

Technical and Bibliographic Notes / Notes techniques et bibliographiques

Canadiana.org has attempted to obtain the best copy available for scanning. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of scanning are checked below.

- Coloured covers /
Couverture de couleur
- Covers damaged /
Couverture endommagée
- Covers restored and/or laminated /
Couverture restaurée et/ou pelliculée
- Cover title missing /
Le titre de couverture manque
- Coloured maps /
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black) /
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations /
Planches et/ou illustrations en couleur
- Bound with other material /
Relié avec d'autres documents
- Only edition available /
Seule édition disponible
- Tight binding may cause shadows or distortion
along interior margin / La reliure serrée peut
causer de l'ombre ou de la distorsion le long de la
marge intérieure.

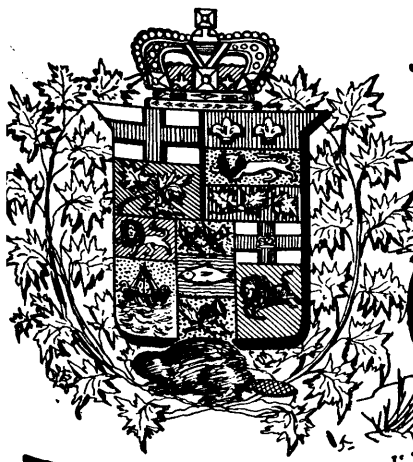
- Additional comments /
Commentaires supplémentaires:

Canadiana.org a numérisé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de numérisation sont indiqués ci-dessous.

- Coloured pages / Pages de couleur
- Pages damaged / Pages endommagées
- Pages restored and/or laminated /
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached / Pages détachées
- Showthrough / Transparence
- Quality of print varies /
Qualité inégale de l'impression

- Includes supplementary materials /
Comprend du matériel supplémentaire

- Blank leaves added during restorations may
appear within the text. Whenever possible, these
have been omitted from scanning / Il se peut que
certaines pages blanches ajoutées lors d'une
restauration apparaissent dans le texte, mais,
lorsque cela était possible, ces pages n'ont pas
été numérisées.



THE CANADIAN MINER

VOL. I.

TORONTO, ONT., FEBRUARY 6, 1897.

No. 4.

Codes—Moreing and Neal's, Clough's.
Cable address—"Dell," Toronto.

W. H. BLEASDELL & CO.
. MINES .

Brokerage, Treasury Stock, Incorporation.

CORRESPONDENCE INVITED.

N.E. COR. KING AND YONGE STS.,
TORONTO, ONT.

Official Brokers for the "HANSARD" Co.

CAMPBELL, CURRIE & CO.
Mining Brokers.

MINES and MINING STOCKS Bought and
Sold on Commission.

AGENTS for TREASURY STOCK

Head Office, **52 YONGE ST., Toronto.**

ASSAY AND ANALYTICAL LABORATORY

(Established 1873).

130 KING ST. WEST, TORONTO,

Opposite the Rossin House.

Careful Analyses of Ores. Special rates to Mining
Companies. Mineral Locations and Manu-
facturing Processes Reported on.

Thos. Heys & Sons, Analytical & Consulting Chemists.
Telephone 1889.

WM. HAMILTON MERRITT, F.G.S.

Associate Royal School of Mines, etc.

Mining Engineer
and Metallurgist,

Will Report on Mines and Mineral Properties.

ADDRESS :

15 Toronto St., TORONTO ONT.

M. P. HATCH & CO.

Dealers, Promoters and Brokers in
British Columbia Gold Mining
Properties.

Correspondence Solicited. References : R. G. Dun
& Co.'s Commercial Agency or Ellicott Square
Bank, Buffalo.

Real Estate Exchange Building, **Buffalo, N.Y.**

I. EDWARD SUCKLING,

OFFICIAL BROKER FOR THE

"ZILOR"

GOLD MINING COMPANY,

TRAIL CREEK DIVISION, KOOTENAY, B.C.

N. E. Cor. KING AND YONGE STREETS,
TORONTO.

Cable Address, "ROSSMINA."

Tel. No. 87

The A. W. ROSS CO., of Toronto,
—(LIMITED)—
MINING BROKERS, Etc.

4 KING STREET EAST, TORONTO.

Official Brokers "The Gold Hills Exploration and Develop-
ment Co., of Toronto," Ltd.

SAWYER, MURPHEY & CO.

CANADA LIFE BUILDING,

TORONTO, ONTARIO,

HANDLE ONLY.....

"The Standard"

Stocks of the
British Columbia
and Ontario
Mining Districts.

AGENTS ALSO FOR

The Eastern Mining Syndicate,

WHOSE

List of Directors and Properties Acquired

Can be obtained on application to

E. L. SAWYER, Manager,

Canada Life Building,

TORONTO.

C. F. CLOUGH & CO.

Mining Brokers,

SPOKANE, WASH. ROSSLAND, B.C.

36 KING ST. EAST, TORONTO.

Correspondents, PELLATT & PELLATT.

J. W. EVANS

Mining Engineer
and Assayer.

Mining Claims Reported On. Assays and Analyses Made.

Laboratory, Cochrane Block, SUDBURY, ONTARIO.

R. H. AHN,

MINING BROKER

OFFICES:

Rat Portage;

75 Canada Life Building, Toronto and
411 Board of Trade Building, Montreal.

Refer to page 18.

R. J. FLEMING & CO.

OFFICIAL BROKERS FOR THE

GOLD and SILVER MINES

DEVELOPING COMPANY, LTD.

10 VICTORIA STREET, - - TORONTO.

J. W. CHEESEWORTH,

Mining Broker.

Properties Bought and Sold. Correspondence Solicited.

Canada Life Building, TORONTO.

J. B. FERGUSON,

MINING

BROKER

ROSSLAND, B. C.

THOS. DAVIES & CO.

BROKERS AND FINANCIAL AGENTS,
ARBITRATORS, ETC.

STOCKS, BONDS, REAL ESTATE and INSURANCE
MINING SHARES.

1 Toronto Street, - TORONTO.

REFERENCES :

R. L. Coady, Esq., City Treasurer, } Toronto.
W. S. Lee, Esq., Mgr. Western C. L. & S. Co., } London.
J. W. Board, Esq., M.P., } Eng.
Claude Bishop, Mgr. Consolidated Trusts Co.; }

PRICE, 10 CENTS.

A CANADIAN COMPANY.

"UNITY-STRENGTH"

THE GOLD HILLS

Exploration and Development Company, of Toronto, Limited.

Non-Personal Liability. Shares sold at a discount absolutely non-assessable. Incorporation applied for under the Ontario Stock Companies' Letter Patent Act and the Act relating to Mines and Mining. Proposed Capital Stock \$2,000,000, divided into 2,000,000 shares of par value \$1.00 each.

HEAD OFFICE, TORONTO, CANADA.

Principal Agencies will be: London, Eng.; Rossland, B.C.; Rat Portage, Ont.

PROVISIONAL DIRECTORS:

HON. J. D. EDGAR, Q.C., M.P., Toronto, Speaker of the House of Commons of Canada.	F. H. CHRYSLER, Esq., Q.C., Ottawa, Ont.
W. J. DOUGLAS, Esq., Toronto, Director of the Toronto Paper Mfg. Co.	JOHN GEORGE BOWES, Esq., of Bowes, Jamieson & Co., Iron Foundry, Hamilton, Ont.
ORONHYATEKHA, M.D., Toronto, Supreme Chief Ranger Independent Order of Foresters.	JOSEPH B. McARTHUR, Esq., Q.C., of Rossland, B.C.
JOHN FOY, Esq., Toronto, Managing Director Niagara Navigation Co.	GEORGE E. CASEY, Esq., M.P., Fingal, Ont.
Ex-ALD. GEORGE McMURRICH, Toronto, Manager Alliance Assurance Co. of London, England.	A. D. HARDY, of Hardy, Wilkes & Hardy, Barristers, Brantford, Ont.
FREDERICK W. STRANGE, M.D., Toronto, Deputy Surgeon-General, ex-M.P., for North York.	HON. DONALD FARQUHARSON, Acting Premier P.E.I., and Director of Merchants' Bank, Charlottetown, P.E.I.
WILLIAM STRACHAN, Esq., Manufacturer, President Montreal Stock Yards; President "Silver Queen Mining Co." Toad Mountain, B.C., Montreal.	H. M. PRICE, Esq., Lumber Merchant, Quebec.
JOHN R. MINHINNICK, Esq., President Empire Oil Co., London, Ont.	S. N. PARENT, M.P.P., Advocate, Mayor of Quebec.
	C. A. STOCKTON, Esq., Barrister, Etc., St. John, N.B.
	DAVID L. LOCKERBY, Wholesale Grocer, Montreal.
	D. L. MATHER, Lumber Merchant, Rat Portage, Ont.

SOLICITORS—Clarke, Bowes, Hilton & Swabey, Toronto, Ont.

This is, without doubt, the strongest Development Company yet put on the market, the high standing of the directors assuring stockholders that their interests will be economically and judiciously handled.

One of the directors has gone to Rossland and the Hon. Mr. Edgar (the Provisional President), is now at Rat Portage, both will personally examine claims and mines for the Company.

The demand for the first issue of Shares at the low price of ten cents has been unprecedented, and the list will close in a short time at that price.

APPLY TO

The A. W. ROSS CO., Ltd., Mining Brokers, Etc.,

CORRESPONDENCE SOLICITED

4 King Street East, Toronto

BERTRAM & CO.

Mining and Lumbering Supplies

Picks,	Crow Bars,	Drill Steel,	Bar Iron,
Wire Rope,	Axes,	Tool Steel,	Saws
Sledges,	Spades and Shovels,	Blasting Powder	
Cordage,	Files,	Chains, Etc.	

PRICES ON APPLICATION

53 Yonge Street, - - TORONTO, Ont



PROVINCE OF ONTARIO

The Province of Ontario has a mineral bearing belt 1,000 miles long, by 100 miles wide, north of the Great Lakes from Ottawa river to Lake of the Woods, more easily reached by lake or railway than any other mineral district of the continent.

NICKEL

GOLD

COPPER

SILVER

IRON

APATITE

ACTINOLITE

MICA

PLUMBAGO

Exploration has shown the Gold districts of the Province to be extensive and rich, and new finds are constantly being made. In the Western fields the ore is mainly free milling, and wood, water, and labor in abundance provide the requisites for economic working. The yield of gold for the year ending October 31, 1895, was \$50,281, and in the period from November 1, 1895, to September 20, 1896, it reached \$142,605.

Crown lands are sold at \$1.50 to \$3 per acre, or leased at 60 cents to \$1 per acre for the first year, and 15 to 25 cents for subsequent years.

The fifth report of the Bureau of Mines contains a geological description and map of the new gold fields of the Rainy Lake and Seine river districts—free on application.

For further information address

HON. J. M. GIBSON,

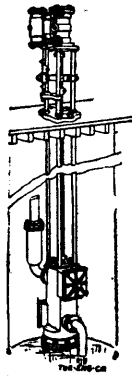
Commissioner of Crown Lands.

Or

ARCHIBALD BLUE,

Director Bureau of Mines, Toronto, Ont.

Northey Mnfg. Co. Ltd.



Pumps

& HYDRAULIC
MACHINERY

FOR MINING.

SINKING PUMPS

.. A SPECIALTY.

KING STREET SUBWAY

TORONTO.

MINING PROPERTIES FOR SALE.

Advertisements under this heading cost Two Cents per word.

GOLD.

WE have several good Gold Mining Properties and a number of Prospects for sale at reasonable prices. We are the largest holders of gold mining locations in Canada. For reports, prices and particulars apply to Mines Contract Co., Office 75, Canada Life Building, Toronto.

TWO First-class Gold Mining Locations only a short distance east of Port Arthur, and near the C.P.R., will be sold at a sacrifice. Apply Box 13, Canadian Miner Office.

TWO Gold Properties for sale in Hastings Co., Ontario, free milling assays 24.40 per ton. Price moderate. Apply Box 14, Canadian Miner Office.

OWNER of half interest in a good Wahnapitae Gold Property, will sell out at a reasonable price. Apply Box 19, Canadian Miner Office.

FIRST-CLASS Gold Property near Shoal Lake for sale. Price moderate. Apply at once. Box 18, Canadian Miner Office.

DESIRABLE Gold Mining Location for sale near Heron Bay, on the C.P.R. For price and particulars write to Box 22, Canadian Miner Office.

TWO Gold Locations on Witch Bay, Lake of the Woods. Owners will sell either the whole or half interest. For report and price apply to Box 21, Canadian Miner Office.

GOOD Gold Mining Location for sale near the Scramble Mines. Good report. Only a few miles from Rat Portage. For price, etc., apply to Box 12, Canadian Miner Office.

