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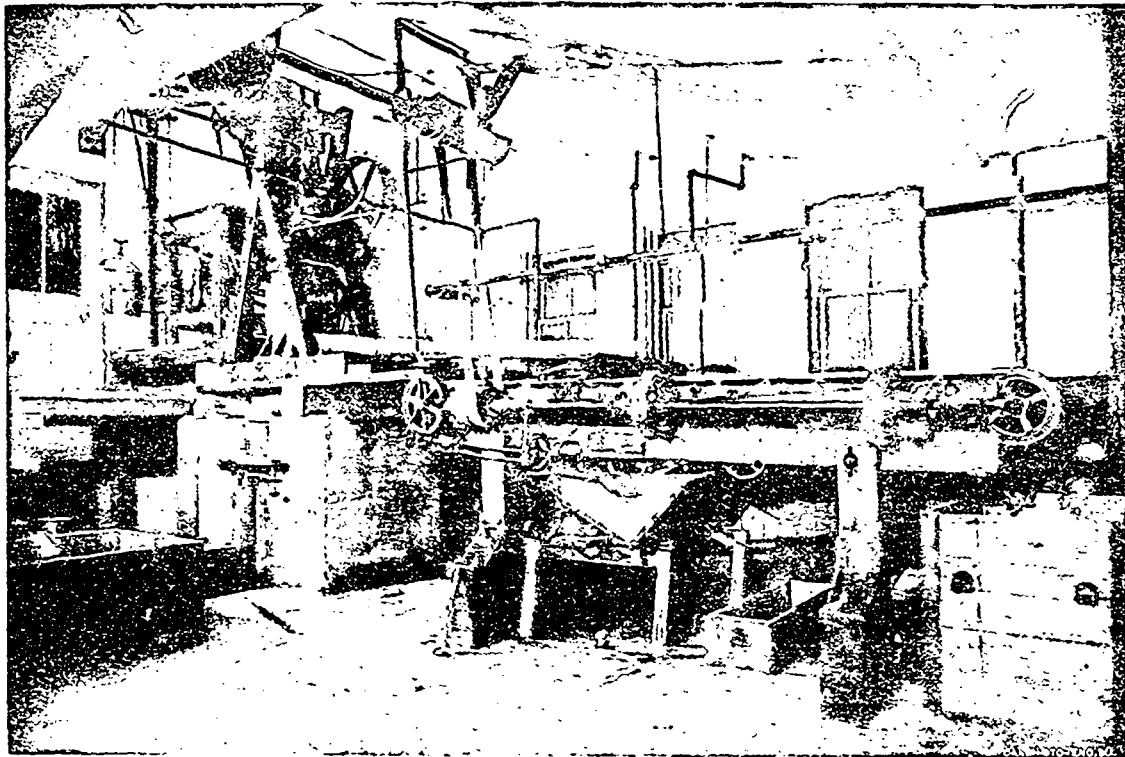
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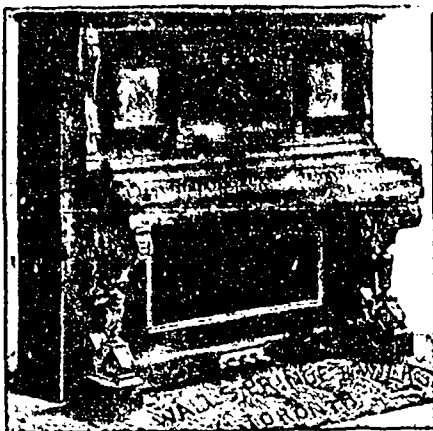
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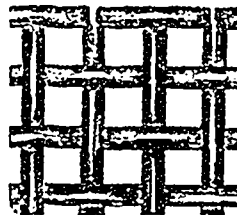
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# Industrial Canada

VOLUME I

TORONTO, CANADA, NOVEMBER, 1896

NUMBER 11

## CHARACTER SKETCH.

HON. W. E. SANFORD.

"What I am I have made myself."—Humphry Davy.

THERE are not a few examples in Canada of those who have carved out for themselves a noble career on the lines suggested by the saying of Humphry Davy. We find a timely and prominent example in the Hon. W. E. Sanford, Senator, of Hamilton. His business life has been a series of triumphs over difficulties that would have daunted many weaker natures. He found it to be the case as J. G. Holland once said that "God gives every bird its food, but He does not throw it into the nest."

To-day what such efforts have been worth is evidenced in the high position that Mr. Sanford holds in the business world of Canada,—in the magnificent "Sanford Block" in the city of Hamilton, consisting of offices, warerooms, stock, show and packing rooms, with extensive business connections in every province of the Dominion, a business giving employment to over two thousand hands, and which represents an invested capital of over \$600,000.

Mr. Sanford was born in the city of New York in the year 1838. His father was an American by birth and his mother English. It was his misfortune to lose both parents while a mere child, though there was a silver lining to the cloud, which has influenced him all through his life, in the fact that after this sad event, when seven years of age, he was adopted into the home of his uncle, the late Edward Jackson, of Hamilton, one of the leading pioneer merchants of that city, and a man of great strength of character and singular uprightness of life.

These are the environments under which young Sanford grew up. He received a liberal education in one of the academies of New York, but his business instinct and aggressiveness was shown in the fact that at the age of sixteen he commenced commercial life by entering the publishing firm of Farmer, Brace & Co., of New York, where he remained until he had reached twenty-one years of age.

The future of the man was seen during these years,

and he won the esteem and confidence of his employers, being offered a partnership in the business. The death of the senior partner, occurring about this time, caused certain changes which resulted in the disappointment of young Sanford's hopes. The firm was reorganized, leaving him out. A rival concern, however, had been watching his career and quickly made him the offer of a situation and a salary of \$3,000 per year.

It was a crisis in the life of the young man. He refused the position, resolving, to quote his own words, "never to accept a position as clerk to any firm." Mr. Sanford now returned to Canada, was united in marriage to Miss Jackson, only daughter of his friend, Edward Jackson. Then he went to London, Ont., and entered into a business partnership with Murray, Anderson and Edward Jackson, and under the firm name of



HON. W. E. SANFORD.

Anderson, Sanford & Co. carried on one of the largest foundries in Western Canada. His wedded happiness was of short duration, for at the end of about eighteen months his accomplished wife died. Completely crushed and disheartened by the blow he retired from the firm and returned to Hamilton. He could not, however, long remain inactive, and shortly afterwards, in company with some New York dealers he

entered into the wool business. His business sagacity was again evidenced in the success that he made of the undertaking, and he was soon known among dealers as the "Wool King" of Canada.

Some time after this Mr. Sanford entered into the business, which under his skillful management has grown into immense proportions and with which his name is so prominently and successfully identified.

The making of ready-made clothing was then at a low standard. Mr. Sanford started out with the determination to revolutionize the business, and throw into this department of trade a degree of taste and energy that it had not known before. He formed a partnership with Mr. Alexander McInnes for the manufacture of ready-made clothing. \$20,000 capital was invested at the beginning. The most skillful labor was employed and samples to meet the requirements of the public were produced. Several changes in the personnel of the firm took place during the succeeding years. After ten years Mr. McInnes retired and two of his employees were taken into partnership. Then the firm was known as Sanford, Vail & Bickley. After five years Mr. Bickley retired and later Mr. Vail retired, the business being continued from that time on until the present by Mr. Sanford under the name of W. E. Sanford & Co.

It can be easily understood that Mr. Sanford's services were eagerly sought for in monetary institutions, and he has been a leading factor in financial and other corporations for many years.

The large fortune he has amassed has been well spent, and the charities of Mr. Sanford, though many of them are not known, reach into large and generous figures. As a citizen he is public-spirited and justly held in high esteem.

In religious matters he is a Methodist and a leading member of the Centenary church of Hamilton, and a liberal supporter of the missionary, educational and other schemes.

In politics he is a Conservative and some years since was offered and accepted a Senatorship.

There has been some talk recently of Mr. Sanford removing his large business from Hamilton to Toronto. This can be said, that wherever the business is located, it can never be local in its character, for in Mr. Sanford's view of business there is a thoroughly broad and cosmopolitan spirit of management.

#### ONTARIO'S PEAT FUEL.

ONTARIO is developing a new and important industry in the production of peat fuel and moss litter. There are said to be twenty million tons of peat on the Welland moors, capable of producing as much heat as a similar quantity of anthracite coal. The Canadian Peat Fuel Company, with a capital of \$1,500,000, has been incorporated for the purpose of developing the property and handling peat and moss litter. The company's property at Welland consists of about 5,000 acres, the whole of which is overlaid with peat moss to a depth of from three to five feet. The moss is extensively used in Europe and the United States for bedding horses and cattle. The peat fuel branch of the business has been delayed until the success of the moss litter branch has been practically established. There is a market for half a million tons a year in Toronto if the price is right. Even if the price is not right we would rather support Canadian peat producers than Pennsylvania coal barons.

Petitions for the exclusion of Chinese from Canada are still in circulation in British Columbia.

#### HOW TO ADVERTISE CANADA.

BY D. D. MCLEOD, BARRIE, ONT.

HAVING enjoyed a visit to Britain this summer, after an absence of 25 years, I desire to refer to one point which is of importance to Canada to which my attention was called. We are familiar here with the fact that even intelligent and educated people in Britain, not excluding editors of important newspapers, are more ignorant concerning Canada than we think they should be. But it is worthy of consideration whether we take adequate means to inform them of what is going on here and of keeping our country before them in such a way as to give them just ideas of its extent and importance. In The Glasgow Athenaeum, for example, a reading room in the centre of the city much frequented by business men, I looked in vain for a Canadian newspaper, the only one dealing with Canadian affairs to be found in the room being the Canadian Gazette, published in London. I found, however, several American papers in conspicuous positions. Again, in the leading dailies in Glasgow and London which I had an opportunity of seeing while resident in those cities the paragraphs dealing with Canadian affairs were very brief, and sometimes revealed a very imperfect acquaintance with Canadian affairs. Naturally, therefore, among many intelligent people there is much ignorance in regard to our country. Its extent and resources are very little known, though better known no doubt than even a few years ago. The suggestion I would make in view of the situation is, that another course than that which has been followed in the past should be taken to make Canada better known.

The only sufficient and satisfactory way, it seems to me, would be to use much more largely the press of the old country, and also to see that the public resorts and reading rooms should be furnished with some Canadian newspapers. If it could be arranged, a certain amount of Canadian news, collected and prepared, could be transmitted daily or weekly to the leading papers of Britain that would in the course of a year do more to give Canada prominence in the eyes of the public than any measures that are now in use. This would require to be done by some competent person, paid by the Government to do it. For it is evident that the press itself does not find in Canadian affairs matter which it is willing to pay much for. However, it might be done. Only in some such way will the people of Britain come to have more intelligent and interested views of Canadian affairs.

Comparing the state of things in Britain with my knowledge of the country twenty five years ago, especially in Glasgow and other cities, very great advancement is apparent. The condition of the working classes seems much improved. There is nothing in Canada to tempt them to give up their positions there. One is impressed with the fact that you are in the midst of a great, free and loyal people. The impression left on the mind is one of admiration for their mechanical and commercial enterprise, their enlightened, honest and progressive municipal government, and their political freedom and independence. Everywhere I observed indications of progress compared with the past, and none of decay or retrogression.

If some such measure as I have suggested were employed to inform the British public of our affairs I believe it would do much for the promotion of Canadian interests.



## BRITISH COLUMBIA'S PROGRESS.

THROUGH the courtesy of the Secretary, INDUSTRIAL CANADA has been favored with a number of copies of the seventeenth annual report of the British Columbia Board of Trade which has just been issued at Vancouver. The report is embodied in a pamphlet of eighty pages, and the general development and progress of the province is treated in an interesting and exhaustive manner. It deals largely with mining, a subject of special interest at the present time, and reference is also made to its fisheries, lumber and agricultural interests, railway construction, and the general industries of the province.

The value of the output of minerals, other than coal, increased from \$1,241,031 in 1894 to approximately \$5,000,000 in the year 1895 as follows:

Trail Creek district, 22,972 tons; yielding 45,950 ounces gold, 2,572,850 pounds copper.

Slocan district, 9,309 tons shipping ore, 30,000 tons concentrates; yielding 1,837,100 ounces silver, 17,145,000 pounds lead.

Ainsworth district, 43,644 tons; yielding 605,550 ounces silver, 28,906,800 pounds lead.

Nelson district, 3,707 tons; yielding 176,560 ounces silver, 494,370 pounds copper.

West Kootenay, placer gold \$10,520.

Cariboo, Cassair, Yale, Lillooet and East Kootenay placers \$491,025.

Fairview and Camp McKirney, quartz, \$135,000.

The output has continued to increase during the past six months, especially in the Trail district, where many claims are already giving results which promise to make that subdivision one of the important gold producers of the world. The average value of the ore is about \$40 per ton, principally gold, with a percentage of silver and copper, but far higher grades are found in the lowest levels, and in the case of Le Roi some of the richest ore yet taken from that mine was found 500 feet below the surface. Another characteristic of the Trail district is that nearly all the ore veins so far developed have been found to widen with depth.

