

# The Commercial

A Journal of Commerce, Industry and Finance, especially devoted to the interests of Western Canada, including that portion of Ontario west of Lake Superior, the Provinces of Manitoba and British Columbia and the Territories.

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The Commercial certainly enjoys a very much larger circulation among the business community of the country between Lake Superior and the Pacific Coast, than any other paper in Canada, daily or weekly. By a thorough system of personal solicitation, carried out annually, this journal has been placed upon the desk of the great majority of business men in the vast district designated above, and including northwestern Ontario, the provinces of Manitoba and British Columbia, and the territories of Assiniboia, Alberta and Saskatchewan. The Commercial also reaches the leading wholesale, commission, manufacturing and financial houses of Eastern Canada.

WINNIPEG, AUGUST 15, 1892.

## Canada's Canals.

We have received a copy of the supplement to the annual report of the Department of Railways and Canals. It deals exclusively with the canals of the Dominion; and in addition to the usual statistics, contains much information in regard to the traffic on the great lakes and the comparative advantages of the Canadian and United States routes to the seaboard—information which possesses special interest at the present juncture. The total revenue, exclusive of hydraulic rents, for 1890 and 1891 was \$348,059 and \$350,351 respectively. The total increases and decreases for the two years mentioned are:

	Increase.	Decrease.
Welland.....	\$5,734 33	
St. Lawrence.....	9,883 31	
Chambly.....	1,350 13	
Rideau.....		\$ 142 88
Ottawa.....		7,593 97
St. Peter's.....		183 16
Trent Valley.....		6 21
Murray.....		75 14
	\$10,447 92	\$8,155 36

Total increase..... \$2,292 46

These figures are, however, considerably altered by the refunds made under the orders-in-council, which have caused the present hostile attitude of the United States government. The quantity of grain that passed down the Welland Canal and was transhipped at Canadian ports to Montreal during the season of 1891 was 276,861 tons, upon which a refund was made of 18 cents per ton to the amount of \$49,834. Of the 220,527 tons of grain passed down the Welland canal to United States ports during the same period 17,817 tons were trans-shipped at Ogdensburg and passed down the St. Lawrence canals to Montreal. Upon these trans shipments no refund was made. The tables given of the quantity of barley, corn, oats, peas, rye and wheat passed down the Welland canal,

from ports west of Port Colborne for a period of ten years, shows that during the last decade the quantity of agricultural products passing down the Welland and St. Lawrence canals to Montreal, has increased from 180,794 tons in 1882 to 295,509 tons in 1891; and the quantity passed down the Welland canal from the United States ports to United States ports has increased from \$3,811, to 202,710 tons. It the same period the quantity of barley, corn, oats, peas, rye and wheat arrived at Montreal, via Grand Trunk and Canadian Pacific Railways has increased from 75,026 tons in 1882 to 184,410 in 1891. In other words, the total quantity of grain of all kinds reaching Montreal by rail and water has increased in ten years from 255,720 tons to 479,919 tons, or 87.6 per cent. The following statements of the comparative shipments of grain by the St. Lawrence route and by rail and water via the state of New York, are of interest, as showing the growing importance of the St. Lawrence route. The quantity of grain and peas passed down the whole length of the St. Lawrence canals to Montreal in 1890 was 212,571 tons and in 1891, 320,434 tons, showing an increase of 77,863 tons. The quantity of grain and peas carried to Montreal by the Canadian Pacific and Grand Trunk railways in 1890 was 119,208 tons, and in 1891 184,410 tons, an increase of 65,202 tons. The quantity of grain arrived at tide water by New York canals in 1890 was 1,131,289 and in 1891 it was 1,045,278, a decrease of 76,011 tons. The quantity of grain carried to tide water by the New York railways in 1890 was 3,045,302 tons, and in 1891 it was 2,356,600 tons, showing a decrease of 688,642 tons. In other words, while the receipts at Montreal last year by St. Lawrence canals show an increase of 54.69 per cent., the receipts by water at New York show a decrease of 6.71 per cent., and by rail of 22.61 per cent.

