of men through the year; on an average, over 600. Their mills are furnished with 2 slabbing gangs of 40 saws each; 2 stock gangs of 40 saws each; 2 Yankee gates of 32 saws each; 1 single gate and 1 resawing gate, with the usual compliment of circular saws for butting and edging. The wheels employed are Rose's improved and the Lamb wheel, 1 pair to each gate.

#### LEVI YOUNG

First established his business at the Chaudière in 1854, and owns one saw-mill, getting out and sawing about 100,000 logs in the year, producing about 20,000,000 feet of pine timber. He employs one slabbing gate of 40 saws; one stock gate of 40 saws; one Yankee gate of 32 saws, and the necessary edging and butting saws. The wheels employed are Rose's improved, 1 pair to each gate. In addition to this, Captain Young gets out annually about 3 rafts of square timber, employing through the year from four to five hundred men.

#### WRIGHT, BATSON & CURRIER—OTTAWA STEAM MILL.

These fine mills are situated in the village of Hull, (P.Q.) with 24 acres of land attached and enclosed, and with excellent piling grounds and shipping docks adjacent. The mills contain five gang saws, one large circular saw for cutting building timber, also saws for cutting laths, clapboards, &c. The capacity of these mills from May 1st to December 1st is thirty million feet; the quantity usually cut averaging from sixteen to twenty-five millions. The timber limits belonging to this firm

are situated on the river Madawaska, and are six in number, containing in all 275 square miles. There are three farms on the limits, well stocked with cattle and provided with convenient buildings, offices, &c. The main depot is at Griffith, Renfrew, where there is a post office, also a general store, blacksmith and carpenter shops, &c.

The average number of men employed all the year round ranges from 250 to 300 exclusive of those employed in freighting lumber away.

#### THE GATINEAU MILLS.

The Gatineau mills, belonging to Messrs. Gilmour & Co., are situated at the village of Chelsea, about eight miles from the city of Ottawa and nine miles from the junction of the Gatineau with the Ottawa river. The scenery above and below the mills is exceedingly romantic and beautiful—four or five rapids and cascades, and sloping banks to the water's edge covered with trees and foliage render this portion of the river most picturesque and charming. The mills are situated on the south bank of the Gatineau above the high falls, and are surrounded by a series of booms and works of great magnitude, upon which immense sums have been expended. The whole of the saw-logs which descend the Gatineau are caught in these booms, and a very faint idea can be conveyed to a stranger of the immense amount of skill required to separate those belonging to the Gatineau mills from those belonging to different manufacturers below.

During the summer this point of the river presents a scene of bustle of the most extraordinary kind, and as the firm employs literally an army of workmen, the scene can be better imagined than described.

Below the booms, the worst point of the river has to be encountered by the logs descending the stream, and it is frequently enlivened by the appearance of perfect islands of stranded timber, technically called jams, and the efforts of the owners to set them afloat exhibit scenes of daring and endurance seldom witnessed elsewhere.

The mills belonging to Messrs. Gilmour & Co., consist of two large substantial buildings, and a smaller mill for preparing lumber for the American market, and they were commenced about thirty years ago. The water-power used is equal to about five hundred horse-power. There are 13 saw gates containing about 220 saws, and twenty edging, butting, and re-sawing circular saws. These mills will manufacture 230,000 feet, board measure, in eleven hours, or about 35 millions of feet per season. About one-third of this lumber is cut for the Quebec market, and the balance for the United States. Attached to the mills there are about three miles of wooden canal for conveying the sawn lumber to the piling grounds. Messrs. Gilmour & Co., possess timber limits to the extent of 1,700 square miles, whence they obtain the requisite number of saw-logs to supply these extensive works, and 1,000 men receive employment from them during winter and 500 in summer, including lumbermen, farmers, surveyors, &c., &c. They also employ 250 spans of horses and 80 yokes of oxen; and during each season they consume 40,000 bushels of oats, 600 tons of hay, 1,500 barrels of pork, and 3,000 barrels of flour, besides large quantities of clothing, boots, shoes, tea, tobacco, blankets, &c., &c. These mills are amongst the most celebrated in the country, not only for the romantic beauty of the surrounding scenery but for the perfection of the machinery employed and the order and good management exhibited throughout them.