For the prospector the field is practically unlimited and any person over the age of eighteen years can obtain a free miner's certificate on payment of \$5.00. Claims may be located 1,500 feet in length by 1,500 feet in breadth; to hold these it is only necessary to work them to the value of \$100.00 in each year for five successive years, and to record particulars at the government office, when a crown grant will be issued. A free miner may enter upon any crown lands and cut such timber as may be required for the purposes of the claim or claims being worked by him. The mining laws have been framed so as to facilitate as far as possible development in every stage, and experienced mining men from the United States speak in terms of highest commendation of their liberal scope and justice.

In the mining districts, the report states that ordinary labor is paid \$2.50 a day and skilled labor from \$3 to \$3.50, but that the supply is already more than the demand.

The Canadian Pacific Railway proposes to extend its line from a point opposite Robson, on the Columbia River, to Trail; and also the branch to Vernon, in order to serve the mines situated near Rossland. The Red Mountain Railway will give all rail connections with two United States trans-continental railways. These important works indicate the permanency of the mines in Trail District.

This note of warning is sounded presumably for the benefit of intending investors in mining stock:

"Attention is directed to the principle upon which some mining companies are formed. The system of capitalizing slightly developed mineral claims for large sums of money and selling the stock at a small percentage of the par value is, in case of the liquidation of the company, fraught with serious consequences to the holders, and in any event prejudicial to the proper development of the mine. The laws of British Columbia are opposed to a company selling its stock at a discount, yet these have been evaded in the case of some mining ventures. Discontinuance of this practice and compliance with the Provincial laws will be some guarantee that companies are formed for the purpose of working the mines instead of unduly enriching the promoters of the schemes."

The enormous coal fields in the Crow's Nest Pass are attracting great attention in consequence of the large demand for coal for smelting purposes in the Kootenay district. The coal is stated to be an excellent one for cooking, and to bear transportation without breaking.

The Vancouver Island coal output in 1895 was 651,295 tons. The Vancouver Island collieries placed 651,295 tons on the California market, against about one million tons from all other sources. Extensive development work is being done on the mineral claims in the Alberni district, a large area of which is threaded by veins carrying gold, copper, and silver. The auriferous deposits of this section are also receiving the attention they merit. In the Barclay district, contiguous to Alberni, immense bodies of ore have been found and development work is progressing.

The deposits of iron ore, both hematite and magnetic, are very extensive in this district and at other points on Vancouver Island. Many of these deposits are on good harbors, which, together with other natural advantages, not the least important of which is the necessary and convenient fluxes for smelting, should enable iron to be produced as cheaply as in any other part of the world.

But it is not in minerals alone that the Province is opulent. The fisheries of British Columbia are probably the richest in the world. Although only \$2,000,000 is invested in them, the exports under this head during the fiscal year ending June 30, 1895, amounted to \$3,264,000. There were 47 canneries in operation, and the total pack was 566,395 cases, valued at \$2,831,875, which is 72,027 cases more than the pack of the previous year. The export of fresh salmon, frozen and packed in ice, amounted to a million and a quarter pounds. This new branch of the fishing industry, it is complained, is at present retarded by high freight rates.

The catch of sixty-four schooners engaged in sealing in 1895 was 70,739 skins against a catch of 94,474 skins by fifty-three schooners in the previous year. This season's catch off the coast of British Columbia has been more favourable than that of last year, and the catch in Japanese waters is about the average.

There was a steady improvement in the lumber industry during the year 1895, the quantity cut being 112,884,640 feet, or about 40 per cent. more than in the previous year. The foreign demand was more widely distributed than for some years past.

Satisfactory crops of all kinds of agricultural produce are raised in British Columbia. Roots and vegetables were generally good and large crops are reported from all the districts.

Industrial establishments have continued to increase and it is expected that the Province will hold its position as the largest manufacturer in the Dominion in proportion to population.



## ALBERTA'S POPULATION.

SUGGESTIONS AS TO THE METHODS TO SECURE THE  
BEST CLASS OF IMMIGRANTS.

BY WESTLEY F. ORR, CALGARY.

HAVING for the last twelve years been a close observer of the progress made in settling up this provisional province of boundless resources, I venture the hope that I will be able to make some suggestions which will be of use to the Dominion Government and more particularly the gentleman who is to be appointed Minister of the Interior.

Avoiding all party leanings, the situation must be viewed as we find it at present. While it is true that Mounted Police census, taken a year and a half ago, showed an increase of 52 per cent. in the population of Alberta during the four preceding years, yet it must be remembered that the original numbers on which the 52 per cent. was gained were so small that the sum total of Alberta's population is not anything like what the merits of the country entitle it to. Such progress in settling the country in the past as the country deserves not having taken place, it is necessary, in order to do better in the future, to understand the main reasons which have operated against rapid development. In the first place, though I have read all the government immigration literature I have been able to get hold of, I have not seen anything but the most meagre and unskilled information published about Alberta. In fact the avowed policy of the Dominion Government has been to not publish the special features of any one part of Canada to the apparent disparagement or prejudice of any other part of the Dominion. So that Alberta in common with the other territories, having no funds for the purpose and it not being a part of the work allotted to the Assembly to look after immigration, has suffered through the world not being informed of the particular character and resources of each district. It is most important that carefully prepared pamphlets giving unvarnished facts about the resources, and what kind of immigrant each district is best suited for, should be published in the languages of the nations that are annually sending out tens of thousands of hardy emigrants to less inviting countries than Western Canada, and let these pamphlets be distributed among intending emigrants. The Dominion should enable the Territories to each have a representative in the over populous nations of Europe so that Western Canada would become a known fact, in Norway, Sweden, Denmark, Belgium, &c., &c. During three or four years, through the work of injudicious agents a large number of people have been brought into Alberta from the States to the south; with some good exceptions these people have proved to be no better than gypsies, being a class that have travelled over most of the Western States in prairie schooners. Never settled down or did any good anywhere and never will. They are leaving Alberta, for which we should be thankful.

It is hardly to be expected that a country that is bidding so high for immigrants of the better sort is likely to furnish many thrifty people to settle Western Canada, though some from the Eastern and Middle States have proved valuable acquisitions. One of the

lamentable hindrances to the development of Western Canada is the almost utter ignorance of the West which pervades the minds of the Dominion legislators and the editors of the great newspapers of Canada. Another lamentable fact is that there are ever and anon cropping out a feeling of jealousy on the part of members of Parliament against the West, they do not ever seem to think about the science of nation building. The majority in Parliament seem to forget the great example of the United States lying along side of Canada from the Atlantic to the Pacific. They seem to forget that our neighbors have become in many respects the greatest nation on earth, that the great seaboard and lake cities with their millions of people, their hundreds of millions of capital and hundreds of thousands of artisans, are there because their wise statesmen and capitalists built up their great west, which is no better, indeed not so good, on the average, as the Canadian West.

Another thing that has militated very much against Alberta during the ten years of her parliamentary representation life is that she was practically unrepresented in the popular chamber. It is preposterous that Alberta should have only one member while her population entitles her to at least two, and her area entitles her to three. The people of Alberta look, especially to the Minister of the Interior, to see that in this matter justice is done to Alberta.

Another potent reason why Alberta has not developed as it otherwise should have done is the railway rates that have prevailed in the Territories. The passenger rates are so high that people cannot move around and promote business as in other parts of Canada. The cost of shipping the products of Alberta to the places of consumption are so high that the net price which farmers realize is almost nil. This state of things must be remedied by some means. The C. P. R. claim that the rates are as low now as they can afford. If that is the case the Government had better adopt the proposition of Mr. C. A. Magrath, M. L. A., which is for the Government to buy a reduction of rates from the C. P. R. and pay the Company for the reduction. There is another method by which the Government may come to the rescue of the country, namely, by subsidizing in some form to a reasonable extent competing lines of railway. It is rather strange that when competing lines of railway are built the old lines soon discover that they had been mistaken in the rates necessary to maintain their roads, and find that one half or less of the old rates is all that is necessary to charge. Something must be done, and that promptly, with the railway grievance if the country is to prosper. The history of railways for nearly half a century has been that no country or city has prospered with but one line of railway to do the work. Every one of our own Canadian cities furnish proof of this fact, and while the cities have benefitted the railways have not suffered. The traffic of the old lines has more than doubled while the new lines have got double the traffic that the older roads had before competition.

There is a vast field in Alberta for our live member, Mr. Oliver, the Minister of Railways and the coming Minister of the Interior to make a name for themselves and a province of the first magnitude.

## THE WHEAT BOOM AND IMMIGRATION.

Canadian immigration authorities in England say that with Manitoba wheat selling at 70 cents per bushel, half their troubles in promoting the settlement of the prairie is ended. They expect a big boom in emigration next spring.

## ONTARIO MINING SCHOOLS.

**K**EEPING pace with the progress of mining operations in the Province of Ontario, the mining schools at Toronto and Kingston are being equipped and strengthened with a view to supplying the scientific and practical instruction upon which success in mining enterprises must always very largely depend. For the purpose of making mill tests of about a ton of gold ore at a time, a three-stamp mill with a crusher of the Dodge pattern and a Frue vanner has been added to the School of Practical Science at Toronto during the past year. We give a cut of the mill on front cover page, and from the fifth report of the Bureau of Mines take the following interesting account of what is being done in this direction. Those interested in making thorough tests of any vein or deposit of gold ore will readily see the value of a mill test of this kind. In the first place, by taking quantities of a ton any chance mistake which might arise from relying on assays of small samples is absolutely precluded. Those who are familiar with mining operations can recall instances where considerable sums of money have been spent on the strength of one or more assays of samples picked from the surface. It is very easily possible also, in cases where the gold is coarse and not uniformly distributed, for assays to show nothing, even although the ore might pay to work.

Another point which is equally important to know is the way in which the gold occurs in the ore, that is, whether as free-milling or in concentrates, as this affects the cost of extraction and consequently the value of the ore. An assay of course only gives the total amount of gold in small samples, and not how it occurs; while panning is open to the objection that only small quantities of a very few pounds at most are taken. Usually it would be impossible to collect a ton

of picked samples from any vein without doing a large amount of work. A thorough mill-test is therefore the investor's best safeguard.

With regard to the arrangement of the mill, as no provision was made for anything of the kind in building the school, the best use had to be made of the available space, and the mill planned to suit existing circumstances. As there was just enough room to allow sufficient fall for the pulp from the stamps over the vanner and down to the drain, the crusher had to be set up on the floor and the crushed ore hoisted by means of a friction pulley to the ore feeder.

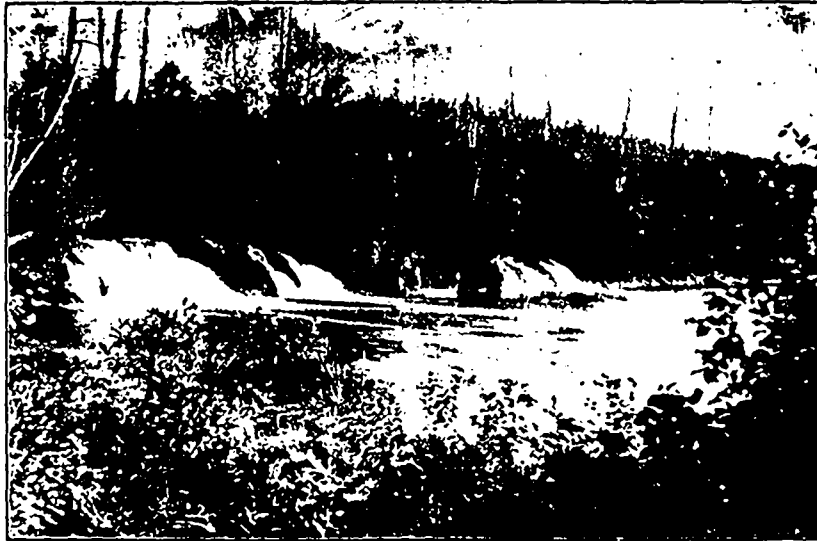
To follow the ore now in course of being treated, the first operation after any necessary sampling is done by spreading out on the concrete floor and shovelling so as to mix thoroughly, is to put the ore through the crusher, the jaws of which can be set so as to crush to any desired fineness. This process is only a preliminary step to the fine stamping in the mortar. The crushed ore is then transferred to a bucket, weighed and hoisted to the ore feeder, which holds about half a ton of ordinary ore. The jar of the stamps keeps the ore feeding slowly into the mortar as long as the stamps are working. The stamps are light, being the kind designed for prospecting, and weigh 225 lb. each. Inside the mortar are two copper plates, silvered on one

side to facilitate the amalgamation with mercury; these inside plates catch most of the gold. The pulverized ore is carried through a fine screen by the water fed into the battery, and passed over another amalgamated plate which will take up any gold that may have escaped the inside plates. From this plate the pulp which should now not contain any free gold, passes on to the distributing board of the vanner and is there spread out over the surface of the rubber belt uniformly. As the belt moves slowly forward and the pulp comes up to the clear water sprinkler, the lighter particles are washed down the belt, and the heavier particles such as iron pyrites, which might contain gold, stick to the belt and pass down underneath through a tank of water, where they are deposited. By this means both the amount and value of concentrates in a ton of ore can be determined. The tailings on the other hand pass down with the water over the tail of the vanner and are left in a tank. The water, after being cleared of anything that would settle, passes off into the drain. When the run is over the tailings can be taken out, dried, sampled carefully and assayed. This will determine the loss of gold.