In addition to the information given in the bluebook under notice, it may be stated that the Canadian system embraces seven distinct canals, comprising a total length of seventy-one miles. The Welland canal is 26 7/8 miles long, with 26 locks; while the St. Lawrence canals comprise the Galops, 7 3/4 miles, with 3 locks; the Rapide Plat 4 miles in length, with 2 locks; Farran's Point, 3/4 mile, with 1 lock; Cornwall, 11 1/2 miles, with 6 locks; the Beauharrois, 11 1/2 miles, with 9 locks, and the Lachine, 8 1/2 miles, with 5 locks. All these Canadian canals are absolutely necessary to the navigation of the chain of lakes and rivers, and being wholly within Canadian territory, the United States could construct nothing to take their place. Prior to confederation, Canada had spent \$15,791,457 upon the Welland and St. Lawrence canals. Since 1872, and after a special request, if not demanded, made by the American Commissioners at the Washington Convention upon which the treaty was based, we have spent, besides a large sum for surveys, etc., the following on capital account: Lachine canal, \$6,563,316; Cornwall canal, \$1,954,558; Williamsburg canals, \$871,157; Welland canal, \$16,030,669; total, \$25,419,700.—Trade Review,

## The MacArthur-Forrest Process.

The Vancouver, British Columbia, Telegram says:

"It will interest the owners of mines producing the precious metals, and more especially if their ores happen to be refractory, to learn that a gentleman has lately arrived in British Columbia with a commission from the Gold Recovery Syndicate of Glasgow, Scotland, to visit our mines, experiment on their ores, and report as to their suitability for treatment by the MacArthur-Forrest cyanide process of extraction.

The process has already achieved remarkable results elsewhere with ore previously considered most refractory. Indeed, the boom in the flourishing district in South Africa is largely due to the results obtained on treating the ores and banks of tailings by this process. It has

already been introduced after thorough tests in Australia and the United States. Mr. Colquhoun, the gentleman referred to, has with him a complete plant capable of treating quantities of ore up to one ton, so that his experiments will be conducted on a practical scale, and will, perhaps thereby be the more convincing to those unaccustomed to the requirements of laboratory work, and who must needs see the precious metal in bulk.

The MacArthur Forrest process is not unknown, and in mining journals has had considerable attention paid to it of late. The principle involved is based, to use a slightly technical explanation, on the selective affinity of weak cyanide solution for gold and silver. To describe it simply, the ores are crushed by stamps or rolls of the ordinary character to the requisite fineness and mixed in water in which cyanide of potassium has been dissolved, the chemical action being assisted by percolation or filtration. Six hours' treatment is usually required to extract the gold and silver. The mass is then transferred to large wooden tanks, the solutions are allowed to settle, and are drawn off. The gold and silver contained in these solutions are precipitated by passing through zinc. The residuum is not altered and may be treated for other mineral elements in the ordinary way.

A large number of tests with a variety of samples give an average extraction of about 87 per cent. of gold and 85 of silver, and as to output that is only limited by facilities for treatment and extent of plant. The cost of treatment, etc., is put down at about \$5 per ton.

It is claimed that all classes of ores can be treated, but the exceptional advantage lies in extracting gold and silver from refractory ores, especially those in which sulphurets predominate.

The claims put forward for this process, which would seem to be peculiarly adapted to treating many of the British Columbia ores, are cheapness, simplicity and inexpensiveness of plant, economy of time, the percentage of silver extracted, the small amount of power and water required, and the doing away with the necessity of roasting, of fuel and mercury, and of smelting.

It is obvious that if their claims can be substantiated, it means a good deal for the mineral development of this country, which so largely depends upon conditions which this process aims to modify.

Mr. Colquhoun, whose mission it is to introduce it throughout Canada, will visit East and West Kootenay mining camps and Cariboo and give practical demonstrations of the working of the MacArthur-Forrest process. He is very favorably impressed with Vancouver and the province, and will, in all probability settle down here after touring Canada and going back to Scotland.

## The Copper Market.

Rallying with quite a sharp turn, this metal is now well on the way back toward that 12 cent quotation, which at one time seemed as if it were gone, never to return. The particular cause which has operated on values has been the steady buying, both here and in London, by the same parties who it turns out were sellers on the previous decline; and who have now taken probably upward of a million pounds during the week, mostly in small lots, to the supply of which all hands—speculators, jobbers and even consumers—alike have freely contributed.—Chicago Journal of Commerce.

The Farmers' Elevator and Milling Co., limited, Alexander, Man., has applied for incorporation.

The locomotive department of the Bombay, Baroda and Central India railway has, according to Indian Engineering, for some time past been making experiments in cleaning cotton waste and turning the refuse oil extracted therefrom into soap.