We must not omit to mention that upon their timber limits this firm has no less than nine farms, comprising in all about 1,500 acres; the land is excellent; as much as fifty bushels of wheat to the acre having been raised some seasons. Of course this is above the average, but the yield is generally excellent. The whole of the produce of these farms is consumed by the employees of the firm. On the banks of the River Gatineau they have four principal depots, from which supplies are sent

to the lumbermen at work in the woods. One of these is distant upwards of 200 miles from Ottawa. The firm pays from \$275,000 to \$300,000 in wages annually. Mr. Maher is, and has been for some years, the manager of the Gatineau mills.

LE MOYNE, GIBB & CO., BUCKINGHAM.

The mills and limits formerly owned by Messrs. Thomson & Co., are now the property of Messrs. Le Moyne, Gibb & Co. One of the partners, Mr. McPherson LeMoyne, resides at Buckingham, and personally superintends the whole business; he was also the managing partner of the late firm of Thomson & Co.

These mills are situated on the River Du Lievre, about four miles back from the Ottawa river, and in conjunction with the mills belonging to Messrs. Jas. Maclaren & Co., on the opposite side of the river, have control of one of the finest water-powers in Canada; the falls are 70 feet in height, and the River Lievre being very deep and supplied by many large lakes in the north, there never is any scarcity of water, even in the driest summers. The timber lands and limits on the west side of the Lievre are held by Le Moyne, Gibb & Co., and those on the east by James Maclaren & Co.

The mills which are quite new, having just been rebuilt, are of large size and fitted with every modern improvement to save labour and to do good sawing; they have already cut up 125,000 logs between the 15th May and the 15th October. The business done at present is about 800,000 logs a year, which are sawn almost entirely into 3-inch deals for the Quebec market. A slide over two miles in length conveys the timber from the mills to the basin, where the thin lumber is taken out and piled and the deals are run into the water and rafter up into cribs.

All the logs sawed at these mills are made on the tributaries of the River du Lievre, which drains an immense extent of country. The two firms that work on this river have, at their own expense, built very extensive slides to pass their logs over different falls, and also constructed many booms, piers, &c., at different points, the government never having expended anything on the River du Lievre for improvements of any kind, though the public have for very many years derived a large revenue from it.

HAMILTON & CO.—HAWKESBURY MILLS.

This is one of the largest as well as one of the best known of the great milling establishments of the Ottawa Valley. It is situated about 60 miles from Ottawa city on the south shore of the river near the head of the Grenville rapids. There are included in the establishment, four saw-mills together with a grist mill with four runs of stones for the production of flour for the use of the raftsmen, shantymen, and other employees, as well as for the neighbouring farmers. The mills contain 101 vertical saws and 44 circular saws, driven by 72 water wheels, and turn out from 35,000,000 to 42,000,000 feet of lumber per annum. About five hundred men and boys are employed constantly by the firm at Hawkesbury alone in summer. Some conception of the immense extent of the operations of this firm may be formed when we say that more than 3,000 tons of agricultural produce are consumed annually.

The Honourable John Hamilton resides at Hawkesbury, and the whole village and establishment bear evident signs of opulence and comfort.

The limits from which these mills obtain their supply of timber are situated principally upon the rivers Rouge, Gatineau and Dumoine. Messrs. Hamilton & Co., bring down from their limits 200,000 logs, on an average, annually.

## THE PROCESS OF MANUFACTURE.

The saw-logs when got out of the forest are taken to the nearest point on the Ottawa, and left to be drifted down by the stream, each firm having a private trade mark on each log by which they are recognized. At the Chaudiere they are caught by booms spread across the river above the falls, and guided through the different slides to the respective mills where they are to be sawn.

At the mills the logs are hauled up out of the water by a powerful wheel always in motion, and so placed in the cradle which guides them through the saws.

There are various kinds of saws, each performing its particular duty in the process. The slabber-gate, which contains from 18 to 20 saws, cut the outside of the log into boards of 1-in. thick, leaving the bulk in a slab of 14 inches in thickness, and of different width according to the size of the log, 37-in. being the largest. As the saw gets through the end of the log, these outside pieces are taken away and trimmed to the required size by the butter and edger.