The machinery is driven by a 6 k.w. constant potential motor supplied by 110 volt incandescent circuit of the city, and was made by the Canadian General Electric Co. at Peterboro.

The crusher, stamps, ore feeder and Frue vanner were supplied by Messrs. Fraser and Chalmers of Chicago.

At the Kingston School of Mining and Agriculture, a Summer School for the special benefit of teachers was held during July and August. Seventeen took advantage of the courses in practical chemistry, chemical analysis, mineralogy, crystallography and assaying. In September a field course in prospecting was organized, with the object of making the instructions in prospecting methods thoroughly practical. This was the first course of the kind given in Canada, and the class was limited to twelve. The party spent some time examining the mineral resources of the townships of Palmerston, Clarendon and Barrie, and district. Numerous iron, phosphate, mica and other deposits were examined and specimens were collected for the school.



FALLS ON ATIK-OKAN RIVER. From a photograph by DR. ROBERT BELL.

of picked samples from any vein without doing a large amount of work. A thorough mill-test is therefore the investor's best safeguard.

## SEINE RIVER DISTRICT.

**W**E GIVE on this page a view of the falls on Atik-okan River below Magnetic Lake in the Seine River District, for which we are indebted to the courtesy of the Director of Mines, Mr. A. Blue. Atik-okan River is the outlet of Crooked Pine Lake. It is shallow and narrow where it flows out of the lake. Below the first rapid is a basin or pond of still water, which is characteristic of most streams in the northern region of the province, and in less than half a mile the river again widens into Magnetic Lake, a sheet of water about a mile long enclosed on all sides with green timber and dotted with prettily wooded islets. About one hundred yards below this lake are the noisy rapids and falls. In the report of the Bureau of Mines the Indian name Atik-okan, is given as meaning Reindeer or Caribou Bone,—caribou being Canadian French for reindeer.

## NEW BRUNSWICK'S FORESTS.

DESTRUCTION OF THE NATURAL WEALTH OF THE PROVINCE—A STIR IN LUMBERING OPERATIONS—POLITICS QUIET—ST JOHN ITEMS.

**P**OSSESSION implies responsibility. Noblesse oblige has as much application to natural wealth as to that created by labor or acquired by conquest. The people whose country abounds in fertile plains, valuable forests and tearing lakes and rivers, and is surrounded by seas, whose finny treasures excite the envy of the world, are as much bound to preserve them in the interests of their posterity as is a nobleman who finds himself the possessor of an untarnished name and great possessions.

The violation of natural laws is always punished by a power that knows no partiality and admits of no excuse. The destruction of forests is always followed by lessened rainfall and a loss of fertility in the soil and the destruction of valuable fish and game always lets loose vicious and destructive pests who become enemies of no mean powers, and who amply revenge the cruelty which made men destroy the purveyors of food and raiment so provided by nature.

Writing to the *Moncton Times* a correspondent points out that in no place, perhaps, have the laws of nature which command a care of the young of all valuable life, both animal and vegetable, been more grossly violated than in New Brunswick. The writer says: Our people have acted as if every tree were an enemy, as if every fish were a reptile, and every bird and beast of game enemies of mankind. To burn and destroy the forests, and to kill and destroy both bird, beast and fish useful for food, seems to have been a passion in the minds of our ancestors which they transmitted to their children. To look over the vast tracts of burned woods in New Brunswick, which one sees on every hand, gives one a feeling not at all in accord with the Chinese doctrine of the sanctity of our ancestors. Had the most ordinary care been taken to preserve our forests from destruction, we should now have had an estate which it is easily proved to be, if as I said properly preserved, nothing short of fifty millions a year rental. We could, off our fifteen millions of acres of forest, cut each year from \$3.00 to \$8.00 an acre without diminishing the value of the lot. Our forests have a rapid growth, which is unknown in the west or, in fact, in any other part of the world.

Even now if reasonable care were taken and wise laws enacted and enforced, a great deal could be done. Many tracts long ago burned over are now growing up with a second growth of birch, poplar and black spruce, as well as in some places fairly good pine. If fire wardens were appointed in each school district to see that no fires were set out without a license being given in each case after personal inspection by the warden, we would have some guarantee that fires would not be set out on all pretexts, or without any pretext at all. Think of a man setting out a fire to clear off a patch of land worth ten dollars and destroying lumber valued at six millions of dollars, as was done in sight of the writer this very summer. If settler and railroad magnate were both taught that the people of New Brunswick own these forests we would soon see a different sentiment in regard to these matters.

Apropos of lumber. The people of Miramichi are now getting ready for the woods. The prospect of a large cut seems good if we can estimate it by the number of teams now going into the bush.

Wages, although somewhat depressed by the number of men swarming back from the States who, un-

able to make a living under Uncle Sam, are coming back to the Maple Leaf, are still fairly good. They range from \$16.00 to \$28.00 a month. These figures are, of course, for men known and capable.

It is estimated that the lumber cut on the head waters of the St. John this season will be 110,000,000; on the Tobique about 30,000,000, and on the Aroostook waters in Maine, 40,000,000. To do this will require the labor of between 4,000 and 5,000 men. The bulk of the supplies for Aroostook lumbermen and their teams will come from Aroostook farms while those consumed in this country will come largely from the United States, Ontario and Quebec. The reason for this is that many of our farmers are content with what their land produces and make no effort by better cultivation to increase the bulk and value of their crops. A Foxcraft, Maine, farmer this season supplied a cannery with 900 bushels of corn grown on four acres. With the same cultivation just as good a crop might be produced in many parts of this province.

Referring to politics, which are reported quiet, the correspondent says: The addition of more than two millions to the estimates for the coming year beyond what the Tupper government asked is such a startling commentary on the profession of retrenchment and economy made by Laurier that liberals prefer to discuss the weather instead of political economy just now. The taking of the Allan Line of steamers back to Portland, Maine, after being located at St. John by the Tupper government shows that whatever power the maritime representatives had with the government when led by Tupper and Foster, has not been inherited by Blair and Fielding. The excuse given for this act will not deceive any well informed man on either side of politics.

Mr. Edward Edwards, of St. John writes: The Saint John Academy of Art, which was established eighteen years ago and has the names of more than 2,000 pupils on its register, is now the only art school in the city and is in a most flourishing condition. Instruction is given in the different departments of art according to the latest European methods by the best teachers, under the direction of Principal Miles, and pupils have examples of New Brunswick, Nova Scotia and Prince Edward Island land and water scapes which they have permission to copy, thus promoting the individuality of Canadian art.

Some weeks ago the destruction by fire of Messrs. Connors Brothers' cannery at Black's Harbor, Charlotte Co., was reported. Before the smoke had cleared away they were rebuilding on a larger scale and the execution of orders was delayed but a very few days. The reputation of their products is not excelled by that of any other cannery on the continent, and their demand has increased to such an extent that they have decided to keep their plant in operation all winter. The principal products are lobsters, finnen haddies, clams, scallops, sardines in oil, mustard, tomato catsup and spices, and raspberries and blueberries.

There is a better feeling in the market and a sharp advance is noted in some lines of staple goods. Geo. S. Deforest & Sons report an advance of 50 to 75 cts. in Ontario and Manitoba flours, 30 cents in oatmeal and 10 cents in cornmeal. Pork is one dollar higher per barrel and lard  $\frac{1}{2}$  cent per pound. Eggs which have been quoted at 8 and 9 cents nearly all summer are now in good demand at 12 cents. Butter is unchanged, strictly choice selling at 17 cents. There has been a slight advance in apples, No. 1 Gravensteins selling at \$1.40 to \$1.50 per barrel.

## NOVA SCOTIA'S OPPORTUNITIES.

PLENTY OF SCOPE FOR THE YOUNG MEN OF THE PROVINCE TO SHOW WHAT'S IN THEM.

SOMETHING to keep the boys profitably at home is the principle that builds up a country. Where the boys are the girls are, and between the two we can trust the country and its politics and the census.

"Our young fellows go to the States," says an exchange, "because there are more people there, and consequently more opportunities for position and advancement. It is the same reason that induces the boy to leave the farm and try his fortunes in the city. He may make a failure of it, but he wants the opportunity to spread his wings a bit and show what he has in him."

If this were true our young men would go to China—there are lots of people there. The Atlantic Weekly, a spicy paper much alive to the interests of Dartmouth and the Province of Nova Scotia, reasons it in this way: The chief reason Nova Scotia's young people go to the States is because the old people preach discontent, growl at the government, kick against providence because dollar bills do not blow into their front halls like autumn leaves. The older people don't appear to have confidence in their own country when they have one of the best on earth. Look what British Columbia is doing, pushing her mining interests. A few days since we saw several hundreds of dollars paid in a broker's office for mining stock in unknown mines away across the continent, when hundreds of better properties are undeveloped right here under their noses where they have a fair chance to see what they are doing. Why is that? Hundreds of thousands of Nova Scotian capital is invested in Ontario banks; why is it not invested in our own enterprises? Thousands of dollars have gone from Nova Scotia to be invested in the vineyards and orange groves of California. There is more money in apples in Nova Scotia. This can be proved any day. Who ever saw an orange tree which turned off oranges to the value of thirty barrels of Gravensteins, the product of a single tree in Cornwallis. Scores of trees have produced from twenty to twenty-five barrels of good marketable fruit in a season. What orange tree will do that? This year grapes have been sold for seventy dollars per ton. How much more money is there in grapes than in strawberries or other small fruit?

When we hear of mines of marvellous productivity selling for \$25,000 it would do no harm to consider how much of a mine you could buy in old Nova Scotia for \$25,000. Our coal fields are as good, our gold fields are as good and better than many over which much more fuss is made, but we don't seem to realize it. We beat the Dominion in our catch of fish. Still we don't seem to realize it; and the old men advise their boys to go to the States instead of advising them to hustle for a fortune in their own gem of a province. Some day we will see our mistakes.

Just this week a gentleman of unquestionable integrity stated in our office that he never would have believed there was such scenery, such spots of entrancing beauty, if he had not been induced to go to Waverly. He was in raptures over our lakes and surrounding country. "Why," said he, "I was amazed." Nowhere that I have been have I ever seen its equal except the famous Muskoka Lakes in Northern Ontario, and there, said he, "you can't get an island

or a foot of land for love or money. All sold or secured, and here right at your doors are these wonderfully beautiful lakes with the land around unoccupied." He could not understand it. Waverly he looked upon as a gem. Not the ordinary mining camp at all, but a charming, enchanting, cozy village just out of town, far enough and still quite near enough. Some day we will wake up to find that we have more gold mines than those lying under the surface, but it will require outsiders to wake us.

## THE RAILWAYS OF THE WORLD.

THE Railway Age of a recent date presents some figures giving the total railroad mileage of the world according to the latest estimates, which cannot fail to be of more than passing interest. When, as the journal in question remarks, it is considered that hardly more than fifty years have elapsed since the construction of the first railroad, the fact that the total extent has grown to a little less than 450,000 miles is fairly astonishing. Railroads are now found upon every continent, upon every known island of importance, in every civilized country and in many that do not properly come under this heading. Ceylon, China, Persia, Congo, Senegal and Mozambique contributing their quota. North America is first among the continental divisions with 203,138 miles or 47½ per cent. of the total, Europe ranking second of course with 152,422 miles. Then there is a great drop to Asia with 26,078 miles (of which 18,777 miles are in British India); South America having 24,799 miles, Australasia 13,795 miles, and Africa 8,141 miles. North and South America combined, with less than a tenth of the world's population, have considerably more than one half the world's total mileage of railroads. The countries which have more than ten thousand miles of railway are: United States, 179,391; Germany, 28,246; France, 24,841; Russia, 22,666; Great Britain, 20,503; British India, 18,777; Austria, 18,664; and Canada with Newfoundland, 16,134. Italy has 9,088 miles, Spain, 7,548 miles, Brazil, 7,436 miles, Mexico, 6,990 miles, and Sweden 5,758 miles. No other country has as much as five thousand miles, though at the present rate of progress Japan with its 2,237 miles and Cape Colony with 2,440 miles will soon have reached that limit. The proportion of railroad mileage to territory and population differs widely and affords some noteworthy extremes. Thus Belgium, with a total of 3,445 miles of railroad, has 29.1 miles of road for 100 square miles of territory and 5.4 miles per ten thousand inhabitants; Great Britain 16.6 miles for 100 square miles of territory and 5.3 miles per ten thousand inhabitants; while the Netherlands, Germany, Switzerland and France follow very closely with little variation. Going to the other extreme, Australia has only six-tenths of a mile of road for 100 square miles of territory while that vast country has 32.4 miles for ten thousand inhabitants; Canada has only four-tenths of a mile of road for 100 square miles of territory but ranks second in the number of miles (31.8) per ten thousand inhabitants; the United States being third in miles of road for ten thousand of population (26.1) but having only 5.7 miles of road for 100 square miles of territory. British India has a larger mileage of road than Canada in respect of territory but her population is so vast that the total only gives six-tenths of a mile of road to every ten thousand inhabitants, as compared with 31.8 miles in this country. The statistics afford much food for speculation.