SILVER.

A WELL Developed Silver Mine for sale near Port Arthur, Ontario. Reports, etc., will be furnished to intending purchasers. Apply Box 6, Canadian Miner Office.

SILVER Mining Location, 300 acres, on the Pic River, North Ontario. Will sell either whole or part interest. Apply Box 4, Canadian Miner Office.

In replying to Advertisements in this paper, mention The Canadian Miner.

NICKEL.

SEVERAL First-class Nickel Properties for sale, situated in the following Townships: two in Waters, four in Graham, and one in Dennison, all near the C.P.R. in the Sudbury District. For particulars apply Box 2, Canadian Miner Office.

A DEVELOPED Nickel Mine for sale in the Township of Nairn, with first-class report. For terms, etc., apply Box 19, Canadian Miner Office.

IRON.

A 1 IRON Location, 160 acres, for sale, near railway N.E. Ontario. Price reasonable. Apply Box 32, Canadian Miner Office.

MICA.

FIRST-CLASS White Mica Property, 200 acres, in the Township of Methuen, Co. of Peterboro', for sale. This is a rare opportunity. Price moderate. Apply Box 7, Canadian Miner Office.

WHITE Mica Property for sale in the Township of Hungerford, Ontario, adjoining Sheffield Station on the C.P.R., with good report. For particulars apply Box 3, Canadian Miner Office.

SITUATIONS WANTED.

Advertisements under this heading cost Two Cents per word.

PRACTICAL Miner open for engagement as Mining Captain; 10 years' experience in Cornwall, England. Apply Box 27, MINER Office.

SITUATIONS VACANT.

WANTED-A thoroughly reliable, experienced man to report on Mines and Mining Properties in the British Columbia Mining Districts. Salary \$100.00 per month and expenses. Only the applications of those having first class references will be entertained. Apply (by letter only) to the Manager of THE CANADIAN MINER Publishing Co., Canada Life Building, Toronto.

THOS. G. SOOLE, ::

COMMERCIAL PRINTER

First-Class WORK Guaranteed.

14 WEST KING ST.,
.....TORONTO.



Mining Laws of Ontario.

ANY person may explore Crown Lands for minerals.

Mining lands may be taken up as surveyed locations or staked claims.

Locations range from 40 to 320 acres. Claims range from 10 to 20 acres on vein or lode.

Locations may be acquired in fee or under leasehold.

Price of locations north of French River, \$2 to \$3 per acre, and south of it, \$2 to \$1.50, according to distance from railway.

Rent of locations first year 60c. to \$1 per acre, and subsequent years 15c. to 25c. per acre.

Rent of claims, \$1 per acre each year. Claims must be worked continuously.

Royalty on ores specified in the Act, 2 per cent. of value at pit's mouth less cost of labor and explosives.

Royalty not charged until seven years from date of patent or lease, nor (as provided in s. 4 (3) of the Mines' Act, 1892), until fifteen years in the case of an original discovery of ore or mineral.

Original discoverer of ore or mineral on claim entitled to stake out a second claim.

Crown Lands sold under provisions of mining laws in force prior to 4th May, 1891, exempt from royalty.

Copies of the Mines Act, 1892, Amendment Act, 1894, may be had on application to

ARCHIBALD BLUE,

Director Bureau of Mines.

TORONTO, May, 25th, 1894.

EDWARD MEEK,

...BARRISTER,...

SOLICITOR, NOTARY PUBLIC, ETC.

SPECIALTIES: Incorporation of Companies and Corporation and Mining Laws.

MAIL BUILDING, TORONTO, ONT.,
TEL. 562 CANADA.

AGENTS WANTED.

Advertising Agents and Canvassers for subscriptions, are wanted by this Journal in Halifax, Montreal, Ottawa, Vancouver and Rossland, B.C. The terms are liberal. Any one experienced in the work and willing to act for us should write to The Canadian Miner and enclose references.

WM. BENNISON & CO.

MINING ::

BROKERS,

Rossland, - - B. C.

R. C. CAMPBELL-JOHNSTON

(of Swansea, India, and the United States).

Metallurgist, Assayer,

AND

Mining Engineer.

Properties reported on. All Assays undertaken. Furnaces and Concentrating Plants planned and erected. Treatment of Ores given. Ores bought and sold. Box 40, Vancouver, B.C.

JOHN GALT, C.E. & M.E.

(Member Can. Soc. C.E.)

Consulting, Civil, Mechanical and Mining Engineer

Office: Canada Life Building, - TORONTO

Examinations and Reports made on Mining Properties.

Supervision of Mining and Milling

JOHN M. BURKE,

WILL EXAMINE AND REPORT ON MINES FOR SALE,

And also on mines of which stock is being sold. If my reports are found not to be correct I will refund all moneys invested on same.

JOHN M. BURKE,

ROSSLAND, B.C.

PALMER HOUSE,

Corner KING and YORK STREETS,

Rates, - - - \$2.00 per Day.

KENSINGTON (opposite)

EUROPEAN PLAN,

50c. to \$1.00 per Day per Room.

J. C. PALMER, Proprietor.

In replying to advertisements in this paper, mention The Canadian Miner

The Canadian Miner.

VOL. I.

TORONTO, FEBRUARY 6, 1897.

No. 4.

THE MARITIME PROVINCES.

GOLD FIELDS IN NOVA SCOTIA.—NEGLECTED TAILINGS.

OUTSIDE of the gold and coal mines of Nova Scotia, but little attention has been paid to many points in the Maritime Provinces where the expenditure of a fair amount of capital would undoubtedly produce good results. Of these, I shall treat at a later date more specifically.

Even the gold mines of Nova Scotia are only commencing to be known, and it can only be a question of a short time when the capital of men of moderate means will there find a fair and profitable field for investment.

It is not generally known that the yield of gold from the mines of Nova Scotia, according to royalty returns up to the end of the present year, will be in the neighborhood of \$13,000,000, and there must be much that never had returns made, ore taken from mines by tributary miners, etc., which by some persons is said to be probably one-third more in addition to the actual returns.

Taking the Province of Nova Scotia and a straight line run through a map of the same, all the Province on the southern or Atlantic seaboard, clear from Yarmouth to the Gut of Canso, contains valuable gold-working territory. Strange to say, very little evidence of gold is found to the north of the said line.

Miniature booms have in the past taken place from time to time, at well known points, such as Salmon River, Isaac's Harbor, Tangier, Mooseland, Cariboo, Sherbrooke, Wine Harbor, Country Harbor, Waverly, Montague, Mt. Uniacke, Rawdon, The Ovens, Chester Basin, Brookfield, Caledonia, Molega and other points, and for the amount of capital involved, machinery used, which in nine cases out of ten was crude and defective, the returns have been wonderfully good.

Within the last few years a great change has taken place. Good substantial mills, pumping and hoisting machinery of best make, air compressors, steam drills, electric machinery, have been placed in many districts, and wherever honestly and economically managed, good results have followed. There is much, however, to be done in this respect yet.

There is one fact which has evidently not yet fully dawned on the minds of the gold miners and prospectors of Nova Scotia, and that is that despite their assertions and belief that the gold ores of Nova Scotia are free milling it has been conclusively shown that scarcely a gold belt of Nova Scotia exists that does not carry refractory percentages that will pay to save and treat.

The result is that all over the Province of Nova Scotia there is in the various districts mined upon, thousands of tons of tailings that beyond question carry much gold that it will pay to save. These old beds or masses of tailings will yet possibly be worked to good advantage when some good, compact system of machinery or treatment is devised, that is not too expensive, and can be easily moved from point to point. I honestly believe there is big money in the formation of a company to treat these tailings alone, apart from any mining and crushing enterprise.

The pluck displayed by the Libby Gold Mine Co. at Brookfield in putting in a chlorination

plant at considerable expense will beyond question result satisfactorily.

The writer is aware of one point where the tailings from the mill have never been saved or treated, and here about two pounds of concentrates panned out from tailings (near foot of plates, where it passed out of the mill), and assayed by a reliable firm in Cleveland, Ohio, yielded the astonishing assay value of \$1,081 per ton. Thousands of tons of these tailings lie in the stream at the foot of the mill and could all be reclaimed and worked over. Numerous other facts of a like nature could be cited. The rich pay streaks found in many of the mines of Nova Scotia have given astonishing results. Recently the shot in the Elk mine at Cariboo, owned by some Truro people, disclosed fully \$6,000 in value of the precious metal. There seems to be no uniform gold values in the working belts or leads of Nova Scotia, the smaller leads giving from 2 ounces to 20 and more ounces per ton, the wide or low grade belts from 3 pennyweights to 6 and 7 pennyweights per ton. From a close and careful study of the gold mining reports of Nova Scotia based on returns made to the Mines office, I can safely say that the average gold produced has been about 15 pennyweights per ton—that is, taking the low grades with the rich or high grades. With the introduction of a new and scientific plant for saving concentrates, this average would possibly be considerably more.

On an average the mining and milling, including royalty and all charges of production, does not and should not cost more than \$5 to \$7.50 per ton, thus leaving from \$8 to \$10 per ton for profit. It is but fair to say that ore is being mined and milled in some Nova Scotia mines at present at a cost of not over \$2.50 to \$3.00 per ton.

In New Brunswick we have yet no evidences of gold in any quantity, yet it is a well known fact that ores known to exist in different parts of the Province contain gold. Whether in paying quantities remains yet to be proven. Years ago and in fact recently, several mining ventures on galena, and in copper and galena belts, have been attempted at various points, but from want of capital and skilled knowledge, and through inefficient management no definite results have been yet obtained.

In several parts of New Brunswick are ledges or belts of copper and copper pyrites associated with galena belts, that assay well in copper, silver and gold, but the indications are that they are in many respects similar to the smelting ores of the Rossland district. There is also in the Province a well defined and huge body of pyrrhotite that carries fair percentages of copper, sulphur, nickel and strong traces of gold. No work of development has, however, been done, the deepest shaft having only gone down 16 feet.

I must not, however, weary the reader with too much on the Maritime Province prospects at present, and will try to give you more detailed information at a later day, in the hope that when the initial force of the British Columbia and Ontario gold movement is over capital may look this way. It is to be further hoped that if capital does look this way the owners of mining properties will not be so foolish as to ask fancy and exorbitant prices for many claims that are as yet not proven or developed.—M. P. NEW BRUNSWICK, January 27, 1897.

CORRESPONDENCE.

BRITISH COLUMBIA MINING LAWS.

A WARNING NOT TO KILL THE GOOSE THAT LAYS THE GOLDEN EGG.

Editor of THE CANADIAN MINER:

DEAR SIR,—I see in the Toronto *World* that it is the intention of the British Columbia Government to enact a law for the formation of mining companies and that they intend to bar out for the future American companies, and to make a charge of \$1,000 for a charter under their own act. The British Columbia people had the mines under their feet, and had not spunk enough to open them up, or else they lacked knowledge. At all events it was the live Yankee who came in and opened up the mines and put his money into them and caused the boom. Now that it is on, and money, men, and much machinery pouring into their province from outside sources, the Government are putting their heads together to try and devise means to stop it by enacting a law that before anyone can get a charter to form a company, and thereby bring outside money into the province, that person must pay them \$1,000 for the privilege. Such utter shortsightedness and stupidity is unheard of, except in the case of the Ontario Government and its mining policy in the Sudbury district, where it actually drove all the prospectors away, and where the plate is now deserted though there might have been 40,000 people there by this time. If it had not been for the Americans and their liberal laws Trail Creek and Rossland would to-day be a howling wilderness. Prospectors, as a rule, have very little money. All the capital they have is their strong arms and a certain amount of knowledge, and they get a "grub stake" or credit from some storekeeper for food and necessaries and start in on foot with a donkey to carry their pack. They sleep on the ground, and even do not have a shanty, until they locate a claim. They then go to work and develop it, or partially develop it. They run out of funds, or their credit is cut off, and they can go no further. Some mining man comes along, who is both a mining man and a promoter. He sees the claim, and the result is the prospector and promoter make a bargain. The promoter goes away, and finds money in the East and in the United States, or England, and brings it to that prospector, and thousands of dollars are expended on that mine, and many men are employed, and finally, expensive machinery is bought and brought into the wilderness, and the country gets the benefit of the wealth brought in and runs no risk. If the mine pays, it expends thousands of dollars every year for wages, supplies, etc., and the province gets the benefit of it. Let them put that tax of \$1,000 on something else, but do not let them kill the goose that lays the golden egg; for that is surely what they will do if they put such a veto on a charter. British Columbia has been and is a poor country. It has not the wealth within itself to open up mining, and must go abroad for the money. What they want to do, is to give every latitude to people to come in and bring their money; make the laws liberal, and make a nominal charge for their charter of, say, \$25 at the most. It is a new country, and it does not want to copy after Old Country methods.