The large slab is then turned over on the flat side and run through the stock-gang which contains from 30 to 40 saws placed about 1-inch apart and sawing the slab into 1-inch boards. These saws can be changed at will to saw 2-inch or 3-inch boards. It takes these saws about eight minutes each to get through a log of the ordinary size. The Yankee-gate is a combination of the slabber and stock gate, and contains about 32 saws. The gang saws both ways, the teeth of the slabber facing one way and those of the stock the other. By this means the log is sawn by the slabber as described above and the slab turned over and sent back through the stock-gate, so that while the slabber gang is dividing one log the stock is finishing off another. The single saw is used for sawing the loges into pieces of about three inches square, the gate acting in the same way as the other gangs, but with only one saw which performs the whole work. These gangs are all worked on upright pivots, the machinery underneath forcing the gate up and down at a considerable rate on the same principle as the old saw pit fashion, where one man works on top of the log and another underneath.

The butting and edging tables are for the purpose of taking off the rough sides and ends of the planks as they come from the larger gangs, and are fitted with counter saws for this purpose.

The planks are laid on the table, and a revolving chain with catches in it carries the wood along past the circular saw which takes off the outside pieces leaving the plank the required width and length, and disposing of the waste and damaged wood.

As the planks pass over these tables the foreman marks each one according to its size, and they are then wheeled out on hand trucks to be taken to the piling grounds.

These piling grounds are of vast extent, and are in many cases supplied with railways over which the lumber is drawn in horse trucks; but in some cases the lumber is slid through a hole into a large trough of running water which carries it to its destination.

## THE OTTAWA DISTRICT SLIDES AND BOOMS (1870).

The government works connected with the descent of timber in this district are on the following rivers:—On the Ottawa, main river, 11 stations; on the Gatineau, 1; on the Madawaska, 15; on the Coulonge, 1; on the Black, 1; on the Petawawa, 31; on the River Dumoine, 11.

*List of Slide and Boom Stations on the Ottawa River.*

The distances given are measured on the latest maps, following the channel through which lumber is floated down the river:—

Names of Stations.	Distance from mouth of Ottawa, at Ste. Anne.
1.—Carillon . . . . .	27 miles.
2.—Chaudiere (north side, Hull south side Ottawa) . . . . .	98 "
3.—Chaudiere (Little) . . . . .	100 "
4.—Remick . . . . .	102 "
5.—Deschenes Rapids . . . . .	104½ "
6.—Chats Station . . . . .	131 "
7.—Head of Chats . . . . .	134 "
8.—Chenaux . . . . .	152 "
9.—Portage du Fort . . . . .	156 "
10.—Mountain . . . . .	161 "
11.—Calumet . . . . .	163 "
12.—Joachim Rapids . . . . .	249 "

The works at these twelve stations consist of:—2,000 lineal feet of canal; 3,835 feet slides; 29,855 feet booms; 346 feet bulkheads; 1,981 feet bridges; 52 piers; 3 slidekeeper's houses, and 3 store houses.

The necessity for the construction of dams at certain additional points on the Ottawa, so as to afford the means whereby a more abundant supply of water can be obtained for use in the slides, is again urged by parties interested. The lumber trade of this district has now attained such increased proportions that the works on which the supply of water to the slides is dependent, which answered their purpose tolerably well while the trade was in its infancy, have become inadequate to perform the services required, the result being that during dry seasons the passage of timber through the slides is difficult, owing to the scarcity of water. His Excellency the Governor General was pleased, by order in council, dated May 18, 1870, to authorize the incorporation by patent of the Ottawa Improvement Company, a society formed for the purpose of effecting improvements on the upper waters of the River Ottawa, to facilitate the descent of timber, the company binding itself to adhere to certain specified conditions.

*Gatineau River.*—In ascending the Ottawa, the Gatineau is the first tributary possessing government works.

These works are all at one station, about one mile from its confluence with the Ottawa. They consist of: 3,071 lineal feet of canal; 4,138 feet booms; 52 feet bridge; 10 piers, and 1 slide-keeper's house.