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## THE UNITED STATES ELECTIONS.

It can hardly be said, perhaps, that the election of Mr. McKinley to the Presidency of the United States was a surprise either in his own country, Canada, or elsewhere, for the election was one watched by all commercial nations. The victory, however, is more pronounced than was expected. There were factors that entered into the contest that made the outcome doubtful. And yet we have an illustration of the extent to which sound commercial methods prevailed in a commercial country when put to the test.

The fight was between sound money and visionary schemes to make the getting of money apparently easy. The country to the south of us has shown that they understood that science stands at the back of finance, and that to reverse its laws would mean disaster to the body politic just as is the case with the human system when the laws of science and nature are outraged. The immediate effects of the contest were seen in the advance in stocks within twenty-four hours after the result had been known. English capital and securities which had been seriously affected for the past few months immediately put on strength and there is good reason to believe an era of prosperity is before our neighbors.

To what extent the change in parties will affect Canada is yet a moot question. It is hardly possible for the United States to be commercially prosperous and Canada not be favorably affected, the relations of the two countries are so intimate. This anomaly occurs, that where Mr. McKinley is the advocate of sound money he is known as a very ultra protectionist and just what will be the effect of the change in tariff conditions, should these be anyways radical, it is difficult to say. The impression, however, prevails, that conditions in many respects have changed since the Republicans were in office, and that there will not likely be any very great change in the tariff.

## THE RISE IN THE PRICE OF WHEAT.

ONE of the events of the month has been the strong advance in the price of breadstuffs, particularly wheat, though oats and other cereals have shared in the general increase. We little realize, sometimes, until a case of this kind is brought directly under one's notice, how much this country, and many other countries, depend upon the soil for their prosperity and success. When famine comes to a nation, it is the outcome of the failure of crops. Contrariwise prosperity will come to a country when it has been blessed with a rich harvest, and better still when conditions fix prices so as to bring a good paying return. It is one of the anomalies of agriculture, that in some years where the crop has been abnormally large nothing approaching the prosperity, that on superficial observation had been anticipated, has come.

A year ago Manitoba and the Northwest Territories had a phenomenal crop. This year it may safely be discounted about one-half, and yet already there are greater evidences of prosperity in the Prairie Province than there were a year past.

What an advance in price means is seen in a large way if we take a country of the size of the United States. It is estimated that the advance in prices of farm products since the first week in September in that country have added \$223,500,000 to the wealth of those holding the five cereals, wheat, corn, oats, barley and rye. Relatively equal prosperity comes to our own country. The estimated yield of wheat in Ontario is 14,526,088 bushels of fall, and 3,667,758 bushels of spring, or in all 18,193,846 bushels. In September the average price of this cereal was 62 cents. A month later it had gone up to 82 cents, an increase of twenty cents, which would bring to the wheat growers of Ontario an advance of \$3,638,769. With a crop of 84,974,508 bushels of oats, and a jump from 18 to 36 cents, \$15,295,411 is added to the wealth of the producer of oats. Taking the different cereals it is calculated that in Ontario farmers, by this advance, have added \$19,924,366 to the value of the season's yield.

With a wheat crop of 18,565,198 bushels in Manitoba, though threshing returns have reduced this total to 14,371,806 bushels, the average advance of twenty-five cents a bushel, raises the value of the wheat crop by \$3,592,951. Oats, which are a considerable crop, being 16,633,222 bushels, advanced 18 cents, and increased the value of the crop by \$2,993,980. If we take the two provinces together, Ontario and Manitoba, which are the thriving agricultural provinces of the Dominion, this recent advance has added to the wealth of the country \$26,715,957.

Prices have slumped somewhat within the past few weeks, but it seems clear that they will not get down again to anything near the depressingly low prices that both in Ontario and Manitoba have prevailed for the past year.

And where one must discount oftentimes the reports that come from the grain centers of the world, as to

the condition of crops in other lands, at the same time a conservative view of the situation would seem to show that foreign countries will rest to no small extent on America. Within a day or two of the present writing an important letter was received by Canada's big miller, Mr. W. W. Ogilvie, of Montreal, from a grain merchant in Great Britain, saying that there was little doubt that the crops in India and other points had been a failure, and that the motherland had to look to America for her supplies.

Hard times have hung on to this country with wonderful tenacity for many years, though it must be admitted the depression and suffering has been far less here than in the country to the south of us, yet it has been enough to make welcome the good news of the increase in the wealth of the country by the present advance in its most important industry—agriculture.

#### THE TARIFF COMMISSION.

IT is announced that the government commission, promised by Mr. Laurier, and which will consist of Finance Minister Fielding, Minister of Trade and Commerce Cartwright, and Controller of Customs Paterson, will commence their investigations almost immediately. This will be good news to the business community, for whilst trade has not suffered materially pending possible changes in the tariff, yet, it is one of these matters, once taken in hand, that cannot be disposed of too quickly. A period of suspense or waiting in business is never helpful to the prosperity of business.

It may be expected that the investigation will be thorough—nothing superficial will accomplish the ends desired. If it be possible there should be but the one revision of the tariff. Tinkering with tariffs is always dangerous work. What will cause the greater anxiety, probably, to the business community, is the ultra free trade complexion of the commission, though it may be that this very fact will operate in an opposite direction. With Mr. Fielding and Sir Richard Cartwright, it is known, we have two aggressive advocates of the principles of free trade. Mr. Paterson, whose activities in commerce have possibly been more direct and practical than those of his associates, may be expected to take a more conservative view of the situation.

In a consideration of the principles of political economy there is a wide difference between what is abstractly correct and what is practically possible. Nor does it mean that one may, as a matter of logic and theory, hold strong views on economical questions, and yet sacrifice any real principle in a modification of these views when they must be put into practice. In our own country we see a clear illustration of this in the fact, that first of all, a certain very considerable revenue must be raised annually. This revenue comes mainly through the taxing of certain commodities, so that in fixing a tariff it becomes a matter largely of judgment, and wise judgment is cer-

tainly needed, of deciding where the impost may be placed with the least injury to the great majority of the people and with the greatest benefit to the development and progress of the country. Where friend and foe have ever admired the sturdy independence and high character of the late Alexander Mackenzie, many of his truest friends felt at the time, and realized afterwards, that he made a serious mistake in refusing to grant the very small concession of an increase in the revenue tariff that at the time of his administration was asked for by manufacturers. The necessities of the country afterwards made an increase in the tariff a necessity, and it would not have been a sacrifice of that high ideal of a statesman's principles held by Mr. Mackenzie to have given away to this slight extent.

Without any doubt the tariff as it exists to-day is open to reform. Duties have been placed on different lines of manufacture with the expectation that in so taxing certain commodities important industries would be built up. This has not been the case. A few have benefited by securing the special privileges, but the great majority of the consumers have had to pay the piper.

It will be expected that business and not theory will be the governing motive of the investigation, and back of that a sincere desire that the affairs of our country shall be put in such shape that all legitimate lines of business shall be placed on a fair and reasonable road to prosperity.

#### FROM ATLANTIC TO PACIFIC.

THAT the mineral wealth of Canada is found all the way from the Atlantic to the Pacific is brought out very clearly in an article in the National Review by George M. Dawson, Director of the Geological Surveys of Canada. It is pointed out that in British Columbia the output for the first six months of the present year is \$2,200,000, exceeding that of the whole of 1895; and Mr. Dawson says there is every reason to believe "from the known geological conditions, and from analogy with the corresponding region to the south, that as skilled prospecting is extended from point to point a mining country fully comparable with that of the entire western tier of States of the American Union will be found to exist. The mineral wealth of British Columbia includes gold, silver, copper, lead, asbestos and coal in very large quantities. Coal is also found in abundance east of the Rockies. In a report on southern Alberta, published some time ago, the amount of coal contained in one tract some 66 miles long was estimated at 330,000,000 tons. Natural gas has been found in the Northwest, and along the Athabasca River there are indications of petroleum in remarkable abundance. Then in Ontario there are deposits of gold, silver, copper, iron, nickel, peat and other products, in regard to most of which development has only begun. Quebec has phosphate, mica, graphite, asbestos and slate. Coal-mining in Nova Scotia has become an industry of some importance; gold has been found in paying quantities, and among other products are copper, manganese, antimony and structural metals. Everywhere the opportunities are good, and it is to be hoped that the interest now taken in the gold fields will give an impetus to the mining industry all round.



## EDITORIAL NOTES.

THE dry goods section of the Toronto Board of Trade, who have had the circular of the Minister of Trade and Commerce with reference to the proposed revision of the tariff under consideration, have come to the following decision: "That, as the time for the chief importations of dry goods for the spring trade is during the months of January, February and March, it is the opinion of the Dry Goods Section of the Board of Trade that any reduction in the duties upon dry goods that may be proposed and carried by the Government of the Dominion should not take effect earlier than the first day of July, 1897—any earlier date for reduction of duties would have a disturbing effect upon the business of the country and work a great injustice not only to importers but to retail merchants of the Dominion generally." Mr. Andrew Darling, Chairman of the section was appointed to represent the section at the meeting with the Council. The Jewellers' and Silver-smiths' Section also met and deputed their Chairman, Mr. Wm. McNaught, to represent them at the same meeting.

THERE has been a good deal of hoping against hope in business as each recurring season has come around, but it must be admitted that at the present time the outlook for a decided improvement in trade is more healthy than for some years past. The strong advance in prices of wheat will help in this direction. The settlement of the United States elections, and our own elections over, will be further helpful. It is not possible that the mines of British Columbia and Ontario should be developed in the manner that they are at present without the whole country being strengthened, unless, which is something to be guarded against, this development takes the place of speculation rather than a wise and business-like opening out of the riches of our land. Altogether, without being unnecessarily sanguine or optimistic, it does seem that good times are ahead, and not very remote at that.

IN an interview with Mr. D. R. Wilkie, General Manager of the Imperial Bank, on the Presidential elections, this gentleman is reported to have said that the tariff under the new Administration was a factor which had to be considered, and that that tariff would in all likelihood be a wall next to impassable by Canadian goods. He did not indeed regard this as an un-mixed evil, in fact he was disposed to look upon it as beneficial rather, in that it would teach us self-reliance by which we would discover new channels of trade for ourselves. Where in many respects the United States is the natural market for Canada's products experience has shown that it would be well for Canada to seek a development of its export trade in other fields. This was the policy, in some measure, of the late government, and it is encouraging to notice that Sir Richard Cartwright, as Minister of Trade and Commerce, is disposed to encourage foreign trade, and is now looking into possibilities in that direction. INDUSTRIAL CANADA has had correspondence with a number of foreign points, including South Africa and Japan, and it is very clear that there are many Canadian products and manufactures that could find

a market in these countries if the proper effort is put forth to cultivate trade. Let us secure all the business that can be done with the United States, but there is no reason whatever why we should rest our case solely in this one direction.

## QUEBEC BUTTER AND ONTARIO CHEESE.

IT is understood that the Government will use all its energy towards establishing cold storage establishments in various places in Canada. In the course of remarks in an address at an influential meeting of business men at the Board of Trade in Quebec city, the Hon. Mr. Fisher, Minister of Agriculture, said that Quebec Province should confine itself to butter-making and leave the cheese industry to Ontario, because the quality of the milk in Quebec is superior to that of Ontario. Refrigerators, according to the Hon. Minister, are absolutely necessary in order to keep Canada's supremacy abroad in the cheese and butter trade.

## THE PULP WOOD INDUSTRY.

REFERRING to the possibilities for local industries for Moncton, N. B., a correspondent says: Lots of paying enterprises might be started here. A couple of pulp mills, for instance. Chatham has two of such mills paying well. The State of Maine alone has forty of these mills, employing from 300 to 800 men each, while we in the whole of Canada have only eight or ten of such mills. We don't manufacture the pulp here but send the pulpwood to Maine and Massachusetts, thus furnishing the raw material to our neighbors across the line, who therewith keep their mills going, and give employment to thousands of laborers enriching their country at the impoverishment of our own.

## A CHANGE IN THE DEMAND FOR PORK.

THE changed conditions of the pork market and demand for lighter carcasses well streaked with lean is a matter that every pork raiser in the Provinces should carefully consider. As pointed out by Messrs. B. & M. Rattenbury, the great pork packers of Charlottetown, while a few years ago the demand was almost entirely for heavy fat pork, a complete change has come about. The demand is now for light fleshy meat. The only call for heavy fat pork is from the lumber camps, and there the American heavy fat plate beef is fast displacing fat pork. What the market requires now is firm meat from carcasses of 110 lbs. to 180 lbs., well streaked with lean. The market is not simply for a hog of light-weight. If the meat is not firm and fleshy, containing a large proportion of lean, but is a mass of fat, the hog of light weight is as unsuitable as one of 300 lbs. or 400 lbs.