It was the freedom miners had in the United States that encouraged men to go into all parts of the country and open up the mines. You do not want to lay any heavy burdens on people's shoulders, nor put any obstacles in their way when these people are running all the risks, and taking all the chances, and enduring all the hardships, and asking you for nothing in return, but simply to be let alone, and not worried with fool laws, and burdened with taxation, no matter what the nature of the tax may be. You have a boom on now. Keep it. It is not an easy thing to get, and it is an easy thing to lose.

Yours faithfully,

JAS. D. LEWIN,

Little Bess Mining Co.

TORONTO, January 28, 1897.

P.S.—I notice that the Victoria Board of Trade advises the British Columbia Government to enact this law. I only hope the Government will not be such fools as to adopt the suggestion. How many prospects will be worked and made into mines if the promoters have to put their stock on the market at par? There will not be one dollar found for that purpose, against a million that is now, if such a law be enacted. It is the very inducement of large profits, for a small outlay of money, that leads the general public to subscribe as they do now. The stock reaches the masses; a mechanic or a clerk can have a chance to get stock in a prospect or a mine for a few dollars, with just as good a chance of his stock becoming valuable as if he paid par value for it. Look at the stocks in Toronto bought at 6 cents: Deer Park, now worth 25 cents; Le Roi, now worth \$7.50; Jumbo, now worth 85 cents, and dozens of other stocks in proportion. If these stocks had been put on this market at par, not one dollar's worth would have been sold. If the British Columbia Government want its mines taken up and worked let it enact the most liberal laws, and give promoters and miners the greatest liberty, and it will see its whole mining territory filled with prospectors and mining men, and the province will have an era of prosperity that will astonish the Government and the people. Let the Government adopt the ancient fool recommendation of those peddlers in Victoria and they will succeed in driving every mining man out of the country. *Ne sutor supra crepidam.*

J.D.L.

Sir John Macdonald and a Mining Policy.

Editor of THE CANADIAN MINER.

SIR:—During the past ten years the writer has discussed with leading statesmen and politicians the taking up of the development of the mineral resources of the country.

The only one of all these politicians and statesmen who ever took the pains to look into the matter was the late Sir John A. Macdonald. He spent hours, and almost days, at a time on the subject. But he was afraid to tackle it. He knew the difficulty people had in taking more than one or two big ideas into their heads at one time. While he appreciated the value politically and commercially of a vigorous state policy in regard to mining, a frequent comment of his was that the people of Canada did not understand the mining question sufficiently to appreciate the advantage to the country which such a policy would bring. I remember him once saying that when the N.P. got threadbare it would be well to tack on to it a mining policy by way of rejuvenating it. At another time he suggested the advisability of keeping it in reserve to meet the emergency of the Enemy (the Opposition) becoming too strong for him. Sir John carried a good many cards up his sleeve, but he regarded a big mining

policy as an ace. The moment to play it had not come.

Discussing it together once, we made an estimate of how much iron had been imported into Canada during a period of twenty years. We found the value of the imports to be \$158,000,000. The largest item in the list of iron imports was steel rails. This, with bar iron, amounted to over one hundred millions of dollars. "This iron," I remarked to Sir John, "should all be made in the country." "Well, well," said he, "if this only could be done it would put sense into the National Policy; but where are we to get the capital?" "Well," I said, "I will tell you how you can start it on a small scale, and save the country much money. As you know there is abundance of iron back of Kingston, and the fuel for smelting can be delivered at the wharf there for only fifty cents a ton more than it costs at Cleveland, and there is any amount of limestone on the spot for fluxing. In the penitentiary you have a lot of able-bodied prisoners who might well be employed in making rails for our railways. You bonus railways to the extent of \$3,200 a mile, and that is just about what it costs to metal the road. If the Government would put up a furnace and the necessary plant for making rails at Kingston penitentiary, it could supply these roads with the rails, and thus save the large amount of money now going out of the country for rails, besides giving employment to large numbers of men in mining the ore for the smelters. The national debt is now about \$258,000,000. If this mining and smelting and manufacturing policy had been made part of the National Policy from the first, the country would have saved nearly \$100,000,000 of its indebtedness to other countries, and reduced the *per capita* tax of the country about one-sixteenth." Sir John saw two obstacles in the way of carrying out the scheme proposed. One was the opposition of the labor element of the country to prison labor, and the other the opposition of a few iron producers in the East. "However," said Sir John, "I believe the time is not far distant when we will have to adopt such a policy. In the meantime you, as a friend of mine and of the party, must try to educate the people up to it."

It tried to follow out this advice, but after his death a lot of would-be leaders preferred to blow their horns of religious bigotry instead of giving attention to matters that would benefit the country. They kept on blowing till the walls fell upon them and destroyed their party. What Canada now needs is more of genuine patriotism and a government at once honest, intelligent and progressive. With these and the very great natural wealth of the country, Canada would soon be in the foremost ranks of the nations, and our young people would see the sense of the advice that could then be safely given: "Young man, stay at home and help yourself."

J. W. CHEESEWORTH.

TORONTO, Feb. 1st.

OUR MINING LAW.

THE ROYALTIES CONDEMNED—THE ADVANTAGES OF A STAKING LAW.

Editor of THE CANADIAN MINER.

SIR,—In your first issue you invited discussion on our mining law. In this district, the two main objections to the present Act are the royalty and the want of a proper staking law. I give some of the reasons why the royalty should be taken off, and also why the prospector should be allowed to stake his claim as in most other mining countries.

WHY THE ROYALTY SHOULD BE TAKEN OFF.

1. Because the experience of the past six years has demonstrated that fear of the royalty

deters capital from coming into the country to develop our mines. We know of several cases in this district where American capitalists were ready to buy properties and go into mining here only for this objectionable feature of our mining law.

2. Because the imposition of a royalty on all new mining claims taken up after 1891, while all the old claims that were taken up before then are free from such a burthen or tax for all time, is so unjust, as to hardly need pointing out. Any one can see that companies working mines that are free from royalty will have an unfair advantage over all others.

3. Because, with the single exception of gold mining, in which there is an extensive boom all over the world now, and mainly owing to the great slump in the price of silver, no other branch of our mining industry has made any progress since the royalty was put on, but has actually gone back.

4. Because the chief aim and purpose of a mining law should be to encourage the development of the great mineral resources of the province, and not the obtaining of mere revenue from our mines. In other words, the government ought to be the first to aid our mining industry, instead of being the first to make exactions on our mines. What any country gains by mining is the increase of wealth and population that results from the working of the mines.

5. Because we have to depend so largely on the investment of foreign capital, and especially American capital, for the development of our mines, and therefore our mining law should be fully as liberal and progressive as the mining laws of the United States.

6. Because no one industry should be singled out for a special tax from which all other industries are exempt. The taxing of any industry tends to cripple it; but, if necessary in the public interest, when our poor mining industry gets established on a paying basis, the mines may be made to contribute their fair share of the provincial revenue in some other and more equitable way.

7. Because when men put their money into mining, and take all the risks connected with it, they want to have absolute control in every way, and should have all the profits that may be made out of it. The ordinary risks of mining are great enough, without mines having to be liable, in addition, to any royalty to the government, as to a silent useless partner who puts none of the capital in and takes no chances. A government royalty is a case of "heads I win and tails you lose." Besides, mining companies do not want to be compelled to disclose the secrets of their business to the government, and through the government reports to the public; nor to be interfered with by government agents, except the inspector of mines.

8. Because there can be no doubt that a great deal of the money that has gone out of Ontario during the past year for mining investments of all kinds in British Columbia, would have gone into the development of our own mines before now, if we had only had the same mining law as they have in that province.

9. Because the general dissatisfaction with our present mining law that prevails from one end of the province to the other, keeps our own people from going more into mining, and sends many of our young men to the United States in order to get a start in life. These great northern districts are capable of maintaining at least a million people, if their timber, mineral and other resources are only turned to proper account, and such large and prosperous mining communities as we ought to have here, would furnish the best market in the world for the surplus product of the farmers of lower Ontario.

10. Because, at present we are completely

out of line with other countries, and particularly the United States, lying right beside us, in the important matter of our mining law, though we have such a vast extent of unexplored mineral lands. What is wanted in the first place in order to give confidence to capital and promote the development of our mines, is a simple, just, well-defined and permanent mining law.

WHY WE WANT A STAKING LAW.

1. Because the prospector is the pioneer of the mining industry everywhere, and he should be treated by the government in the most generous spirit. He should have the right to stake his claim and to hold it in this way on the condition of doing \$100 worth of work on it every year for three years.

2. Because the present system of having to write to the Bureau of Mines, in Toronto, for any and all information about mineral laws, involves too much trouble, delay, uncertainty and expense. When a prospector makes a discovery he ought to be able to secure the claim at once by simply staking it out and running his line.

3. Because if a certain amount of development work had to be done every year on all claims taken up, there would be far less difficulty in interesting capitalists in our mines, as practical mining investors always want to see properties that are opened up more or less, and not mere surface shows.

4. Because a proper staking law would prevent our mineral lands from being locked up in the hands of speculators, by "blanket" applications or otherwise, and the prospector would be protected in his rights, and have a better chance to reap the fruits of his labor. He would have more heart to go out, and he could start with a few dollars to buy an outfit and some grub. His expenses for a whole season would be less than the cost of getting one claim surveyed now. Under the present law, it is when he makes a discovery or finds a claim that his real troubles begin, as it takes so long to find out whether he can get the land or not, and he is liable to be euchred out of his claim in more than one way.

5. Because capital will not prospect, and only poor men will face the hardships and privations of such work. The money that has to be paid the government, now, even for the first year's rental of a claim would do a lot of work on it, to the greater benefit of the province at large; and then why should any one have to pay for a claim if there is not a mine on it. The recording and other fees that the prospectors would pay under a staking law would amount to far more revenue every year than the government now gets out of the sale of mineral lands, as thousands would flock into Ontario to search for mines.

Yours, etc.,

A. McCHARLES.

SUDBURY, January 26, 1897.

ANCIENT EGYPTIAN COPPER MINES.

A NOTE by M. Berthelot, recently published in *Comptes Rendus*, says that the copper mines of Sinai are the most ancient of which history makes mention. According to authentic documents, they were worked from about 5,000 years B.C., until the end of the Ramesseides (about 1,300 to 1,200 B.C.) Their possession had been the object of several wars, but they had been abandoned for 3,000 years, on account of the poverty of the ores. It was from these mines that was obtained the sceptre of Pepi I., a king of the Sixth dynasty. This sceptre, made of pure copper, is preserved in the British Museum. The adits still exist, as well as the ruins of the furnaces, the crucibles, the huts of the miners, and some fragments of their tools.

In the specimens obtained by M. de Morgan there occur three ores: turquoise, copper hydrosilicate and sandstone impregnated with copper. These actual ores are superficial, and form a cap, derived from the alteration of deeper pyritic beds, which the ancient miners failed to reach. The turquoises contained 3.32% cupric oxide; cupriferous gritstones are equally poor. Among the debris have been found remains of furnaces and crucibles, slags and cinders, fragments of tools. Nor is there evidence of the use of fluxes. Some of the fragments of tools contain arsenic, which was used by the Greek and Egyptian alchemists for hardening copper. It is interesting to note that metallurgical procedures similar to those of our days had been reached empirically 7,000 years ago.

WOMEN AND GOLD STOCKS.

FAITH FENTON, that able, versatile and sincere woman journalist, who edits the *Canadian Home Journal*, and rivals the late lamented Kate Field in some respects and excels many of the most prominent woman speakers and writers in the Anglo-Saxon world in brains, and certainly in wholesomeness, has at last essayed the subject of gold mining, and gone round amongst the brokers to find out as much as possible about woman investors. It is a fact that women are about as prone to take to gold stocks as men. We doubt if they would bother about copper or iron or other vulgar metals, but gold, somehow, is another matter. Perhaps they are not very different from men of equal experience in business affairs. Faith Fenton's interviews have an interest for a good many investors, both men and women:

"We do not propose enlarging upon the ethics of mining speculation or that aspect of human nature to be seen in a broker's office—interesting as the subject might be; but rather to mention a few points personally gathered from our chief mining men that may be of value to Canadian women who have invested or intend to invest in gold mines."

"We have a large number of women investors," said one well known gentleman, "chiefly widows and unmarried ladies who wish to add to their incomes. As a rule they come or write frankly for advice concerning the best investments, and we give it with a greater sense of responsibility than when the applicants are men, since naturally no man of any principle likes to feel that a woman has lost money through following his advice."