*Madawaska River.*—The Madawaska is the second tributary in ascending the Ottawa, on which the government has provided works for the descent of lumber.

List of the names of slide and boom stations on the Madawaska, numbered from the mouth of the river upwards: 1. Mouth of river. 2. Arnprior. 3. Flat rapids. 4. Palmer island. 5. Burnstown. 6. Long rapids. 7. Springtown. 8. Calabogie lake. 9. High falls. 10. Ragged chute. 11. Boniface rapids. 12. Duck island. 13. Bailey chute. 14. Chain rapids. 15. Opeongo creek

The works at these stations consist of: 1,750 lineal feet of slides, 18,179 lineal feet of booms, 4,080 lineal feet of dams, 182 lineal feet of bridges, 43 piers, 1 slide-keepers' house, and 1 work-shop.

The slide at High Falls sustained considerable damage in the spring of 1870, in consequence of the unprecedented height of the river, the water of which passing over the Nagle dam, caused a breach in that work, through which the debris, mingled with large quantities of logs, escaped. This mass, on coming in contact with the slide, tore down 500 feet of that structure. Efficient measures were taken for the reconstruction of a portion of the damaged work, so as to admit of the season's lumber being passed through. This accident and the generally decayed state of the slide,

will, it is feared, necessitate its being entirely rebuilt before the beginning of another season.

*The Coulonge River.*—The Coulonge is the third tributary in ascending the Ottawa, on which the government has placed slides and booms.

The following is a list of the government works on this river:—Boom at the mouth, 300 feet long, and one support pier. Boom at Romain's rafting ground, 400 feet long, and three support piers. Booms at head of High Falls slide, 1,848 feet long, and six support piers.

*Black River.*—Ascending the Ottawa, the Black river is the fourth tributary upon which works have been placed.

The works consist of:—1,139 lineal feet of single-stick booms, 873 lineal feet of slide, 346 feet of glance pier, 135 lineal feet of flat dam.

*The Petawawa.*—This is the fifth tributary in ascending the Ottawa, upon which government slides and booms have been made.

Seven miles from its mouth the Petewawa separates into two branches. On these seven miles there are five stations; on the north branch there are eighteen stations, and on the south branch eight stations.

List of the slides and booms on this river, in the order in which they occur, from the mouth upwards:—1. Mouth of river. 2. First chute. 3. Second chute. 4. Third chute. 5. Boisdur.

*North Branch.*—1. Half-mile rapid. 2. Crooked chute. 3. Between High Falls and Lake Traverse (a slide and a series of dams and booms). 4. Thompson rapids. 5. Sawyer's rapids. 6. Meno rapids. 7. Below Trout lake. 8. Strong eddy. 9. Cedar islands. 10. Foot of Devil chute. 11. Devil chute. 12. Elbow of rapids. 13. Foot of Sault. 14. Middle of Long Sault. 15. Head of Long Sault. 16. Between Long Sault and Celar lake (south shore). 17. Between Long Sault and Cedar lake (north shore). 18. Cedar lake.

*South Branch.*—1. First slide. 2. Second slide. 3. Third slide. 4. Fourth slide. 5. Fifth slide. 6. Sixth slide. 7. Seventh slide. 8. Eighth slide.

The work at these 31 stations are as follows:—

*On the Main River.*—2,963 lineal feet of slides, 8,469 lineal feet of booms, 2,077 lineal feet of dams, and seven piers.

*On the North Branch.*—380 lineal feet of slides, 2,671 lineal feet of booms, 1,131 lineal feet of dams, and 23 piers.

*On the South Branch.*—2,134 lineal feet of slides, 388 lineal feet of dams.

*River Dumoine.*—The sixth and last tributary of the Ottawa upon which the government works have been executed is the 'Dumoine.' The length of this river is about 120 miles, and it drains an area of about 1,600 square miles. It flows into the Ottawa from a northerly direction at a point about 256 miles above Ste. Anne. The works on this river consist of a pier and retaining boom at its mouth, a single stick slide, and a series of flat dams from the mouth upward. They may be detailed as follows, viz.:—300 lineal feet of slide, 800 lineal feet of booms, 1,324 dams, and six piers.

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