To produce well fed lean meat from hogs of 110 to 180 lbs. at six months of age should be the aim of every farmer. The most desirable breeds of hogs for the purpose are the improved Yorkshires and Tam worths, while the foods best adapted for producing lean meat are oats, barley, peas, beans, shorts and skimmed milk.

The day has gone by when heavy fat pork was demanded by the market, nor is there likely ever again to be any demand of any consequence for pork of that description. Our farmers therefore should procure the breeds of swine recommended and place on the market pork of the most desirable kind. Firm lean pork will no doubt prove the most profitable also, as it can be easier produced than were the immense hogs grown for sale in the past.



## Canadian Mining Interests

### CANADA'S GOLD MINES.

THE mineral wealth of Canada is now attracting attention from all parts of the globe and there seems to be no doubt but that this country must be received among the great producers of gold and other precious metals at an early date. Reports of new and rich finds and the investment of large capital continue to come in from not only British Columbia but from Ontario and Nova Scotia also. Development work up to the present has progressed favorably, the rocks being compelled to pour forth their treasures of gold and silver in such quantities that even old California has been left in the dust and South Africa almost dropped out of the race. The mineral belt which is more particularly attracting the attention of mining men and investors far and near is undoubtedly in British Columbia. Throughout the whole Dominion and bordering states people are attracted by the marvelous reports from the mining camps of that province. The fame of the gold and silver mines has gone abroad and capitalists are sending their emissaries from all parts of the world to spy out the new land. Miners are flocking from every mining state in the Union, and not a few are coming from Australia and South Africa to see for themselves what the district contains.

General attention also continues to be attracted to the Rainy River and Lake of the Woods mining districts in Ontario. A large number of capitalists continue to pour in and others are looking in that direction.

### HAS ONTARIO COAL?

WITHIN the last few days this question has been answered both in the affirmative and the negative. The mineral wealth of Ontario is admittedly great, but if the expectations of some gentlemen are realized, this will soon be immensely increased by the addition of coal reported to have been discovered in the township of Balfour in the Sudbury District. A more important discovery could hardly be made. The effect which the successful mining of coal in this province would have in manufacturing, and in other respects, would be of the greatest possible importance to the public generally. A few days ago a party of gentlemen interested visited the location and report the specimens taken out as satisfactory.

Some of the coal taken out was put into a forge and tried. It burned nicely, with a pinkish flame similar to that of anthracite; there was no smell of sulphur, the heat was intense and it lasted longer than much of the ordinary anthracite will. The ash was pink-colored and contained some sand.

An assay was made of the specimens with the following result:

Carbon.....	64.055 per cent.
Residue of silica matter, iron and copper..	2.075 per cent.
Silicate and aluminum.....	33.087 per cent.

Good anthracite, it may be remarked, shows an analysis of 78 to 88 per cent. of carbon, 2 to 3½ per cent. hydrogen (included in the residue), 1½ to 3½ per cent. oxygen, and 4 to 12 per cent. earthy impurities. The wall rock at the mine shows carbon 7.105 per cent., silicious matter 8.408 per cent. iron and copper 11.361 per cent. The assay was made by Mr. Granville Cole, Ph. D., of Toronto, and he states that the rock which constitutes the wall resembles closely that which is found with anthracite coal.

Should the mine prove valuable it will have every facility for entering into competition with the coal fields of the United States. The commercial situation of the find is excellent. Larchwood station, on the C. P. R. main line, is a quarter of a mile distant. The mine lies between the main line of the C. P. R. and the Soo branch; it is 24 miles from the Georgian Bay, and is in the line of the Manitoulin Island Railway.

#### PROF. COLEMAN'S REPORT.

Prof. A. P. Coleman, mineralogist for the Ontario Government, has since investigated the discovery, and his report has just been handed out in Bulletin No 2 of the Bureau of Mines. The Bulletin also contains an explanatory introduction by Mr. Blue, Director of Mines, in which it is shown that the discovery was first reported to the Bureau by Mr. C. H. Colling, of Chelmsford, in June last, when an examination of the mineral was made. Specimens were also sent to Dr. Ellis, and to Dr. George M. Dawson at Ottawa, Director of the Geological Survey. Results of examinations then made appeared to settle the question of the economic value of the mineral. Mr. Blue

points out the difference in the results obtained, due no doubt to difference in the selections made, and suggests that the owners of the property should have a test conducted on a commercial scale—that a ton or a few tons be provided and tried in the forge and under the boiler, that the question of its value as a fuel may be quickly and finally determined. Surface indications only have been examined, and further excavations may show better results.

We give the following extracts from Prof. Coleman's report. He says: "The coaly material occurs as an irregular vein in black fissile slate, mapped by Dr. Bell as Cambrian. The length of the vein exposed is about seventy feet, but further excavation may show that it continues south beneath the boulder clay. In width the coaly matter measures at its widest part twelve feet, but, allowing for the dip, its real thickness is probably six to nine feet as estimated by Mr. Gordon.

"The coaly material does not form a bed as in a true coal seam, but cuts across the slate, which has a strike of about 60° east of north.

"Up to the present very little work has been done on the property, the only excavation being a pit three or four feet deep so that there are no data to determine the depth of the deposit.

"The pure mineral is lustrous black, resembles anthracite or albertite in appearance, and forms small plates or irregular cubic blocks, the largest observed being three-quarters of an inch square. Between the plates or cubes there is generally more or less quartz, and in some weathered portions on the surface the quartz remains as a porous, cellular mass. The quartz varies much in amount, specimens from the bottom of the small pit containing less than those from the surface. The only other important mineral present is iron pyrites, which is scattered through parts of the vein, accounting for the sulphur found in some analyses of the material.

"During my visit some of the coaly substance was heaped over a bed of kindling wood on a blacksmith's forge and after some minutes blowing burned with a short, reddish flame, glowed strongly, and gave out a good heat, said to be quite sufficient for working steel. There was some smell of sulphur from the flame, and a large amount of porous reddish ash remained after the fire had gone out.

"In order to determine the character of this interesting material an analysis was made in Dr. Ellis' laboratory in the School of Science. A select specimen of the pure mineral when burnt gave only 4.10 per cent. of ash. As the specimen analysed came from the surface of the deposit, it seemed probable that the amount of ash might be above the average. On this account assays were made of a general sample of the specimens taken by myself and of a picked sample representing good material from the bottom of the pit. The results are as follows:

	Average sample.	Best sample.
Volatile matter (including four per cent. of moisture).....	5.3	5.3
Fixed carbon (coke).....	64.7	74.2
Ash.....	30.0	20.5

Total.....	100.0	100.0
Specific gravity.....	2.0784	1.8708

It will be seen that the results of the different analyses vary greatly in the amount of ash, which is less in the sample from the bottom of the pit than in those from nearer the surface.

For the sake of comparison an analysis of anthracite, or hard coal used in the Waterworks, Toronto, is given:

Moisture.....	3.60
Volatile organic matter.....	6.85
Fixed carbon.....	80.79
Ash.....	8.76

Total..... 106.00

A table of analyses of various anthracites, taken from Percy's Metallurgy is also given, and proceeding the report says:

"The coaly substance from Balfour township has considerable resemblance to anthracite, the main difference being in the large amount of ash. If the pure specimen previously mentioned, which gave only 4.10 per cent. of ash, had been analysed it is probable that the resemblance in composition would have been close. Nevertheless it is better to give this substance a distinct name. Anthracite is found in beds associated with rocks containing carboniferous or later fossils, and is held by geologists to have been deposited as vegetable matter where it is now found; but the mineral here discussed occupies a vein cutting very ancient slates, and must have reached its present position long after these rocks were formed."

Prof. Chapman is quoted as an authority for calling the substance anthracolite.

"It should be understood, of course, that the coals and related substances show wide variations. They are not sharply defined chemical compounds like most mineals; and this fact makes it unwise to be dogmatic or over-precise in naming them.

"Looked at from the economic side, it is probable that the anthraxolite from Balfour may have considerable value as a fuel for local use. Hard coal is sold in Sudbury for \$9 per ton, and this fuel could be laid down in that town for less than half that amount. If it should prove to contain less ash than at present on sinking upon the deposit, the anthraxolite should have the ordinary uses of anthracite. It appears to be too fragile, however, for use in iron furnaces, which require a fuel capable of resisting a considerable crushing force, and the amount of quartz which it contains would necessitate an extra amount of flux, which would probably limit its usefulness for furnace purposes.

#### ONTARIO MINING NOTES.

—The new report of the geological survey gives many analyses of minerals found in Victoria and Haliburton counties in Ontario. Some of the ore examined contains some very valuable minerals.

—President George Ross of the Empress Mining Co., at Rat Portage, reports that the mine is turning out splendidly. He thinks that as soon as the main vein is struck the stock will jump to 50 cents.

—As an evidence of the activity in Ontario mining districts it may be mentioned that on the 2nd inst. 112 applications for mineral claims were received at the Bureau of Mines. Most of these were from the Rainy Lake district.

—The President of the Empress mine recently ordered an electric lighting plant to be forwarded to the mine at Jackfish Bay at once, where it will be immediately set up, so that the new development work can be pushed night or day.

—Citizens of some of the eastern counties of Ontario are confident that by next summer Hastings, Frontenac, and Haliburton will be swarming with prospectors after gold. Whether or not these hopes will be fulfilled depends upon the failure or success of the new process of treating the ore being applied by the proprietors of the Delora mine. At present the outlook is exceedingly bright.

—The whole area of this gold field of ours in Northwestern Ontario is a network of rivers and streams, with navigable lakes, whose long arms stretch inland such distances as to give comparatively small sheets of water a coast line as long as that of Lake Erie or Lake Ontario. Timber is abundant for every purpose of mining under ground and above ground, for buildings and fuel, and there are many gold fields elsewhere to which gold miners flock where no timber is to be had for any purpose.



RAT PORTAGE IN 1851.  
Reproduced for the Bureau of Mines from a sketch by Dr. Bigsby.

—The Seine River District is the most promising gold region in Canada. Valuable bodies of rich gold-bearing quartz are found in the Huronian formations in the district. Recent samples of ore taken from Hawk Bay locations have assayed from \$29 to \$150 per ton, and assays much higher than this could have been secured if the ore were carefully selected with that object in view. An American expert made assays of five lots of ore from the Hawk Bay locations, the average of which was \$50 per ton. A great advantage in the ore from this region is that it is almost altogether free milling, so much so that with the stamp mill process 80 to 90 per cent of the gold contained may be taken off the amalgamating plates.

—Interest in mining prospects at Rat Portage is so great that a regular boom would be certain if the snow held off long enough. There are now many prospectors out in the field but as the season is now short for them, actual results will not be fully known until spring. There is unbounded confidence, however, in the Lake of the Woods gold district. So far no property that has been properly worked has proved a failure, a fact which is taken as a sufficient guarantee that there are others equally good.



SULTANA BAY—North side Sultana Island, Lake of the Woods District, Ontario. From a photograph by Miss Alice M. D. Fitch

—The Canada Gold Fields Company's mine at Delora is situated about four and one-half miles from Marmora village, which place is already feeling the effects of the renewed activity of this enterprising company. The new buildings which are in course of erection half a mile from the mine, are located near the Ontario Central Railway track, the company claiming that it is cheaper to convey ore to the works than to cart supplies to the mine. The buildings at the works are so situated that the ore passes from one process to the other until it is thoroughly treated, and the gold ready for shipment to the banks. After careful investigation the company has decided to abandon the chloridation process formerly used by the old companies and have substituted the cyanide process.

—There is every reason to believe that the principle of treating gold ores by electricity will be introduced extensively in Ontario and other mining regions in Canada at no distant day. No where are circumstances more favorable for the smelting of gold ore by electricity than in the Lake of the Woods district. Besides it will have a wonderful value as a motive power for hoisting, drilling and milling machinery, and for lighting. There is hardly a stream of any importance in the district which is not broken by a waterfall. The town of Rat Portage is lighted by electricity derived from a waterfall at the outlet of Lake of the Woods, and there are others presenting almost the same advantages within easy reaching distance of the town. One of the mining companies has already petitioned the Ontario Government for the privilege of using the waterfall on a small stream adjoining.

—A petition signed by some 400 residents of Sudbury and the vicinity has been sent to Hon. Mr. Hardy. It is as follows:— (1) That whereas the investing public of Ontario are beginning to take a more active interest in mining, and especially in the gold mines of British Columbia; (2) And whereas there are in the Wahnapitae section and other parts of this district a great many gold "prospects" of the most promising character, and whose development would be of the greatest benefit to the district and the Province at large; (3) And whereas the Townships Rathbun, Scadding, Kelly and Davis, in which (as far as known) the main gold belt lies, have been withdrawn from the market indefinitely, the work of prospecting for gold and of opening up the mines being greatly discouraged and kept back; We therefore earnestly petition your Government to cancel the withdrawal of said townships from the market and to issue patents or leases for all locations that have been taken up therein, as it will simply be impossible to interest capital in the development of such mining claims until a proper title can be obtained for them.