"If a woman living in the country desires to invest, what course would you suggest?"

"If she prefers acting independently, or has no clear-headed man friend to consult, she should first study the pamphlets of the various mining companies and look especially at the *directorates*. The longer I deal in mines the more importance I attach to the personnel of the directing board. Let her consider the names of the brokers also; a good company employ brokers of good standing."

"Having selected her company and broker, it would be better to write direct to the head office, unless she has personal acquaintance and confidence in a local agent. Many of the latter are not really well informed concerning mining matters; and again they get largest commission on the least sure investments, and it is natural that they should urge those claims which yield them most profit."

"Any woman investing should scatter her money a little. Invest some in a mine or

mines already developed and sure of return, and not all in a prospectus. Again she should take surer if slower risks. If she is satisfied with the broker or manager, it would be safe for her to take his advice, even when he suggests an investment that means slower returns than others she might purchase."

"We frequently get letters from women," said another broker, "enclosing smaller or larger amounts of money and asking us to 'invest it to the best advantage.' We cannot take this responsibility, and all such moneys are returned unless the senders name the stock which they wish to purchase."

"We find Ontario women investing largely; we have done little for Quebec women thus far. Many of them are doing so for and in the name of their children."

"One of the difficulties we have in dealing with women, especially by letter, is that they are inclined to think a mine is a mine, whether developed or not, and that all mining investments are alike. And again they are disposed to be either too trusting or too suspicious. A woman in investing should neither leave the entire responsibility upon the broker, nor yet go to the other extreme and beset him with sixteen pages of crossed note paper queries." The speaker sighed here, as though out of some personal experience.

"This only happens, though, with the uninitiated women," he continued, "a very little instruction is sufficient for the majority of our women customers; we find, as a rule, that when compelled to act independently, they do so with caution and good judgment."

"My advice to intending women investors is pretty much what it is to men, except that she should go more slowly until her knowledge of mining technique is assured:

"Look to the directorships of the companies, whether in the matter of real mines, or those yet undeveloped. See that the names upon the directing boards are those of good men, not names with handles or several after letters, but well known and reliable business men, who cannot afford to lose either money or reputation. If it be a new company, prefer a pooled stock, and one started at a fairly good price; and be prepared to hold your stock for eighteen months or two years before selling."

"Is it better for a woman to invest in high, or low priced stocks?"

"That depends on whether she wishes to go into legitimate mining, or to gamble. The former she may hold with comparative surety of moderate if not high profit; the latter she must sell as quickly as possible, if she would avoid loss."

"Buying mining stocks to sell and buy and sell again, is simply gambling, for there is no intention of development, and in the end some one must lose; and if a woman wants to gamble, she had better take wheat stocks."

"There is one other point; no one—no woman especially—should put any money into mining investments that she is not prepared to lose."

"Remember, I am not condemning women as mining investors. With ordinary precautions they have as good chance of making safe investments as men. But they should confine themselves largely to legitimate companies, who are working or preparing to work their claims—which means a high priced stock. The low priced stocks mean rapid sale or loss."

In replying to Advertisements in this paper, mention *The Canadian Miner*.

The Canadian Miner.

ISSUED ONCE A WEEK

AND

Devoted to the interests of Miners, and all kinds of Mining; to the popularizing of Mining as a great National Industry; and to the protection of investors in Mining Companies.

PUBLISHED BY

The Canadian Miner Publishing Company

Canada Life Building,

King Street West, - - Toronto, Ont.

Letters and other Communications intended for insertion in THE MINER should be addressed to the Editor, and business letters to the Manager.

Subscriptions are payable in advance. The price for delivery in Canada, Newfoundland and the United States is \$2.00 per annum, and in Great Britain, 10s.

Subscriptions should be sent by registered letter, P. O., or Express Order.

VOL. I. FEBRUARY 6, 1897. No. 4.

IMPORTANT MINOR ORES.

THE PROSPECTS FOR ZINC-BLENDE AND ARSENICAL PYRITES.

THERE is danger that the enormous development which is taking place in some of our gold fields may lead to the neglect of other mineral riches. Our capital for investment in mining is small; our capitalists have not been accustomed to investing in mines, and it is difficult to get their serious consideration of even the most promising of mining operations, outside of gold mining, which the very calmest and most careful of our business and professional men who have looked into it, now know, is going to be a colossal industry in this country. These capitalists we would advise to not throw lightly aside a good proposition in regard to minor metals. To the owners of really valuable and conveniently situated properties containing minor metals we would advise courage and perseverance. A market for their ores can be found; and, fortunately, with the growth of the gold and silver production of this country, attention has been directed to the by-products of these ores, and demands for quantities for foreign markets are now coming to our mining men.

We take a few instances of ores and minerals that are here in abundance, generally as by-products. Arsenic we get from mispickel, obtained from arsenical gold veins cutting syenite, as in Hastings county, Ontario. There is nothing doing in it at present, so far as we know. We do not know the intentions of the managers of the Deloro mines, who are conducting very careful and thorough experiments in treating their gold ores and are probably confident of great success. We have no doubt that the arsenic industry will be revived, for several of the veins in that district are heavily charged with mispickel containing an eminently satisfactory amount of gold. There was, at one time, large works constructed, at which the ore was crushed, rolled, concentrated, roasted and chlorinated; but the gold values were not nearly extracted and the tailings were

washed with profit. That was under old methods, but chemistry as applied to mining has since then been advancing by leaps and bounds. The mispickel carries, in places, about fourteen dollars of gold per ton on an average, and sometimes even six ounces or more. In various parts of the Province of Ontario and in British Columbia, arsenic is thus obtained with paying gold ore. The Sudbury district is well worthy of attention as an arsenic producing region. It may be that where the gold scarcely pays, the net product of gold, arsenic and other metals will make, under the improved conditions resulting from chemical and electrical discoveries, many ores, hitherto unprofitable through any single metal, a great source of profit.

We have not yet the reduction works necessary for treating all our ores. We may have to ship abroad. The commission charged at Swansea and other points in Britain is not high—only about one per cent.

There is arsenical pyrites as an example. It is common enough in large sections of Ontario—which, by the way, for the information of outsiders across the water, is as large a country as either France or Germany. We quote extracts from a letter to a mining firm in this city in reference to arsenical pyrites. The letter says: "We draw your special attention upon this kind of ore for which we have an increased demand just now. We cannot quote you prices for the ores you have for sale, unless we know exactly which is the character of these minerals, and, therefore, we await complete analysis, as well as fair average samples of the bulk at the mine. We anticipate that, besides the arsenic, there is sulphur, iron, perhaps gold and silver, cobalt and nickel in the ore, and we must know in what proportion each of these elements is to be found in the ores, to fix you upon their value." * * * "To give you an idea of the actual price of metallic arsenic in arsenical pyrites we may tell you that we have sold a cargo of arsenical pyrites, of French origin, on the basis of twenty-five per cent. metallic arsenic guaranteed as a minimum, at two shillings per unit of arsenic, January shipment: Half cash payment against documents, balance in cash after settlement of assays." * * * "This is the outside price for the arsenic contained in pyrites of good quality. But as the character of your ores would not be known here, it would be advisable to ship first, by consignment to us, a trial lot of at least 100 tons, for which we would return you the outside price at time of delivery. After settlement of this first lot, we will make you immediately an offer for further quantities, and buyers will no more object to advance half of the value of the stuff against documents."

These extracts will give the practical man, or the man learning to be such, more ideas about how the practical world outside of Canada views these matters than would a good deal of editorial matter. The commission asked—it is by one of the best houses in Great Britain—is one per cent. on import value.

We take another metal, zinc—several other minerals and metals we will deal with in future

issues. We are not aware that zinc ores are worked in Ontario; certainly they were not a short time ago. Zinc-blende is found to a considerable extent in our Huronian formation, in horn-blende rock or diorite, and occurs in large veins or lense-like masses at Zenyth location, Black Bay, near Thunder Bay. It gives there an assay, by the Geological Survey, of fifty-four per cent. of zinc, which is a very high percentage. The same ore in large crystals is found in an eight feet vein of coarse calcspar at the contact of the Huronian and Animikie (generally regarded tentatively as Cambrian) rocks. Silver carrying veins of the Animikie also carry it in considerable quantities, and it is found more or less in many parts of the Province of Ontario.

Now, an order for 30,000 tons of zinc blende ore has been received from Britain by a Toronto firm. How to fill it is a question involving some difficulties.

We quote: "If the zinc blende is of good ordinary quality, assaying 40 to 50 per cent. of zinc, we could sell about 30,000 tons yearly of this stuff, as we are in connection with all the English and Continental works, and can secure highest prices. Spelter is quoted in London to-day at £17 5s., and we could succeed in making contracts on the basis of £17, with a variation of 8s. or 8s. 6d. per £ to rise or fall."

Spelter has not been for the past three years just as profitable as those interested in it might have reasonably wished. Last January and through the summer it was not on a healthy basis. There may be something in the explanation given for the dullness—that it was a presidential election year. If a presidential election really has all the effect ascribed to it some better way of choosing a president—or the substitution of a president with very limited powers for the kind of emperor *pro tempore* the constitution now provides for—would save very many millions of dollars to the United States every four years. Whatever the cause of the variation in demand, the price was not during the summer nor until December, anything like as good as it was four and five years ago. The Missouri-Kansas zinc country became discouraged last winter, several works closed down, and operations became slack, as St. Louis well knows. An eastern combination was formed to keep up prices and was partially successful last spring, but the western men kept out of it and had enough stock to meet demand for a while at low prices—fully a fifth under the average. A recovery took place and the December average was 4.14 cents per lb., and the immediate outlook is more favorable.

The value of zinc roofing is now acknowledged and that roofing is extensively used in some parts of the United States. Zinc roofing costs nearly \$18 per square (100 square feet lapped and laid). The material has the advantage over tin and slate that if it happens to be faulty it can be sold at a good figure—about two-thirds its regular value. The slackness of the building trade and the economy forced upon builders has, of course, interfered with the use of zinc for roofing, but with the revival

trade this factor in the zinc market will be very important.

Canadians interested in zinc should watch the markets. Properties well situated and containing good ore may be worth operating at present prices.

THE SILVER OF ONTARIO.

SILVER mining, where the richness and accessibility of the deposit are favorable, may be carried on in Ontario and in the Slocan country of British Columbia with great profit. At present but little is being done in Ontario, but it is likely that within the next few months operations will begin in the rich silver district north-west of Lake Superior. It is very strange that silver mining has been neglected so much in Ontario, while in the Slocan country it has been carried on with immense profit in many instances, notwithstanding the low price of the metal. This neglect must be ascribed largely to lack of capital, and more largely to the fact that Canadians, excepting in Nova Scotia, are utterly unaccustomed to mining, and until the present interest in gold mining was aroused, almost as completely ignored the wealth under their feet as do the Chinese, whose country is the richest in the world in coal, and coal that is easily accessible. People need not despise the Chinamar for his slowness in building railways: Canadians have been equally slow and stupid in regard to one of the most important of the resources of the country—its mineral wealth.

Excuses, other than the plea of ignorance, and perhaps even that, are not of avail. We have silver in abundance, both in Eastern and Western Ontario. The Beaver and Badger vein, the Walbridge or Trowbridge vein, are only a few examples of the richness of some of the silver veins. Silver Islet, neglected by Canadians to whom it was offered for almost nothing was sold at a low price to people in the United States. The ore shipped from it ran \$1,000, \$3,000, and even \$5,000 a ton. The mine proved a veritable bonanza for the small capital invested, notwithstanding breaks in the continuity of well paying ores. During one of these breaks, while the prospectors were seeking to strike a new pocket, a gale on the lake flooded the mine, and it was abandoned—presumably, on the part of the mining men concerned, for properties elsewhere that offered the chances of large returns without the expenses of pumping the lake out, and the risk of another flooding. But during the short time the Silver Islet vein was operated \$3,000,000 in silver was taken out, and small investors with scarcely a hundred dollars found themselves rich within a few weeks after the the American company began its work.

If Silver Islet was exceptional in richness, the returns of other mines were wonderful; the best ore shipped (we had not, nor have smelters in Ontario for these ores) ran from \$1,000 to \$1,500 per ton. Lower grade ores were stamped and concentrated. There was no discouragement to silver mining, excepting

public indifference and ignorance, and the consequent lack of capital.

The new interest in mining lately awakened; the fact that we have, instead of a few struggling mining men who have for many years had faith in the mineral resources of the country, a large number of men acquainted with or getting acquainted with mining; the fact too, that through the establishment of mining schools and kindred institutions, we have men trained in theory and practice whose future depends on the intelligent operation of mines—all these combine to make the mining outlook favorable for Canada.