—Gold exists in many parts of Ontario, and platinum, a mineral even more valuable than gold, is found on the north shore of Lake Huron. Ontario may gain still greater celebrity, for corundum, a substance in which several precious stones are found, has been discovered in Hastings County. The deposit is in the northern part of the county and is difficult of access, but it is safe to predict that hundreds of prospectors will scour the country in the near future. The discovery was made a few

weeks ago by Mr. Ferrier, lithologist of the geological survey, and the locality is lot fourteen in the fourteenth concession of Carlow. Corundum consists of translucent or opaque crystals of alumina, and is yellow, brown, pink or blueish in color. It is the substance from which emery wheels are made, and is inferior in hardness only to the diamond. The State of Carolina is the only other place in America in which it is known to occur. It is also found in Asia Minor and Southern India. It is used in grinding, polishing and cutting plate and flint glass, gems, jewels and edge tools. The startling feature of the discovery is that corundum contains the red ruby, the blue sapphire, the yellow topaz, as well as the amethyst. However, these jewels may not be found in the Carlow deposits.



CROWN REEF VEIN, SULTANA MINE.  
From a Photograph by Miss Alice M. D. Fitch.

### NOVA SCOTIA'S GOLD FIELDS.

—A find of gold has been made on the eastern side of Bedford Basin, near Bedford.

—During the last 10 years Nova Scotia gold mines have produced \$11,500,000 worth of the yellow metal.

—A recent strike made by C. E. Murgatroyd at Fifteen Mile Stream has been sold to a local company for \$30,000.

—The Egerton company are erecting a 30 stamp crusher on their mine at Fifteen Mile Stream, which they expect to have in running order in a few days.

—The boom in British Columbia mines has aroused interest in Nova Scotia gold prospects. Fifty men recently started out on prospecting tours in the gold district.

—Records in the mines office at Halifax give the out-put of gold from Montague district from 1864 to 1894 at 36,439 oz. 4 dwt. 20 gr. The number of tons of ore crushed is given at 22,074.

—From the Austin property at Sheet Harbor gold to the value of \$2,965 has recently been taken out, at a cost of only \$500. The property is owned by Austin Bros., of Dartmouth, and carries with it 700 acres of woodland sufficient for all purposes for all time.

—The lead on the "Tecuineh" at Cow Bay now shows three feet thick and very rich. The owners feel elated over their good fortune. Rich boulders have been found at several other points in different parts of the district which give promise of more fortunes in the near future.

—Mr. Faribeault, of the Geological Survey Staff, Ottawa, has returned from his season's field work in Halifax county, Nova Scotia, where he was employed chiefly in the gold bearing districts. There has been a great improvement in methods of mining and milling the ore, and there is a steady annual output from the mines.

—The big Richardson mine has been in operation three years and seven months. After satisfactory development work had been done the owners put in a fifteen stamp mill. The mine has turned out so well that the mill has since been enlarged to forty stamps, electric light has been put in, a heavy rock breaker has been installed, smelting works put up and all that is necessary to economically and efficiently work the deposit has been done. All this has been paid for with the gold extracted from the solid rock. The cost of mining is only \$1.60 per ton, while the quartz averages over \$2.40 per ton crushed, yielding from \$800 to \$1,000 per month net profit. The work-

ing is now only 200 feet deep at the deepest point, while the ore is growing richer.

—The big mining booms which have opened up in Ontario and British Columbia and are getting such a hold on the public, have a tendency to make "Nova Scotians" forget that they have good properties right at home which have produced gold continuously from the first day they have been worked, and have paid good dividends. Speaking on this point the Atlantic Weekly says: "The regularity with which the Richardson and other mines have sent in their bricks, has become an old story, and still investors will put their money into companies of which they know nothing rather than develop properties right at their door, of which they can have complete knowledge and which are sure to pay. If the men who are fascinated by the chances which gold mining affords would turn their attention to some of our famous gold districts they would see that their chances for gain far exceed what the West offers. What tales of Western wealth can surpass the famous Waverley finds when bricks of from 1,000 to 1,400 ounces were produced in a single month from a single working. What about Sherbrooke, Montague, Oldham, and other places where the yellow nuggets have been turned out in glittering masses. The injury done this industry through the mismanagement of incompetents, sons or friends of mine owners sent here from England or the United States, who did not have the first rudiments of mining knowledge has done our province incalculable harm. This must be offset, and confidence restored. The mining world must be shown that our fields are rich and profitable, that investment here is as safe, if not safer than elsewhere."

### GOLD IN NEW BRUNSWICK.

—Moncton, N.B., Nov. 6th.—An important find of ore, rich in gold, silver and copper, has been made at Point Wolf, Albert County, where parties have been working for some time. It has been decided to sink a twenty-foot shaft, and eight or ten men will be put to work at once. Fifteen miles of areas have been taken up. Henry Bennett, Hopewell Cape, is reported to have sold a half interest in his copper mine to a St. John man, representing an English syndicate, for twenty thousand dollars.

### BRITISH COLUMBIA MINING NOTES.

—The map of the Trail Creek mining Camp which appeared in the September issue of this journal was largely a copy of J. A. Kirk's map of the Trail Creek Mining Camp. The publication of this map was an infringement of Mr. Kirk's copyright of the said map. Coming into our hands as any ordinary cut, it was given a place in this journal without a thought of its being an infringement on any copyright and we regret having interfered with Mr. Kirk's rights. Mr. Kirk wishes us to state that it is his intention to initiate legal proceedings against any one infringing on his copyright. He will send a copy of his map with a supplemental pamphlet on the Trail Creek Camp to any address on receipt of two (2) dollars. Address J A Kirk, Rossland, B.C.

—There is ten inches of snow on the top of Red Mountain, but work goes on just the same.

—A committee of citizens appointed to draft a bill for the incorporation of Rossland completed its work on the 31st ult. and a charter is to be applied for at once.

—To the richness of the ore of the Le Roi and War Eagle mines is largely due the wonderful development which has taken place in the Trail district during the past eighteen months.

—It is proposed by people in the British Columbia mining regions that the establishment of dynamite factories in the province to supply the demands of the prospectors and miners would be a good thing.

—Trail is soon to glow with electric light. The town has purchased from the Canadian General Electric Company of Peterboro an alternating dynamo, capable of furnishing 1,000 lights of 16 candle power each, and an arc machine that will supply 25 lights.

—Four main camps have been specially prospected this summer from Rossland as a center, Murphy Creek, Champion Creek, Waterloo and that enormous stretch of country roughly known as Salmon River. According to the Rossland Mining Review the results show two things; that gold is not picked up readily minted in those hills. It takes time and an infinity of patience to develop a camp, however promising, even when it can borrow prestige from the Rossland mines; and second, that in these outlying districts there are as great opportunities as Trail Creek ever afforded. Because it stands to reason that

where one good prospect has been discovered others will be found, and that where one mine has been opened up others will be. Kootenay has a vast reserve of virgin resources which are a standing advertisement of inducements to the capital, brains and enterprise of the whole world.

All the country for miles around Rossland is staked out in mineral claims, and while the great majority of them will undoubtedly prove disappointing to their sanguine holders many of those under development are giving more encouraging results than were obtained on opening up the Le Roi and War Eagle mines.

The gold brick sent from the Cariboo Hydrolic mines to Vancouver is valued at \$35,741, and is the product of fourteen days, 20 hours run in on the bit. This makes \$118,000 mined so far this season. The Hydraulicing will go on until cold weather stops operations.

The remarkable interest Wall street men are taking in Rossland, and the care they are showing to keep posted on the new mining lands, would lead one to believe that now the Presidential election is over capital from New York and the Eastern States will simply pour into British Columbia.

Discoveries in the Slocan district were first made in 1891. The mineralized area is about twenty miles in length by two miles in breadth, and notwithstanding the low price of silver it contains over thirty mines that are shipping ore. The gross earnings of sixteen of these mines for the first six months of the present year are estimated at \$1,500,000, about one-third of which is available for dividends.

The new five-drill compressor for the Commander has arrived and is now being put in place at the mine. It is from the Canadian Rand Drill Company, and will no doubt do admirable work. A building 40x80 feet was erected over the Commander shaft several weeks ago. This is perhaps the largest hoist and compressor building in the camp. It is intended to cover the entire plant, including boiler, hoist and compressor, as well as the office of the company. The compressor will be in operation in a few days, as the foundation and boiler were already in place. One drill will be put in the shaft and kept there until the 200-foot level is reached. The shaft is now

down 170 feet after the Le Roi, the deepest shaft in the camp and is almost vertical. It is well constructed in every detail.

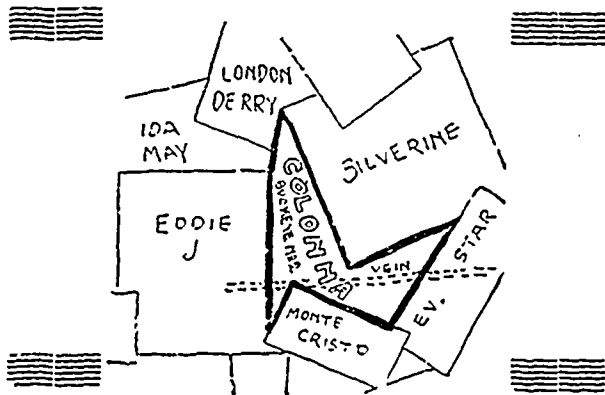
From the prospect stage, when the poor man has the opportunity of his life, Trail Camp has come to the period of development when the opportunities are for the capitalist. That capitalists realize this is evident from the number of experts and financial agents sent from London, New York and Chicago. English capital is already flowing to Trail Creek, and some of the best mines are passing into the hands of British, New York and Chicago syndicates.

Mr. Hugo Ross, of A. W. Ross & Co., Toronto, has just concluded a two months trip through the mining districts of British Columbia. He reports that Canadians are more than holding their own in the way of enterprise and progress, and says there is no reason why Toronto and other eastern cities should not benefit largely by reason of the development that is now taking place in British Columbia, and that the business that is built up in Spokane in the States will in a short time come to Eastern Canada. Development on all the principal mines is going ahead rapidly, and work will be pushed on all winter, and the mining activity will not be in the least abated.

Without railways and smelters' in 1894, Trail Creek sent out \$126,000 worth of ore and in 1895 the value of the ore shipped was more than \$1,000,000. During the first six months of 1896, with one little railway, utterly unable to handle the output, and with one smelter within fifteen miles, at the town of Trail, the amount of ore was double that shipped in 1895. The tabulated reports on the whole of Kootenay mines, including older camps farther north, give some idea of this new district's progress. In 1895 the output of precious metals in West Kootenay aggregated a value of \$2,260,000. For the first half of 1896 the product is tabulated thus: Gold, 30,673 ounces; silver, 1,459,629 ounces; lead, 6,069 tons; copper 1,163 tons. There are to-day in Trail Creek, at least thirty mines in which work is proceeding. Half of these are equipped with mining plants, costing at the lowest \$12,000, at the highest \$50,000, and at an average \$30,000. From six to ten mines—the number is constantly increasing—are shipping ore to smelters, the larger portion of it going to American reduction works.

# ROSSLAND GOLD MINES

## "COLONNA"



The Colonna Gold Mining Co., Rossland, B. C., incorporated under the laws of B. C., Crown Granted. Title Perfect.

The Montreal syndicate that now owns this claim has appointed us their sole agents for this stock, which for a short time we will dispose of at the rate of 15 cents per share, and recommend the same as a first-class investment.

For further information apply to

**A. W. ROSS & CO.**  
4 KING ST. E., TORONTO.

# THE GREAT BIRTON GROUPE

Of Twelve (12) Full Claims

South Slope of Grouse Mountain

**THE BIRTON** GOLD MINING AND SMELTING COMPANY . . . .

**CAPITAL, \$3,000,000**

Divided into 3,000,000 Shares of the par value of \$1 each

800,000 Shares of this Stock are in the hands of the Company's Treasurer, to be sold for the purpose of developing the property. **TITLE PERFECT. ALL STOCK FULLY PAID-UP and NON-ASSESSABLE.** The management of the development work is conservative, and under able and experienced mining men.

...OFFICERS...

SENATOR HENRY DRUM, of Tacoma, President  
Martin J. Maloney, Customs Insp't'r, Northport, V.-P.  
D. G. C. Bird, Northport, Secretary and Treasurer  
Martin Seel, of Jumbo fame, Rossland, Gen'l Man.

A limited amount of the Treasury Stock is now being offered for sale . . . . .

Treasury Stock, 5 cts. per Share, in 100 Share Blocks

Do not miss this opportunity to get in on the ground floor . . . . .

**The Canada Mining Exchange**

82 KING STREET WEST

Correspondence Solicited

Sole Agents

TORONTO, ONT.