Silver mining as well as gold mining will in future be important in the history of our mineral development in Ontario, as well as in British Columbia, and we are pleased to learn that English capital is already invested in it, though, of course, it does not want to boom silver lest it might suffer from the demands of owners of silver properties.

In the Thunder Bay district well defined fissure veins cut the black Animikie (Cambrian) shales and trap overlying, and in places forced between the shales. The silver ore is in irregular shoots and ore bodies, varying from mere traces to several thousands of dollars per ton. The crevice in which the silver is found has generally faulted the series. The line of fault can often be known by an indentation in the escarpment visible miles away, but it is only where a capping of trap has prevented weathering down of the soft shales that an escarpment has formed and made the veins visible. Sometimes the veins cross intrusive dykes and are there visible, as at Silver Islet. East and west is the general direction of the veins, but they sometimes strike in other directions, even when they are not, apparently at least, stringers. Silver Islet strikes north and south; Beaver and Badger north-east and south-west. Generally the veins are very strong and persistent. The Walbridge or Trowbridge vein for example, runs twelve to fifteen miles, and in places widens to fifty feet or more. The veins not only cut the Animikie formation and the overlying trap, but are known to extend into the Archæan below, and may go down tens of miles into the crust of the earth. In the Shuniah mine the vein cuts a syenite in the lower levels; at Silver Mountain West-End mine, the shaft follows the vein into the underlying Huronian jasper. In neither case has the Archæan rock proved a prolific wall rock.

The veins are chiefly calc-spar, quartz (commonly as amethysts) fluor-spar, heavy spar, and breccia or debris of wall rock. They carry iron pyrites, galena, zinc-blende with native silver above and argentite lower down. Generally the galena is not argentiferous, as far as is yet known, but the zinc-blende is often rich in silver, mostly in leaf form through the blende. Rarer silver minerals were found, more particularly at Silver Islet (which for the information of mining men abroad, we may say, lies a little off Thunder Cape), containing nickel, cobalt and arsenic, and a little antimony. Arsenical silver ore said to

be found in Black Bay, and antimonial silver ore on an island at the mouth of Pine Bay, Pardu township; and tetrahedrite is found in another locality. Graphite was associated with the occurrence of silver at Silver Islet.

In Eastern Ontario a silver ore of unusual character is found to a limited extent besides the usual silver ores. It appears to be a silver-menninghenite, the silver more associated with the lead than with the antimony, for specimens of stibnite found with the ore seem totally lacking in silver. This kind of ore seems to occur in veins or stringers in connection with a strong bed of crystalline limestone which can be followed for miles, and is of Upper Laurentian age.

We give these facts—well known at least among the scientific miners of Ontario,—as a guide to foreign investors and mining men, who, from the great differences in the geological formations of Europe and Eastern Canada, may be quite unaccustomed to the mode of occurrence of our minerals.

Silver mining in Ontario was discouraged years ago by the failure of a few mining schemes. Had we had even a hundred mining men at the time interested in the silver industry, the effect would have been almost nil. But this is a repetition of the history of new countries where agriculture is the one prominent industry.

In the future, even with the present half-awakening to the immense wealth in our backbone of rocks, we may hope that the silver mining of Eastern Canada will not be overlooked.

GOLD MINING SPECULATION.

SAYS some one in the *Engineering and Mining Journal*, of New York: "The promise of a speedy development of great mineral wealth in British Columbia seems to exist and the next few years will see a great advance and marked changes in the province. Canadians in general have not been a mining people, and until the last few months it may be said that the people in Eastern Canada were entirely indifferent to mineral development. As a natural result they are therefore the most inviting ground for wild cat speculations, and the number of undeveloped and possibly unknown prospects that have been put upon the market is almost incredible, and we only fear the reaction occasioned by the inevitable loss through them may act as a decided damper to our eastern investors. Canadians with their limited capital can do better work toward prospecting and preliminary development companies, and until we learn more about mining as a people, leave the formation of the mining companies and the mining development to English and American capital which has had long years of schooling in the business."

There is a large amount of common sense in the remarks quoted. We take exception to the statement that there is an incredible number of wild cats floated in the east. There are a few and we are sorry to see Torontonians, after their experience of a real estate boom, biting. And in the other cities and towns are people

who have the local reputation of being experienced,—not in mining ventures, however—taking up properties about which little is known. But the great majority of the companies known in Toronto are such as hold out, from a development standpoint, some promise of returns to the investor. We advise caution. People who know little or nothing about mining are liable to be caught by foolish schemes and just as liable in their ignorance, to be scared from investing in thoroughly good mines by the failure of a few wild cat schemes. There is little reason why gold mining carried on by experienced men should result in a larger percentage of failures than is found amongst other ordinary business ventures. In fact the mining business should be safer—for granted a sound business organization to start with, a mine fairly developed and milling and smelting well is not affected much by affairs that try the soundness of ordinary business firms.

A POINTER TO INVESTORS.

INVESTORS in mining stocks—we mean especially some people who are caught by appearances—should carefully distinguish between mining companies with large nominal capital and companies with small nominal capital. It might be better if companies were organized on the old fashioned par idea. But they are not. The United States have set the gait. The gait is not dishonest, but it may fool some people. A non-assessable dollar share bought at five cents brings a large profit when shares rise to fifteen cents, but in dividend-paying receipts it does not count so much, for the dividends are calculated on the gross nominal capital. Fifteen cents a share on a nominal capital of \$500,000, is quite as good as five cents a share on a nominal capital of \$1,500,000, if the properties operated be equal in value. Of course, many know this, but some people appear to scarcely appreciate it. The development of a gold mine costs generally from \$25,000 to \$75,000 before it pays. Look at the treasury stock and how it is spent, and also look at the total cash the sale of stock in a particular mine will bring. Mines that now cost shareholders only \$20,000 have paid millions in dividends, but that is the exception, not the rule.

AN OLD COUNTRY CRITICISM.

We give elsewhere a brief notice stating that some people in Vancouver are excited about the comments of the London *Statist*, a most reputable financial journal, on the non-assessable stock, sold at five, ten, fifteen, or a larger percentage, on the dividend paying stock of a large majority of the mining company stocks floated in Eastern Canada. Well, we would prefer launching dollar shares, or ten cent shares, after the British fashion. But the system, beyond the question of the dignity of it, is very much the same, and the *Statist*, if it takes the whole thing into serious consideration, will find that, if it savors of United States brincombe, it cheats nobody. Many of the companies floated in this way are paying

good dividends and are honestly managed. The objection the *Statist* gives may be merely the conservative prejudice of the Old Country. We sympathize with it, and would prefer the other style of stating values; but the financial result is the same in the long run. People here are not deceived, on this matter at least.

NOTES AND COMMENTS.

WE have mighty little faith in Mr. John Charlton, M.P., but we commend his advice as to investments in gold mining companies set forth in the following words: "Be wary, be not overcredulous, require proofs; invest your money in mining stocks as you would in a farm, in promissory notes or in a bank deposit, with a reasonable assurance that the investment rests upon good security and is safe."

THE proposal to place a graduated fee on charters granted in future to companies by the British Columbia Government has recently been discussed by the Victoria Board of Trade. For companies of considerable capital, such as some of those now operating, the fee would be \$1,000, or somewhat less than the fees charged in Great Britain under the Imperial Act. Mr. J. D. Lewin, a mining man of very large experience in Mexico, and other parts of this continent, falls foul of the proposal as will be seen by his vigorous letter elsewhere. Mr. A. McCharles, of Sudbury, a well-known mining man, discusses in an interesting letter the royalty question and the method of acquiring mining locations in Ontario.

INVESTORS, says the *Mining and Scientific Press* of San Francisco, will not go to the necessary heavy expense of having a mine examined without some proof that there is a strong probability that it is valuable. For this reason they refuse to examine many good properties that are not properly presented. Mine owners should learn that mines may be sold by samples of the ore bodies, to a certain extent, just as are wheat and other articles of commerce. Yet the average mine owner has a bad habit of taking samples that are of no value, and not only deceives himself, but others. He must learn that mines are not purchased nowadays without thorough examination and that he must present only such facts as may be substantiated.

OUR estimate, given in our last issue, that the gold production of Ontario would be \$1,500,000 or more for 1897, is not agreed with by several mining men acquainted with the developments going on in north-western Ontario. We based our estimate on the smelting plants already erected, or just to be erected, and on information, largely private, which we have. The estimate is decidedly within the limit of the probable. We do not think that the \$3,000,000 of production some of our critics estimate may be reached. Ten times the production of ten months of last year seems reasonable, but there are activity and capital at work quietly, which may make the estimate exceed the figures we have given. A product of \$5,000,000 for 1898, and \$20,000,000 for 1901 would not be astonishing, in view of the character and extent of the Ontario gold fields.

THE Toronto *World* publishes a letter from Rat Portage, which if the statements and fears expressed in are not vastly exaggerated, is

of serious import. Prospectors it says, who have discovered veins and gone to the expense of surveying their locations, have sent the necessary papers to the Government, and waited for two months for reply, and then found themselves forestalled by speculators with a "pull." Now, we don't believe all this. There may be someone at fault; certainly a delay of two months is very serious, but so far as connivance with schemes of forestallers, no one who knows anything about Hon. J. M. Gibson, the Commissioner of Crown Lands, Mr. A. Blue, the head of the Bureau of Mines, or Mr. T. W. Gibson, his deputy, would dream them capable of it. Any errors in the matter may be due to concentrating too much business at the department, instead of meeting the rapid advance of our mineral development by providing local managers of mineral lands.

If you have a phosphite property, if you have a mica, asbestos, or any other property containing mineral in demand, make the fact known to mining men and commission houses in Canada, the United States, Great Britain, and the continent of Europe. There are individuals and commission houses all over Europe looking for every mineral we produce in Canada, and there are people who know their special business ready to invest where they see a good opening. The owner of a property of this kind should know as much as he can find out about his indications; he should try to find out all he can about the outside markets and everything bearing upon his property. He should advertise, stating exposures, quantity and quality of ore, conveniences for shipments and assays of average samples. There are several good mediums for reaching the European and American markets interested—newspapers in London, New York, Berlin and Paris that are good. THE CANADIAN MINER reaches many of the best houses in Great Britain and the United States and as a Canadian medium for bringing these properties before the outside world has no rival. The interest aroused in gold will ultimately help Canadians and foreigners to appreciate the enormous mineral wealth of the Dominion, and the somewhat "green" owner of a mineral deposit in which he has had faith but been discouraged about, may revive his hopes.

PERSONAL.

THE Polson Iron Works of this city evidently fully appreciate the bearing of the gold development of the country on manufactures, and are losing no time in putting themselves in a position to meet the requirements of the new industry. The early bird catches the worm.

MR. THOMAS DAVIES, ex-brewer and ex-alderman of the city of Toronto, has always been an enterprising man, with a considerable quantity of sanguine-cautiousness. He has now appreciated the future, if well managed, of the mining industry of this country, and has hung out his shingle as a mining broker. Success to him.

THE other day a considerable party of friends were at the Union depot seeing off to the west and north an important lot of mining men. Amongst the departures were Mr. Saunders, M.E., of Brockville, bound for Lake of the Woods to examine mining prospects; Mr. Burritt, M.E., of the Bullion Co., of Rat Portage; Messrs. Nixon, Hopkins and Capt. Kendal, of Rat Portage; W. B. Scott, of Winnipeg, and Mr. M. E. Dickson. These gentlemen seemed quite satisfied with the results of their business in Toronto.

MR. S. S. BAILEY, of Spokane, Wash., and of Kaslo, B.C., is at the Queen's. He is a Vir-

ginian by birth, but for thirty-four years has been mining in the far west, mostly in silver deposits and gold ledge and placer gold. In the Slocan he holds out a part of the time at 7,000 feet above the sea. The winter is not cold, he says, but the snow is sometimes fifteen feet deep. It comes in November and begins to go about the 1st of April. Mr. Bailey says British Columbia is the greatest gold producing country in the world, and he expects to see Canada lead the world shortly in gold production.

AMONGST the manufacturing men to be found where mining men do congregate in this city is Mr. J. Carling, representing Jenkins Bros., of Boston, manufacturers of the Jenkins Bros. valves and Jenkins Standard Packing, well known in the United States and known somewhat in Canada. Mr. Carling is a young man of good address and much energy, and is enthusiastic in bringing the merits of his wares to the notice of the large number of mining men from north-western Ontario and British Columbia in the city, with their eyes open to the proper equipment of their mines.

ONTARIO NEWS.

Lake of the Woods.

Rat Portage's boom has attracted 9 doctors and 15 lawyers to that hustling burg.

The Yum-Yum Gold Mining Company, which a couple of months ago purchased for \$35,000 Dr. Edmison's claim on Shoal Lake, near the Mikado mine, thirty miles from Rat Portage, was organized at Ottawa on Saturday, Mr. John Mather was chosen as president, and the following as the directorate:—John Mather, Hon. E. H. Bronson, Ed. Seybold, W. A. Clark, John Coates, Chas. Magee, A. W. Fraser, and Burley Smith, manager. The present shareholders intend to develop the mine with their own capital.

It is stated that with the present equipment at the Sultana mine at Rat Portage, the profit is fully equal to 8 per cent. on \$1,500,000. The cost of mining and milling the ore is only \$4 per ton. An approximate estimate of the possible product of the mine has also been made. A fair one has been based on an assumed additional depth of 300 feet and 600 feet of lateral extensions, giving the average value of the ore already encountered, and a continuation of the same size of ore body found in the present workings: this would produce \$23,000,000 in gold.

Sudbury.

Roads are required says the *Sudbury Journal* through various sections of the country in order that supplies may the more readily be gotten into the various gold mining sections. The Ontario Government can well afford to be extremely liberal in the matter of roads in Nipissing and Algoma, as their receipts from the sale of mining lands will reach an enormous figure during the next few years.

We think the Government will do a good deal more than it has done for the mineral development of the north and north-west of this province. Retrogression or stagnation is not a part of the policy, in regard to the present circumstances, of either the government or the opposition side of the legislature.

The *Sudbury News* says: "If the district prospers, and we believe it will, the residents must do something themselves, and the gentlemen interested in our new company appears to have caught this idea." That is right. Don't hang on to the coat-tails of any Government. If the people of Canada want any thing done

in mining development, is it the better sense if they try to do it themselves. We are approaching Socialism, but are not quite Socialists yet.

We condense from the *Sudbury News* the following items:

The Cook-Henry property in McKim township is being sunk with shafts by Mr. Rockell in the interest of Mr. Craig of Toronto.

The Citizen's Gold and Coal Mining Co., has a development shaft 10 feet deep in Broder township.

Mr. E. L. Sawyer, Mr. Fenton, J. C. Palmer of the Kensington Hotel, Toronto, Dr. Schumann of New York, in company with D. O'Connor, Mayor Cochrane, F. B. Chapman and L. V. Rorke drove to the Wahnapiatae gold district the other day.

The recent Sudbury meeting passed a series of resolutions, which we think, our friend, Mr. McCharles, had something to do with the framing of. His letter appears elsewhere, and is almost identical with the reasons for legislation given by the meeting. We may have something to say on these resolutions later. The following are the resolutions passed:

1. That all clauses in the Mining Act relating to the imposition of royalties be repealed.
2. That a proper staking law, similar to that of British Columbia, with a recording office in every mining centre, and the same scale of fees, be substituted in the Act in lieu of the present regulations for the staking out and holding of mining claims.
3. That it is not advisable in the interests of mining that mineral lands should be withdrawn from sale by orders-in-Council without a reasonable notice having been previously given.
4. That provision should be made in the Act for mining partnerships between prospectors.
5. That the practice of allowing mineral lands to be locked up by "blanket" applications should be discontinued.
6. That all chartered companies be compelled to state on the face of all certificates of stock issued by them whether said stock be Treasury or Promoters'.

Seine River.

Mr. D. F. Burke of Port Arthur is in the Saw Bill Lake region.

The Wampun, near Saw Bill Lake, has been placed under development.

The Foley mine people expect to put out their first gold brick this month.

SAW-BILL.

The 10 stamp mill for the Saw-Bill Lake Gold Mining Co., manufactured by Fraser & Chalmers of Chicago, will be shipped on Feb. 5th. The shipment comprises: Blake Crusher, Challenge Feeders, 4 Compartment Browne Sizer, Frue Vanners, and three sets of forged steel shoes and dies, all wearing parts being in duplicate, and is said by Fraser & Chalmers to be the most complete mill of the size they have yet turned out. Two 35 horse power boilers and a 70 horse-power Corliss Engine, together with a saw-mill plant, are being manufactured by the Waterous Company of Brantford, and will be ready for shipment about the 15th of this month. The Saw-Bill mill building and camp will be lighted by a 75 light 16 candle-power dynamo.

HAWK BAY MINES.

A double cylinder Ledgerwood hoist, with a capacity of sinking 400 feet, together with a 35 horse-power boiler, has been shipped to the Hawk Bay Mine. The compressor plant for Hawk Bay will be ready for shipment about the middle of February.

The Manitou Country.

There is great activity in the Manitou district. Some extremely rich strikes have been made on Turtle Lake and River.

Thunder Bay District.

The reopening of the Rabbit mine has attracted attention to the excellent silver deposits in Ontario adjacent to Port Arthur, which, though not extensively worked at present, will again make a fine showing. It is reported that the Beaver, Badger and several others that were great producers a few years ago will soon be working again.

BRITISH COLUMBIA.

Round About Rossland.

(From Our Special Correspondent.)

ROSSLAND still keeps to the fore as the head centre of mining operations, and we are all looking to a great influx of capital and population with the opening of the season. At present the hills are covered with snow, which of course renders prospecting out of the question, but still properties on which any work has been done are being steadily developed. There can be no doubt but that this season there will be several shipping mines added to the list, and that the owners of these properties have confidence in their future is proved by the large number of orders for machinery which have been placed.

Unfortunately quite a number of these have been entrusted to American manufacturers, and trade which of right belongs to Canada is being diverted to another source. Why do not the manufacturers at your end of the country get a move on and enter spiritedly into the competition. Our Yankee cousins appear to be alive to the pleasures and profits of the business, and are leaving no stone unturned to collar every order going the road. There will be hundreds of thousands of dollars spent on mining machinery this year, in this camp alone, and eastern manufacturers, if they want the trade, should get in and hustle for it.

Prospects are very bright here for a big yield of the precious metals, and the most extravagant estimates are made as to the probable value and output of minerals. Most of the mines being operated have large quantities of shipping ores on the dump, and almost without exception the ore bodies increase in bulk and richness as depth is attained. That the material is of a refractory nature is, of course, undeniable, but cheaper means of treating it is confidently looked forward to. A couple of months ago there were two gentlemen in camp, one representing an English firm and the other an American, and they both claimed a new process by which the ores of this district could be treated at about \$1.25 per ton. If this object can be attained there is wealth in vastly multiplied quantities of rock over nearly all the Kootenay country.

The opening of the Red Mountain railway has improved business greatly, enabling many of the mines heretofore inoperative to ship. As in the east you are aware, the great event of the past month here has been the sale of the War Eagle. That many of the stockholders thought the figure offered by the Gooderham-Blackstock syndicate far too low is evident from the fact that they entered a very vigorous protest against the sale.

Companies are being floated and stocked at a great rate, but a general impression prevails that the treasury is not, in too many cases, sufficiently strong to provide for full development work. This is unquestionably so in many cases which I could mention. Then again, there is a general outcry as to the utter indif-

ference shown by the company promoters to the natural anxiety of stockholders as to what is going on. It is not enough to float a company, and sell stock—there ought to be regular reports as to what is being done with the money invested. In the interests of the promoters themselves this ought to be done, while for the good of the camp and the mining industry generally, such a course is imperative.

The incorporation of Rossland is on the tapis, and the sooner the object is accomplished the better. There is not, perhaps, in the Dominion a more unsanitary town. We are utterly without any sewerage system, and even at this season the danger is making itself felt. But more on this subject anon.—C. D. S.

The Trail smelter shipped via the Red Mountain Railway since January 1st, 311,946 pounds of copper matte.

The last carload of machinery for the Le Roi's new 40-foot driss compressor has arrived. The plant will be in running order in about 30 days.

The shipments of ore from the Rossland mines from January 1st to 23rd were as follows:—

Mine.	Tons.
Le Roi.....	2,309
War Eagle.....	960
Columbia and Kootenay.....	90
O. K.....	14
Jumbo.....	71
Iron Mask.....	65
Red Mountain.....	36
Cliff.....	40
Total.....	3,585

The Sailor Boy mine has been sold to Toronto parties for \$3,000.

The Trail smelter has commenced the erection of a refinery, and will refine their own metal.

The drift on the Jumbo's big ore body is now in 30 feet, is 9 feet wide, and is in ore all the way.

The Seattle Company will also start work on its property about that time. A shaft is to be sunk 200 feet.

The Canadian Pacific has taken over the Columbia and Kootenay Steam Navigation Company's fleet of steamers.

Over half a million dollars of minerals were exported from the Kootenay country in the first three weeks of January.

The Pathfinder property, now under bond to Rossland and Toronto parties, has been announced to start work soon after March 1st.

Rossland weather is jumpy. The last number received of the Rossland *Miner* gives for one week 60° in the shade, and also 2 above zero.

There are 12 mines up the North Fork and around Grand Forks being worked at present with good results, and most of the money furnished comes from Spokane.

The Montreal syndicate has sold 118 lots in 2 days, 64 of which were purchased by the Toronto and Rossland Development Company. The price paid was \$21,000. The same company will commence to erect and equip the city with a cable car service.

The Seattle is a strong fissure vein from 80 to 100 feet wide, and is considered one of the richest mines in this district. In character of ore and formation it is identical with the best mines of Rossland, and the sulphide ore produced from it very much resembles that of the Le Roi.

The sale of that part of the town site of Northport known as Bishop's farm to Montreal and Toronto capitalists has been concluded. These capitalists have already commenced the preliminary organization of a

company to erect a one-million-dollar smelter that will handle 1,000 tons of ore per day.

Preparations are being made to start the Volcanic property, near Grand Forks, on or about March 1st. Enough capital has already been granted to fully equip the mine for extensive development. This and other work contemplated will mean the building of a large smelter near Volcanic mountain, and the encouragement of a railroad into Grand Forks before the first of next September.

There are at present 13 mines being worked upon the North Fork and in the vicinity of Grand Forks, and it is predicted now that over 50 will be in active operation before April 1st. Pass creek and Brown's camp will no doubt be the centres of active mining operations this season. The country tributary to Pass creek has a wonderful showing of ore and a very desirable class of ore for smelting works.

Col. W. W. D. Turner has authorized the statement that the Le Roi company recently received and refused to accept an offer of \$4,000,000 for the mine, and not \$4,850,000 as was reported in western papers. While the officers of the company decline to discuss the matter it is reported that they are now in close communication with the gentlemen who made this offer. It is thought that a \$50,000 dividend will be declared by the Le Roi company in a few days.

The situation at the Mayflower is now fully understood. The vein was tapped, as already reported, with the crosscut run out from the shaft on the 100-foot level. The ledge is four or five feet wide, but the clean ore is only 12 inches wide. The ore, however, is of high grade, running 100 ounces in silver and from \$8 to \$12 in gold. This makes the total value of the ore at least \$60 per ton. While, therefore, the vein of clean ore is small it is rich and can be worked at a good profit. Drifts will be run both ways on the ore at the 100-foot level, and the shaft continued another 100 feet. As soon as the drifting is far enough advanced stoping will be commenced, and the ore taken out between the 75 and 100-foot levels.

It is not believed, says the Rossland *Miner*, there is any truth in the hint that Mr. Heinze may sell his railroads and smelter to capitalists closely associated with the C.P.R. company. Mr. Heinze has too big a thing in hand to want to sell out. He believes in the country and is going to stay with it to the finish. But it is pretty certain that a tariff contract is being made between the C.P.R. and the Heinze road so that the former can get its freight into both Trail and Rossland without breaking bulk, and one of the provisions of this arrangement is that the C.P.R. should bring ores from Slocan Lake into the Heinze smelter. Another feature of the agreement will be found to be the bringing of coke from Nanaimo for use in the Heinze smelter. The Dunsmuirs are now putting in extensive coke ovens with the distinct purpose of supplying coke to the smelters at Nelson and Trail. This coke will be carried by the C.P.R. company over its railroad and on its steamers at a more reasonable rate than ever before given to these smelters. It can be said the Nanaimo coke will be ready for delivery by June 1st. It is now certain that the Trail smelter is to treat silver and lead ores from the Slocan, and that these ores will commence to be delivered over the C.P.R. during the summer of the present year.

Around Kamloops.

Blasting is going on vigorously at McIntyre's mine on Mount Ida, Salmon Arm.

The mine, it is said, is improving every day. Prospecting at the Arm will be lively in the spring.

Coal Hill has the representatives of one Eastern syndicate on the spot, and the manager of another.

An official of the Trail smelter and an intimate associate of A. Heinze, was on Coal Hill last week. He was surprised by what he saw and expressed the opinion that Kamloops will surely be a big camp if any quantity of ore, such as can be seen in the Iron Mask, is discovered.