## OUR ADVERTISERS.

We direct special attention to the advertisements which appear in INDUSTRIAL CANADA in steadily increasing numbers. No department of the journal is looked after with greater care. Every house represented is thoroughly reliable. INDUSTRIAL CANADA is the only journal devoted to the industries, resources and rapid development of the Dominion. It is circulated in all the Provinces, the United States and Great Britain. It aims to be a business builder. It judges people by what they do, and, as a progressive journal, it is willing to be weighed in the same balance. It is convinced that a clear, catchy, sensible advertisement of any house in Canada, occupying a regular space in its columns, will bring business to the advertiser. You cannot afford to be without a space in its columns. Get in line, and in the meantime consult the following:

- Page 152 --Walls, Prince and Wilks—for Pianos.  
Canadian Rand Drill Co.—Mining Machinery.  
Geo. B. Meadows—Wire Work and Iron Fencing.  
Dominion Wire Rope Co.—Rope and Rope Tramways.  
Sullivan Machinery Co.—Diamond Drills.
- Page 153—The Arlington—Tourists' Headquarters.  
Frank Hayes & Co.—Real Estate and Mining Brokers  
International Patent Bureau—Patents.  
J. Doan & Son—Artificial Limbs.  
W. J. Kramer—Wood Engraving.  
The Grand Union—Most Modern Hotel in the City.  
W. A. Morrison—Real Estate and Financial Broker.  
George Humphreys—Waggon and Carriages.  
W. S. Johnston & Co.—Printing and Blank Books.  
Common Sense Mfg. Co.—Exterminators for Vermin.
- Page 154—R. J. Graham—Pepsin Cream Cheese.  
British America Assurance Co.—Fire and Marine.  
John Hillock & Co.—Artic Refrigerators.  
Victoria Stained Glass Co.—Art Stained Glass.
- Page 168—A. W. Ross & Co.—Mining Brokers.  
The Canada Mining Exchange—Mining Stocks.
- Page 169—Gomez Bros & Co.—Import and Export Agents.  
Central Machine Work—Eddy Motor for Sale.  
H. W. Petrie—New and Second Hand Machinery.  
Elliott Illustrating Co.—Engravers.  
Dominion Stained Glass Co.—Ornamental Glass.  
The E. B. Eddy Co.—Matches.
- Page 171—Donnelly & McDougall—Champagne Cider.  
Petrel Bicycle Works—Bicycles and Cycle Sundries.  
Bertie Cycle Works—Bicycles and Repairing.  
Davy & Company—Elite Cycle Works.  
Beaver Cycle Co.—Cycles and Ash Sifters.
- Page 173—Kay Electrical Mfg. Co.—Dynamos, Motors, &c.  
Toronto Electric Motor Co.—Electric Motors.  
Scientific Varnish Co.—Stove Enamel.  
Eureka Refrigerator Co.—Refrigerators.
- Cover—Robin, Sadler & Haworth—Lather Belting.  
Thomas Firth & Sons—Mining Drill Steel.  
S. R. Earle—Steam and Air Injectors.  
Ingersoll-Sergeant Drill Dept.—Mining Machinery.  
Breithaupt Leather Co.—Sole and Harness Leather.

**IT'S DIRT** cheap. A one horse power Eddy Motor worth—well you know its value—for sixty-five dollars. The Central Machine Works, 370½ College Street, Toronto.

## GOMES BROS. & CO.

IMPORT & EXPORT AGENTS, JAPAN  
HEAD OFFICES, - - - KOBE.

Branches: Hogo and Osaka.

### Spacious & Convenient Sample Rooms

Represented in the Dominion by Alex. W. Murdoch, Toronto.

Samples of manufactures and products peculiar to Japan, with all reasonable data, on file. Through Freight Rates, Banking Facilities and other complete arrangements provided. Manufacturers disposed to extend their business will find this a decided opportunity.

**MACHINERY FOR SALE** For saw mills, flouring mills, or machinery for manufacturing purposes of any kind, advertised in INDUSTRIAL CANADA, will be more likely to find purchasers than by any other medium published. It reaches the people interested, and that's what the manufacturers want.

## H. W. PETRIE'S NEW CATALOGUE OF New and Second Hand Machinery

Office & Works, address: 141 Front Street, Toronto, Canada  
ADJOINING NEW UNION STATION

## Elliott Illustrating Co.

PHOTOGRAPHERS PHOTO-ENGRAVERS  
DESIGNERS WOOD-ENGRAVERS, ETC.

Illustrations of all kinds for advertising purposes.  
25 Years' Experience Satisfaction Guaranteed

If you require anything in our line, write for prices and suggestions, which will be cheerfully given. Best methods. Low prices.  
31 KING ST., EAST, TORONTO.



## DOMINION STAINED GLASS CO.

ESTABLISHED 1881

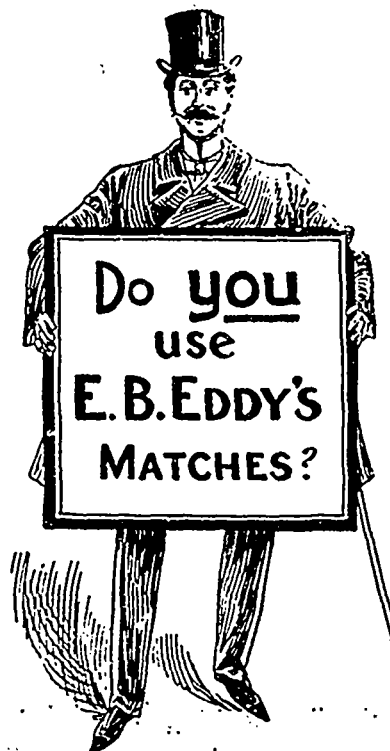
MANUFACTURERS OF CHURCH  
Ornamental Glass . . . FOR HOME  
OR STORE

Deal direct with manufacturers and save intermediate profits

Correspondence Solicited Estimates with designs on application to the works

94 ADELAIDE ST. WEST,

Telephone 933 TORONTO



# INDUSTRIAL PROGRESS

—Midland is soon to have a large pulp mill. So is Sturgeon Falls.

—James Hay, jr., is erecting a large new factory at Woodstock.

—The exports of flour from Canada in 1895 were 222,975 barrels.

—The I. C. Railway pays Moncton, N.B., \$7,000 a year for the water used.

—The Waterous Company will put up a factory for wire-drawing and cooperage.

—Canada's output of coal in 1875 was 981,905 tons, and in 1895 it increased to 3,392,366 tons.

—The Kemp Manufacturing Company, of Toronto, recently made extensive additions to their premises.

The Metallic Supply Company of London have amalgamated with the Locked Wire Fence Co. of Ingersoll.

—An elevator containing 1,200,000 bushels of grain was burned in Chicago on Monday of last week.

—The assessment of the city of Ottawa is \$22,000,000, an increase during the year of nearly a million.

—Shediac, N.B., is to have a shoe factory. The company interested therein has a capital stock of \$25,000.

Barnes' cotton batting factory at Georgetown, Ont., operated by W. Small & Co., was last month destroyed by fire.

—British railways carried over 900,000,000 passengers last year and only five were killed through train smashes.

—Toronto's huge stone pile in which its municipal administration is to be housed is rapidly approaching completion.

Chrysanthemums, the queen of autumn, are now holding sway over numerous flower shows throughout the country.

The time-honored St. Lawrence Hall in Montreal is to be torn down and a fourteen-story modern hotel will be built on the site.

A \$30,000 fire occurred at Tracadie, P.E.I. by which the dwelling, barns, and mills of the Trappists Monks were destroyed.

—The destruction by fire of Tobey & Company's tannery at Collingwood, Ont., caused a loss of about \$40,000, only partially insured.

—T. G. and C. S. Gillespie have made arrangements to open a creamery at Campbellford, Ont., in the first week of November.

—Jame King & Co., Sarnia, have rebuilt their flouring mill, recently burned down. The new structure is of brick and stone, four storeys high.

—Wm. Boulter & Sons, the well-known Picton canners, have closed their Toronto branch with a view to concentrating all the business at Picton.

—Turnips are being sent forward from St. Andrews, N. B., to Boston in large quantities. The farmer's price in St. Andrews is 35c. per barrel.

—A four-storey high manufactory, 200 by 70 feet, is about to be established at St. Jerome, Que., for the purpose of manufacturing rubber goods.

—Harvie & Co., box manufacturers, Toronto, will rebuild on the Esplanade. Their new factory will be much larger than that which was burned down.

—The McMillan & Haynes Company, St. Catharines, has been incorporated, with a capital stock of \$30,000, to manufacture saws, axes, scythes, etc.

—The Ottawa Specialty Manufacturing Company, Ottawa, has been incorporated, with a capital stock of \$45,000, to manufacture wooden and metal ware, etc.

—The extensive and well-known flour merchants in St. John, N. B., Messrs. Hall & Fairweather, have been compelled to suspend. Their liabilities are \$60,000.

—The Butter and Cheese Association met at Montreal on the 29th ult, and passed a resolution authorizing a circular discouraging the further making of November cheese.

—The farmers of Manitoba are getting from 10 to 20c. a bushel more for their wheat than the farmers in Minnesota and Dakota. At Qu'Appelle wheat was bought at \$1 a bushel.

—The Vancouver, Victoria & Eastern Railway & Navigation Company will apply to Parliament for a charter to construct a railway from Burrard Inlet, in the City of Vancouver, to a point on the eastern boundary of British Columbia, south of the main

line of the C.P.R., and a branch line to Kamloops, and to own and navigate vessels on the coast and inland waters of British Columbia.

—The taxes on the Moncton Sugar Refinery previous to its burning down, was \$1,700 and the water rates \$3,000 a year. An agitation has been started to have the refinery rebuilt.

—Stranger—Why did they lynch that man? Did he steal a horse or commit a murder? Native—worse than any of them things pardner. He was ketch'd scatterin' tacks along the bicycle path.

—One dollar and one cent per bushel was paid for wheat at Qu'Appelle on the 21st ult. This is a record-breaker, and was the result of millers' competition for wheat, which they must get at any cost.

—The nets seized by the cruiser Petrel in Lake Erie have been ordered by the department to be sold. They were taken from a tug hailing from Erie, Pa., which was poaching in Canadian waters.

—The announcement a few days ago that the cotton factories at Cornwall, Ont., were to start up on the first inst. and run full blast during the winter was a boon to the mill operators and merchants of the town.

—A farmer in York County, Ont., sold the season's product of half an acre of celery to a Toronto man for \$500, the buyer to remove it from the field. It does not require a very large farm to maintain a family in this Canada of ours.

—J. B. Tyrell, of the Geological Survey Department has discovered rich tracts of agriculture and stock raising country hitherto unknown in the Northwest, and his report to the Government will be of great interest and value.

—As a result of the Maritime Board of Trade meeting a deduction of thirty per cent. on freight rates for oats and potatoes has been made on the P. E. Island railway; the P. E. I. Steam Navigation Company and the I. C. R.

—The total number of vessels which passed through the Canadian Sault canal, from the opening of navigation in May, to Sept. 30, was 4,264, with a tonnage of 3,749,472 tons, and carrying freight to the amount of 3,840,006 tons.

—An outbreak of hog cholera is reported from Ridgetown, in Kent county, Ont., where it is causing considerable worry to breeders of swine. Essentials in prevention of hog cholera are good food, pure water and clean dry quarters.

—Manitoba flour is in good demand in Australia. The Lake of the Woods Milling Company has accepted a cable offer for 500 tons, equal to 5,000 barrels, for shipment from their Postage la Prairie mill to Vancouver, and thence to Sydney, N. S. W.

—The new pulp mill of the Saulte Ste. Marie Pulp & Paper Company is expected to be running by about the beginning of the new year; then the company will have two mills in operation, capable of turning out daily 200 tons, dry weight.

—The Bain Wagon Works Company, of Brantford will move to Woodstock to occupy the big Paterson factory, owned by the Massey-Harris Co., who are now large stock holders in the Bain Company. The company is expected to employ two hundred hands.

—It is reported by the Fredericton, N. B., Farmer, that on account of the rise in the price of wheat, Manitoba flour has advanced one dollar and fifteen cents per bbl., and Ontario flour has gone up seventy-five cents per bbl. The Hungarian brand of family flour now wholesales in that city at \$5.50 per bbl.

—Germany by a new regulation practically shuts out American canned beef from her markets. Recently an order was issued, requiring that all canned beef should be inspected. As compliance with this requirement means the opening of the cans containing the meat, the order is a practical inhibition.

—During this season there has been an unprecedented rain fall in Nova Scotia. In one night last month a fall of five and a half inches occurred, and as a result it will take \$20,000 to repair the damage to the streets of Halifax. All over the province the rivers and streams overflowed and submerged the lowlands.

—Complaint is made that settlers in the States of Dakota and Montana are perpetually making raids across the frontier, and in those Canadian lakes contiguous to the boundary are playing havoc with the fish by the unscrupulous use of nets. The mounted police have been instructed to watch for these marauders.

A few days ago Judge Malhiot gave an important judgment in an action affecting farmers and agricultural machinery manufacturers, that of the Massey-Harris Company vs. Frank Thomas. The Massey Company sold a reaper to a brother of defendant, payment to be made on three notes. Subsequently Thomas failed, being seized under a bailiff's warrant, taken out by a merchant. At the sale the reaper was sold to the defendant, Frank Thomas. The Massey Company took action to recover, claiming that the defendant had no



TELEPHONE 2959



# Donnelly & McDougall

Trade Covers THE DOMINION D. & McD.