A. G. Thynne, of Vancouver, is superintending work on the Canada and the Kamloops Bonanza claim. The present contract to sink to 57 feet was to be completed to-day.

Copper-gold ore has been found abundantly outside of what was known as the Kamloops gold territory only a few weeks ago.

Savona items are given in the *Inland Sentinel* as follows:

Copper Creek is booming.

W. J. Irving has a tunnel 150 feet into Hardie Mountain.

A fresh strike of cinnabar has been made near Savona.

Squires has done the assessment work on the Caledonia.

The Cinnabar Mining Co. are pushing the construction of new furnaces.

J. Anderson, an expert from Victoria, was here recently and located five or six claims.

A. Hardie is running a tunnel on his claim near his house and is getting out some good looking ore.

The country surrounding Ashcroft will be thoroughly looked over next season for quartz ledges. Some of the quartz discovered on or near the Thompson run well in copper and carries a little gold. Depth alone will tell their value, but the outlook is good for many valuable mines within 50 miles of this section.

Interviewed at Spokane, Supt. R. Marpole said: "There is considerable interest in the mines which have recently been discovered about 6 miles from Kamloops. Fully 150 locations have been made. The assays run from 7 to 25 per cent. in copper and \$4 to \$12 in gold. The Iron Mask claim, at a depth of six feet, has a solid body of ore which will go \$46 to the ton in all values. A number of these claims have been bonded to English capitalists."—*Sentinel*.

Slocan.

It is said that the Goodenough Mining Company, owning the Goodenough mine in the Slocan, will declare a \$50,000 dividend within a month or six weeks. The company now has \$20,000 in the treasury, and enough ore in transit to warrant the payment of such a dividend.

From the Slocan district alone it is claimed that 47 mines will ship ore during the year, and that the amount will aggregate nearly 50,000 tons. There is very little machinery in the district. The Noble Five is equipped with a 120-ton concentrator. The Slocan Star has a concentrator and a compressor plant. The Three Forks concentrator has a capacity of 60 tons, as has the Washington concentrator. This includes all the machinery in the district except a few hoists. There is not a steam hoist in the Slocan.

Twenty mines have been worked in the Salmon River district all winter despite the fact that there is considerable snow on the

On the Robert J. on the North Fork the shaft is down 15 feet in solid ore, and there is 40 tons on the dump, some of which will be packed down shortly. Assays run about \$60 in gold. On the Eton, lying between Boulder Creek and the North Fork, the tunnel is in 20 feet on a ledge carrying gold, galena and copper. Assays as high as \$65 in gold have been obtained. The Porto Rico, which is under bond for \$30,000, is looking well. Placer gold has also been found on the North Fork, some black sand having assayed as high as \$1,265.45.

It is reported that W. A. Boss, of Spokane, who recently purchased a group of claims in the immediate vicinity of the Whitewater mine, is also negotiating for the purchase of what is known as the Swede's claims, on the south fork of Kaslo Creek. These properties are regarded as amongst the most promising in the district, and are held at a fancy price. It is said that \$60,000 was offered for the group a week or two ago, and promptly refused. Current rumor says that Mr. Boss represents London and South African capitalists, but there is no positive verification of the rumor.

The following is the output of the Slocan district for the first week of 1897:

MINE.	TONS.
Payne, Slocan	306
Slocan Star, Sandon	200
Surprise, Slocan	17
Idaho, Slocan	80
Enterprise, Slocan	40
Jackson, Slocan	61
Ruth	15
Rambler, Slocan	16
Wonderful	30
Blue Bird, Slocan	12
Antoine, Slocan	17
Whitewater, Slocan	90
Last Chance, Slocan	51
Washington	32
Roco, Slocan	88
Consolation, Slocan	12
Total for week	1,179
Approximate value	\$140,670

Pannings.

The Josie has ordered twelve cars a week from the Red Mountain Railway, and sent her first car over that road yesterday.

According to advices from the west an agent of a Toronto syndicate has bonded for \$50,000 a group of silver mines in the comparatively unknown Lardeau-Duncan region.

J. Brydon has taken to Victoria from the Alberni consolidated mine nine ounces of gold, valued at \$180, the result of a clean-up at the stamp mill from one ton of rock. The men have had to knock off work at the mine quite suddenly, as Debeaux, the hotel-keeper, suddenly decided to close his establishment, and turned everybody out, so that there was no accommodation for the men within reach of the mine.

Papers have been prepared for application to the Provincial Legislature of British Columbia for a charter to construct an electric railway from the international boundary line to Grand Forks, Anaconda and Greenwood, and thence to Rossland. An application will also be made to the Washington Legislature for a charter from Spokane to the international boundary line, and, if granted, work is to begin early in the spring. The power it is proposed to obtain from the falls of the Kettle river.

In its latest issue *The Revelstoke Herald* calls attention to the wealthy, but comparatively unknown ore deposits of the Big Bend district. It says:—"The Big Bend mineral region is, beyond question, the richest and most extensive auriferous district in the

now famous West Kootenay district. Its auriferous gravels have already turned out large quantities of gold, and, under efficient hydraulic working, when cheaper communication is secured, the output will reach into the millions."

Much excitement has been roused in mining circles in Vancouver, says a despatch to the *World*, by a savage attack in the *Statist* of London, Eng., perhaps the most substantial and conservative journal in England, on the system of floating British Columbian mining companies by means of non-assessable stock issued at big discounts on the dollar. The *Statist* gibbets a number of these companies by name, and adds that it learns that Eastern Canada is being inundated by doubtful undertakings thus financed.

An effort will be made in the coming session of Parliament to divide Kootenay into four counties. The four county seats selected by the committee having the matter in charge are Rossland, Nelson, Kalso and Revelstoke. The district, which at present is very large, is known as the "shoe string" district from the fact that it is about 200 miles long and only about 40 wide. As the interests of different parties are so widely at variance it is believed that much better satisfaction would result if the district were divided into four counties.

At present the ores of the Kootenay are largely treated by coke brought all the way around Cape Horn from Wales, but an effort is to be made to supply the necessary smelting fuel from a Canadian source, viz, the coal mines of Vancouver Island, B.C. It is understood that the Union Colliery Company at Union 60 miles north of Nanaimo, has put in 100 coke ovens with the purpose of supplying coke to the Kootenay smelters. These coke ovens are now finished and the making of coke will commence immediately. The capacity of the ovens will be 130 tons a day. It is now settled beyond doubt that the coke made there is of a very superior quality.

If the prospector instead of staking right and left, as so many are prone to do, would only locate what ground he can work—and work it after it is located—the country would come to the front at once. One claim well developed will do more to attract attention to the district in which it is situated and will bring the owner more money when sold than ten prospects—be their surface showing ever so good. Let each of our prospectors work one or two of his good properties and let the rest go and the district will come to the front quicker, more capital will be interested, railroads and smelters will come sooner, and he will make more money out of it in the end than he would had he tried to hold a score or more of claims.—Grand Forks *Miner*.

GOLD ON LAKE WINNIPEG.

Not only in the eastern part of Manitoba adjacent to Lake of the Woods country, but further north along the east side of Lake Winnipeg has gold been found.

So unexpected was the recent discovery of gold that the province actually has no legal machinery by which registration of claims may be consummated. The Prairie Province has so long been considered so purely an agricultural section of the country that the people have come to fall back upon the Dominion laws in taking up properties. Says the *Winnipeg Tribune* :—

A great deal of interest is being taken by energetic citizens of Selkirk in the development of the gold mines at Hole River. This is about eighty miles north of Selkirk, on the east side of the lake, and it is stated that the formation is the same as that at

Rat Portage and in the Manitou country, which is attracting so much attention at present. The route usually taken to the Hole River district is to go up the Gimli-road on the west side of the lake to Icelandic River, from which point Hole River is distant about twenty-five miles across the lake in a north-easterly direction, skirting round the south end of Big Island. This last twenty-five miles across the ice is very cold driving and those who have been out found it so in the past week.

The claims are being located under the Dominion law, as Manitoba has no mining laws so far. The Dominion law only permits of one claim being located by one person on the same vein. These claims are 1,500 and 600 feet, but the same man may locate any number of claims on different veins. The object of this restriction is said to be to prevent one party filing a blanket claim on a large piece of territory in order to head off prospectors who may have struck some likely leads. The claims must also be located in person, which necessitates the trip of citizens at this time to put in stakes.

All the mines so far located are on the shore, where it will be very easy to get in all the supplies by steamer. In fact there are but few mines in the Lake of the Woods District which can be so easily reached as those at Hole River. This district has long been pointed out by geologists as gold-bearing, and the assays of rock that have been made leave no doubt as to there being gold, and this in good quantities.

After locating the different claims, it is not likely that much more will be done till next spring, when work on the different locations will be begun. Should the mines begun earliest look favorable, it is not unlikely that a stamp mill will be erected at Hole River next summer. Reduction works at Selkirk are also talked of and the location would be a first-class one, as the cost of freighting ore would be very small. The people of Selkirk are not at all excited over the prospect of owning gold mines, but they are going to work to develop them next season in a systematic and businesslike way. They have been steadily developing the industries of the town and lake in the face of a good many difficulties, and there can be no doubt that before another year the mines of Lake Winnipeg will be attracting a great deal of outside attention.

CHIPS.

A VERY IMPORTANT MEETING.

An interprovincial meeting of mining engineers and mining men is being held at Montreal. A large number of papers are prepared for this meeting. Special subjects outlined some time ago for discussion are the total abolition of the duty on mining machinery, and the removal of the duty on explosives.

COMPANY NOTES.

The Citizen's Gold and Coal Mining Company of Sudbury, is composed mostly of Sudbury people. It has secured promising claims in the Chelmsford Valley, the value of which, while considerable, we would not advise investors to take too much stock in, beyond the actual fuel in sight, and a little more. The occurrence of coal there is not contrary to what is known of the earth, but is very unusual; and probably the bed is of very limited extent and depth. It is good for what it is worth, and may pay the investor a satisfactory return, if he does not dream it is a real coal field.

UNITED STATES NOTES.

During the year 1895 about 1,250,000 barrels of oil were produced in California. Of this amount, very nearly 1,000,000 barrels were produced in Los Angeles county, and something less than 250,000 in Ventura county. It is probable that the yield for 1896 will not fall far short of this amount.

Nickel production in the United States in 1896, entirely from Canadian ores and matte, reached a total of 3,697,039 pounds—2,678,661 pounds in 1895. Of the production in 1896, metallic nickel amounted to 1,600,049 pounds, the remaining 2,096,890 pounds being in the form of oxide and sulphide.

The discovery of coal in a number of districts in Nevada give promise of a new industry for that State. The Nevada Central Railway Company has put eight men at work on a coal mine near Crum canyon, near Battle mountain, and it is said that the prospects are favorable for the development of extensive coal beds.

A crisis in the great strike in Leadville, has at last been reached that brings a calamity that will affect both the strikers and the mine owners. The pumps that drain the mines on Carbonate hill have been pulled out and within a short time most of them will be flooded. Even if the strike should be settled now, it would be a long time before work could be resumed.

A bill has been introduced in the California Legislature by Senator Mahoney dealing with corporations. It provides that no assessment shall be levied by the trustees of a corporation without the concurrence of a majority of the shareholders and after a sworn statement of the officers as to the condition of the corporation and further that the owners of stock sold for assessment shall have the right to redeem within six months.

The Calumet and Hecla Copper mine on Lake Superior exceeds in profitability any gold or silver mine in America. It is capitalized at \$2,500,000, and at the end of 1896 it had paid in dividends \$46,500,000. This company announces the payment of a dividend of \$1,500,000 on the 10th of the present month, and the directors state that they have sufficient ore in sight to promise that the mine will pay out \$4,000,000 in dividends during 1897.

According to a dispatch from Washington, Director Walcott of the United States Geological Survey has published a report upon the gold fields along the Alaskan coast. An expedition sent out last summer traversed the valley of the Yukon from the British boundary on the east to the mouth of the river on the west. All of the well-known placer deposits were examined, and the origin of the gold in them was traced to the quartz veins along the headwaters of the various streams entering the Yukon. Sufficient data were secured to establish the presence of a gold belt 300 miles in length in Alaska, which enters Alaska near the branch of Forty Mile creek and extends westward across the Yukon valley at The Ramparts. Its further extent is unknown. It is the opinion of the geologist in charge of the expedition that it is entirely practicable to prosecute quartz mining throughout the year in this region. He also discovered along the river acres of rocks containing hard and bituminous coal. The director thinks in view of these facts that a reconnaissance report should be made of the gold and coal areas in order to secure an intelligent conception of the resources of the interior of

Alaska, and for this purpose asks an immediate appropriation of \$25,000.

.

The Colorado Output for 1896.