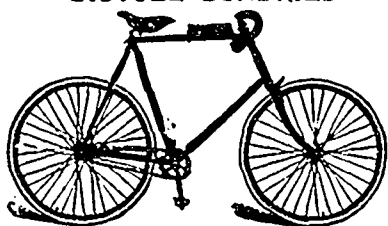
MANUFACTURERS OF

## BLUE KEG CHAMPAGNE CIDER



493 Queen Street West @ TORONTO, ONT.

BICYCLE SUNDRIES



Sole Agents for the Vanguard Cycles of Walsall, Eng.

# THE PETREL Bicycle

CYCLE LAMPS  
CYCLE SADDLES

Prices....  
To Suit  
The Times

HIGH GRADE WHEELS  
TO ORDER

1897 pattern

406 Yonge Street, TORONTO

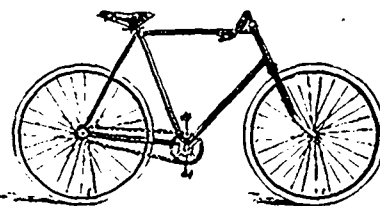
## Bicycle Sundries

Agents for Celebrated English Wheels: 1897

SADDLES  
LAMPS &  
FITTINGS

# THE BERTIE CYCLE WORKS

J. BERTIE & CO., Props.



Ladies' & Gents'

General Repairing  
♦♦ A SPECIALTY

499 Queen Street West TORONTO, ONT.

Solid Comfort Roadsters

.....MADE TO ORDER

Cycle  
LAMPS & FITTINGS  
SADDLES & SUNDRIES

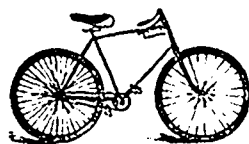
# DAVEY & COMPANY

HIGH GRADE

Ladies' and Gents' Machines to Order

REPAIRING A SPECIALTY

Elite Cycle Works 1328 Queen Street West TORONTO ONT.



SOLE AGENTS FOR CELEBRATED ENGLISH WHEELS

AGENTS WANTED

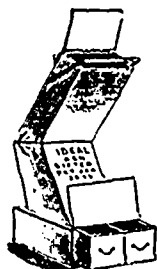
## Ideal Ash Sifter

ENTIRELY AUTOMATIC AND DUSTLESS

MADE TO LAST  
A LIFE-TIME



IF YOU SEE IT WORK YOU WILL BUY IT IT SELLS ITSELF



YOU SHOVEL IN THE ASHES AND CINDERS THE MACHINE DOES THE REST

MFG. BY THE BEAVER CYCLE CO.

502 Yonge St., Toronto

If you cannot call and see the Sifter in operation, write to us and we will send you one.



right to buy what he well knew was never paid for. The judge gave a verdict for the defendant, claiming that the sale was strictly valid, and people at auction sales were not supposed to know whether the goods offered were paid for or not.

—The steamers that have been engaged all summer in the Cape Breton coal trade and that generally return to the Old Country in ballast or loaded with deals from the St. Lawrence, or cotton from New Orleans, have this year been pressed into the Montreal export trade, and are, like the rest, reaping a rich harvest.

—The American Agriculturist estimates the United States potato crop at 245,480,000 bushels in 1896, as against 282,148,000 in 1895, and 185,000,000 in 1894. The United States imported 175,242 bushels in 1895, 1,343,000 in 1894, and over 3,000,000 bushels in 1893 when the home crop only amounted to 183,000,000.

—Messrs. Acheson & Cluff, of Goderich, has secured a building and premises under favorable terms from the corporation of the town of Aylmer and, as the D. S. Cluff Company, will at once commence the manufacture of furniture. The new company get the building free at the end of ten years, and in the meantime exemption from taxes.

—The Gutta Percha Rubber Company of Toronto, is building a large addition to their factory on West Lodge avenue, where they intend to manufacture rubber boots and shoes. They have asked the city to provide fire protection and to give them a rebate in their water bill which is very heavy, all of their presses and machinery being run by water.

—A far-seeing editor appealed to his subscribers in this unique way: "If you have frequent headaches, dizziness and fainting spells, accompanied by chills, chillblains, epilepsy and jaundice, it is a sign that you are not well but are liable to die at any moment. Pay your subscription a year in advance, and thus make yourself solid for a good obituary notice.

—The danger from famine in India is now regarded as imminent, in consequence of the failure of ordinary rains in the Punjab, Oudh, and half the Northwest provinces. An official report shows that relief work on a large scale will be necessary in these districts, which has 30,000,000 population, and that the importation of an immense stock of wheat from America will be required.

—The director of mines for the Province of Ontario, in his annual report, states that salt was produced at fourteen works in the five counties of Bruce, Huron, Middlesex, Lambton, and Essex. The following statistics show the produce for the last two years: Tons made in 1894, 35,215; value \$115,551; wages, \$43,350. Tons made in 1895, 51,009; value, \$188,101; wages, \$56,496.

—The following table gives the quantity of wheat received at the elevators along the line of the Canadian Pacific, west of Winnipeg: Oct. 12th, 154,000 bushels; Oct. 13th, 150,000 bushels; Oct. 14th, 143,000 bushels; Oct. 15th, 126,000 bushels; Oct. 16th, 130,000 bushels; Oct. 17th, 170,000 bushels; Oct. 19th, 140,000 bushels; Oct. 20th, 141,000 bushels; Oct. 21st, 145,000 bushels.

—A big sale of the Canadian Rubber Company's goods was held at Montreal a few weeks ago, consisting of rubbers and felt overshoes, men's, women's, misses, boys' and children's cotton and wool lined rubbers, ladies' overshoes and men's snow excluders. About 5,000 cases were sold and between \$50,000 and \$60,000 was realized. The prices were about 10 per cent. better than last year.

—The latest returns received by the Agricultural Commissioner respecting shipments of butter from the creameries of the Northwest Territories to Great Britain are of a very satisfactory character. The prices realized were within half a cent a pound of those brought by the finest Danish butter. A little more exertion and Canada should be able to secure the highest prices in the London butter market.

—INDUSTRIAL CANADA is pleased to note that the paving brick manufactured by a local company at Toronto has been found entirely satisfactory by the city engineer. There is no reason why the paving brick industry should not be developed in Canada and the fact that a satisfactory article is now being produced at Toronto, may do much to encourage the use of the Canadian article.

—The following funny advertisements are samples of how some people advertise: "Wanted, a room for two gentlemen about 30 feet long and 20 feet broad." "For sale—a piano, the property of a musician with carved legs." "Mr. Brown, furrier, begs to announce that he will make up gowns, capes, etc., for ladies out of their own skins." "Bulldog for sale; will eat anything; very fond of children." "Wanted—an organist and a boy to blow the same." "Widow in comfortable circumstances wishes to marry two sons.

—The English and Scotch farmers are not satisfied with what they have done in shutting our live cattle out of inland British towns. They are now urging the Board of Agriculture to further protect the home breeders against foreign and colonial live stock imports by prohibiting the landing of cattle and sheep for slaughter, thus compelling Canada and the United States to send nothing but dead meat.

—During this month a sub-committee of the cabinet, consisting of Hon. Messrs. Cartwright, Fielding and Patterson will commence a tour through the leading centres of industry with a view to eliciting information regarding the workings of the tariff. This tour will not necessarily occupy many weeks, as owing to the ready response to the circulars of the department of trade and commerce much information will be on hand before the ministers actually start out.

—The Dominion prohibition plebiscite will be anticipated immediately by a plebiscite of the Patrons of Industry throughout Ontario on the prohibition question. The Executive Board is under instructions to submit the question of adding a prohibition plank to the party's Ontario platform, and the grand president, Mr. C. A. Mallory, has just issued an order to the grand secretary, Mr. George Wrigley, to have the reference to the local branches made during November and December, this referendum to be concluded before New Year's Day.

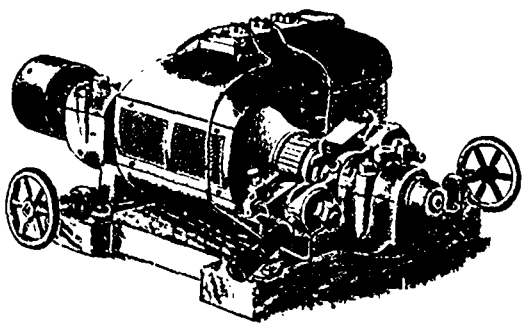
—The number of post office savings banks on July 1st was 755, an increase of 24 in the year. On July 1st 1886, the number was 392. The total amount deposited last year was \$8,138,947, while the withdrawals amounted to \$7,406,066. The total number of accounts remaining open on July 1st was 126,442. The total amount standing to the credit of depositors was \$28,932,939, the average of each account being \$228. The cost of managing this branch of the service was \$58,340, the average cost of each transaction, that is withdrawals on deposits, being 24c.

—One hundred million feet of lumber of the season's cut of deals at the Chaudiere, Ottawa and Hawkesbury Mills, have been sold during the past few days. This quantity of lumber represents the whole cut of this class of lumber in the mills of J. R. Booth, Buell, Hurdman & Co., W. C. Edwards and the Hawkesbury Lumber Company, of Hawkesbury. It is the biggest sale that has been negotiated in lumber for some years, amounting to about \$2,000,000. The largest buyers are J. Cox & Sons, of Liverpool, Eng., but other English and American firms have bought.

—A number of influential Canadians are urging the Ontario Government to no longer leave the right to utilize the water power of Niagara Falls in the hands of one concern. At the present time the Niagara Power Company, an American organization, holds the sole option to utilize the falls within the precincts of the Victoria National Park for an annual rental of \$25,000. Up to the present time nothing in the way of development has been done and the deputation urge that the option be not renewed unless the company starts work at once. The arrangement at present is that the rental shall go to the Niagara Falls Park Commissioners.

—In those days of railroads, telegraphs and electric development, we do not realize how brief a time railroads have been utilized by mankind. The first train ever run in America was between Albion mines and Pictou, in Nova Scotia, on September 24th, 1839, not sixty years ago. Wm. Findlayson, whose death has been announced in Illinois, was conductor. He was born in Caithness, Scotland, and moved to Nova Scotia when young. The train was drawn by the famous old engine Sampson, which was the second engine ever built by the inventor, Robert Stevenson. It was exhibited at the World's Fair at Chicago in 1893, and is still in good running order after half a century of work.

—The trade returns for the month of September show imports of \$11,330,000, compared with \$9,843,000 in September of last year, an increase of \$1,487,000. The duty collected amounted to \$1,810,000, as against \$1,817,000 last year. The exports for the month were valued at \$12,626,000, compared with \$10,497,000 in the same month last year. In the imports the item of \$1,637,000 is included for coin and bullion, and in the exports the same item represents \$734,000. For the first quarter of the fiscal year ending September 30th, Canada's total foreign trade amounted to \$71,326,000, as compared with \$64,709,000 for the same period last year. The imports entered for consumption amounted to \$32,684,000, as compared with \$29,436,000 in 1895. The exports were valued at \$38,642,000, against \$35,373,000 for the same period of 1895. The duty collected amounted to \$5,310,000, an increase over the same period last year of only \$65,000, showing that the increase of imports have been almost altogether confined to free goods, and this is significant as indicating increased activity in manufacturing establishments. Although some of the increases would naturally be in the item of anthracite coal.



WRITE FOR LATEST PRICES

## Kay Electrical Mfg. Co.

MAKERS OF

DYNAMOS, MOTORS,  
ELECTRO PLATING MACHINES,  
TRANSFORMERS, ETC.

Armatures Re-wound, Commutators Replaced, and all sorts of electrical repairing promptly attended to.

WE HAVE MORE MACHINES RUNNING IN TORONTO THAN ANY OTHER ONE FIRM

255 James Street North  
**HAMILTON**  
TELEPHONE 958

58 Adelaide Street West  
**TORONTO**  
TELEPHONE 1214

We have now Over 300 Motors Running in Toronto

OUR SALES IN TORONTO DURING THE PAST THREE YEARS EXCEED THE COMBINED SALES OF ALL OTHERS. OUR MOTORS ARE UNEQUALLED FOR

DURABILITY  
AND  
EFFICIENCY


WE SUPPLY ANY VOLTAGE FROM HALF HORSE POWER UP.



OUR NEW 4 POLE MOTOR FROM 20 H.P. UP

Toronto Electric Motor Co.

105, 107 & 109 ADELAIDE ST. WEST - - TORONTO



BLACKEST  
BRIGHTEST  
QUICKEST  
AND BEST

LADIES WHO DESIRE THE BEST RESULTS

USE **SCIENTIFIC STOVE ENAMEL**


Scientific Varnish Mfg Co

FOR THE RANGE

And Stove Pipe Varnish for the PIPES, GRATES, REGISTERS, Etc.

103 Queen St. E., TORONTO

For Sale by Grocers and Hardwaremen Everywhere



## EUREKA REFRIGERATOR CO.

OF TORONTO

—MANUFACTURERS OF—

HIGH CLASS REFRIGERATORS  
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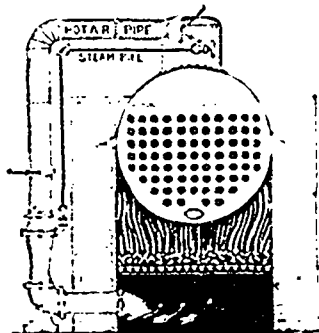
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