Based upon the statement received from smelters and mints, after deducting the value of mattes sold by one smelter to another, to avoid duplications, the value of Colorado's precious metal mines during the year 1896, is estimated as follows: Gold, \$15,168,408; silver, \$15,574,794; copper, \$831,374; lead, \$3,079,947; total, \$34,654,526.

From this estimate is omitted any calculation of the value of gold shipped to private refineries or manufactories, because, with the exception of a small amount sold to manufacturers, most of the gold is sent by others into the mints, and it appears in their reports.

These figures show that the gold product is much less than was expected, and will prove a disappointment. The gold product may be too low, owing to there having probably been some shipments to manufacturers or private refiners, or to banks which have retained the gold in their vaults, of which we have no account. Anyone else can guess at their amount as well as we can, and we prefer to let those who are so inclined do the guessing.—*Denver Ores and Metals.*

LUCK IN MINING.

"ONE man cannot see as far into the ground as another," said John Pritchard of Aspen recently, "and there isn't a little bit of truth in the saying that he can when applied to mining operations. Thousands of instances might be brought forward to prove my position, and I learned my lesson very early in my mining career. The Tom Boy story in an illustration of this. Everybody thought J. Ernest Waters was wild to spend much money on it, and yet it is to-day being negotiated for \$2,500,000, after paying more than \$500,000 in dividends in less than two years.

"I was down in the San Juan country in 1881, and had a claim over on Sultan mountain, which I called the Jessie. It was a promising crevice, and I worked at it faithfully until I had expended nearly \$500, mainly for grub and powder, living alone in my cabin, and frequently working fifteen hours a day. Then I sent home, and father sent me \$300 more, which I used up. By that time I had been working nearly two years, and had driven my tunnel in about 200 feet, every inch of it with my own hands. Then I became discouraged, as I knew father had a mortgage on the old place, and couldn't afford to help me any more. I got credit for \$100, and kept at work driving the tunnel fifty feet further, and then I felt that I was at the end of my rope.

"One day, as I was gathering up my tools to quit, a nicely-dressed man sauntered up to the tunnel and began to look around. He asked to see the tunnel, which was mostly in solid rock, without timbering, and after he had closely examined both walls, asked me if I wanted to sell. I feigned indifference, and after calculating 250 feet of tunnelling, at \$10 a foot, answered that I might sell if I got my price. 'Well, what's your price?' he asked. 'Twenty-five hundred dollars,' I replied, with my heart in my mouth. 'Come down to town and get your money,' was the answer, and that night I slept with \$2,500 under my pillow, in clean sheets for the first time in two years. Next morning the purchaser asked me to help him out in a couple of shots, and, of course, I agreed.

When we got to the tunnel, he examined the wall, and selected a point about 100 feet from the mouth. Let's drill a couple of holes here,' he said. The minute he laid hold of the sledge I saw he was a miner, and in a short time we had two beautiful holes in the rock. When the shots went off I could hardly restrain myself from rushing into the tunnel at once, and when the smoke cleared away I was the first on the spot. And there lay a body of ore exposed which was afterward found to be three feet thick and ran over \$100 to the ton. I had left the vein, and the superior knowledge of my purchaser had enabled him to detect the point of departure.

"I stayed around there a week, by which time he had taken out enough to pay for the cost of the mine, and then I went home and paid off the mortgage on the farm, and I've got the farm yet, though I am still mining. More than \$30,000 was taken out of that hole, and then the vein was lost, and has never been found since."

THE DEEPEST BORE-HOLE.

THE deepest bore-hole in the world, says Mr. C. Zundel, in the late communication to the Industrial Society of Mulhouse, is one of 6,571 feet below the surface of the soil, made at Paruschowitz, near Rybrick, Upper Silesia. The previous record for depth was the hole drilled some years ago at Schladebach, near Leipsig. The latter bore-hole was made in a search for coal measures, and 83 separate seams, some of considerable thickness, were penetrated. The hole was 12 inches in diameter at the beginning, and this was lined with a tube about 0.4 inch thick; at a depth of 230 feet the bore was reduced to 8¼ inches in diameter, and thus continued for 351 feet. At this point the blue marl encountered became so compact that the diamond drill had to be used, and, under the action of the water, the marl swelled to such a degree that the diameter of the pipe had to be again reduced. The greatest difficulty encountered was the great weight of the boring rods, as the depth increased. Though steel was used, at a depth of 6,560 feet the total weight of the tools reached 30,155 pounds. Under this weight, ruptures of the rods were frequent, and an accident of this nature finally stopped the work; about 4,500 feet of rods fell to the bottom, and, being jammed under a part of the tubing, it was impossible to withdraw it. The diameter of the well at the bottom was 2¾ inches. Temperature observations made showed 12° C., at the surface, and at the depth of 6,571 feet, the temperature reached 69.3° C., or 157° F. This is equivalent to an average augmentation of heat of 1° C. for every 34.14 metres of depth, or 1° F. for every 63 feet.

The boring at Paruschowitz was commenced on March 26, 1892, and it reached its maximum depth on May 17, 1893, or in 399 working days. The total cost was \$18,800, or about \$2.86 per lineal foot.

Friends of The Canadian Miner would do us a kindness to mention in writing to any of our advertisers that they saw the advertisement in our Journal. There are very many men, who from temperament, occupation or otherwise do not do so. There are advertisers who only measure the value of advertising by what they actually see, and cannot see further. This is not the true way to judge the value of advertising. The quiet mention of an advertising medium good to the medium.

Germania GOLD MINING CO.

(Limited Liability)
OF ROSSLAND, B.C.

BUSINESS OFFICE, BERLIN, ONT.
Capital, \$1,000,000. Shares of \$1 each.

PRESIDENT, WM. ROOS (of Randall & Roos), BERLIN,
VICE-PRESIDENT, H. G. LACKNER, M.D., Ex-Mayor Berlin.
With a strong Board of Directors.

The Company have been developing one of their properties day and night for some months, with good results.
Property situated in Green Mount in, West Kootenay.
Developing Stock now selling at 10 Cts. per share.

The cheapest and best purchase on the market.
Write for a Prospectus which contains LILJEGREN'S report of property and other information.
JOHN R. EDEN, Secretary-Treasurer.
BERLIN, January 30th, 1897.

EDGAR, MALONE & BIRD,
Hos. J. D. Edgar, Q. C. E. T. Malone,
J. F. Edgar. J. Edward Bird.
Barristers, Solicitors, Notaries, Etc.
RAT PORTAGE, ONT.

Toronto Office:
TORONTO GEN. TRUSTS BUILDING.

ROSFORD COPPER CO. COPPER SMELTER

Works at Constable's Hook, N.J.,
opposite New Brighton, Staten Island.
Copper Ore, Mattes, or Bullion purchased.
Advances made on consignments for refining and sale.

Specialty made of
**SILVER-BEARING
ORES and MATTES**
Well INGOT and CAKE COPPER.
President, ROBERT M. THOMPSON,
Treasurer, G. A. LAND.
Office, 37 to 39 Wall Street, New York.

**BALBACH
SMELTING & REFINING
COMPANY**
Edward Balbach, Jr. - President.
Langeloth - Vice-President.
Newark, New Jersey.

Smelters and Refiners of
Gold, Silver, Lead and
Copper Ores.

Bullion and Argentiferous Copper
Matte Received on Consignment or Purchase.

Smelting and Refining Works:
Electrolytic Copper Works:
NEWARK, N.J.

Assays Fe Sampling Works:
Agency, SABINAS COAHULLA.

**SMITH CURTIS,
CONVEYANCER, Etc.**
MONEY TO LOAN ON IMPROVED REAL
ESTATE. Low Rates. Easy Terms.
Office up-stairs in 2nd block east of Grand
Union Hotel, ROSSLAND, B.C.

**Cowper-Coles
& Johnson,
MINING BROKERS,
AGENTS
AND INSURANCE.**

Agents Cassel Gold Extracting
Co., Quebec Fire Assurance,
Birkbeck Investment Security
& Savings Co., of Toronto.
Columbia Ave., - Rossland.

WALPOLE ROLAND,
Civil and Mining Engineer.
REPORTS, SURVEYS, ESTIMATES,
AND DEVELOPMENT.

REFERENCES:
Engineering and Mining Journal, New York.
The Canadian Mining Review, Ottawa, and
The Mining Journal, London, England.
CONSULTING ENGINEER.

OFFICE: LA SEINE RIVER, ONT.
Cable Address, "ROLAND," A1 Code.

IN addition to keeping all the principal Mining Stocks on sale we make a specialty of good properties for syndicates or stocking.

**J. B. Ferguson
& Co. . . .**
ROSSLAND, B.C.
Next Door to Bank of B.N.A.

PRINCESS GOLD MINING CO'Y OF ONTARIO (LTD.)

NON-PERSONAL LIABILITY.
Authorized Capital, - - \$500,000
of which 300,000 shares are in the Treasury.

DIRECTORS:
PRESIDENT, E. MACKENZIE, Toronto Railway.
VICE-PRESIDENT, JOHN FLETT, Wholesale Merchant.
H. O'BRIEN, H. LOWNDES, MAJOR HARSTON, THOS. SHORTISS
all of Toronto.

Situated on the famous SCRAMBLE vein at Rat Portage, Ont.
THE BONANZA OF ONTARIO.
Write for Prospectus. 71 BAY STREET, TORONTO.

Mr. Z. J. S. Williams, M.E., who has been employed and sent out to Canada by the great mining firm of John Taylor & Sons, 6 Queen St. Place, London, England, says:—"The ore in these veins is perfectly free milling. I have seldom had the pleasure of examining a property that shows such promise of lasting success as this does."
Please mention that you saw this advt. in The Canadian Miner.

**ROBBINS & LONG,
ASSAYERS AND CHEMISTS.**
PRICES FOR ASSAYING.
Copper only \$2.00
Gold and Copper 2.50
Gold only 1.50
Silver only 1.00
Gold and Silver 2.00
Lead, fire assay 1.00
Lead, wet assay 2.50
Silica 2.50
Iron 2.50
Zinc \$3.00
Sulphur 3.00
Aluminum 3.00
Antimony 5.00
Arsenic 5.00
Nickel 10.00
Cobalt 10.00
Coal Analysis 10.00
Ten or more samples from same party in any one month, 30 per cent. off list prices. Five or more brought in at one time same discount. Special attention given to samples by mail.
OFFICE WITH THE REDDIN-JACKSON CO.
ROSSLAND, B.C.

WM. E. DEVEREUX,
Civil Engineer, Provincial Land Surveyor and Notary Public.
Office over Weeks, Kennedy & Co.
COLUMBIA AVE., - ROSSLAND, B.C.

**MOYNAHAN & CAMPBELL,
MINING OPERATORS**
Superintending Mines a Specialty.
ROSSLAND, B.C.
J. J. Moynahan. W. A. Campbell.

**ARCHER MARTIN,
Barrister at Law,**
43 Government Street,
VICTORIA, B.C.

**R. W. DeMOREST,
Ontario Land Surveyor.**
Civil and Mining Engineer,
DRAUGHTSMAN, VALUATOR, ETC.
SUDBURY, ONT.
Surveys; Plans, Descriptions of Properties, etc., promptly executed. Timber limits and mining claims located. Mining properties examined and reported on and fully developed.
Room 6.7 & 8 Johnson-Washburn Block.

**J. K. Clark & Co.
MINES AND
MINING**
Correspondence Solicited.
Columbia Avenue, - Rossland.

KERR, GLADMAN & KERR.
BARRISTERS, Solicitors, etc., 134 1/2 Hunter Street, Peterborough. First door west of Post Office, Peterborough. MONEY TO LOAN
Wm. Kerr, Q.C. F. D. Kerr, B.A.,
F. W. Gladman.

Stratton & Hall
BARRISTERS, Solicitors, etc., Peterborough, Ont. OFFICE - Corner of Hunter and Water streets, over new Bank of Commerce, Peterborough.
W. A. Stratton, LL.B. R. R. Hall

DENNISTOUN, PECK & STEVENSON.
BARRISTERS, Solicitors and Notaries. Office - 417 Water Street, Peterborough. MONEY TO LOAN.
E. A. Peck, R. M. Dennistoun, A. Stevenson.

A. P. POUSSETTE, Q.C.
BARRISTER, Solicitor, Etc., 379 Water Street, Peterborough.

O'CONNELL & O'CONNOR.
BARRISTERS, Solicitors, Etc. OFFICES at 134 1/2 Hunter Street, one door west of Post Office, Peterborough. MONEY TO LOAN.
L. V. O'Connor, B.A. Daniel O'Connell, B.A.

E. S. TOPPING,
Trail and Deer Park Lots.
Mines for Sale. Choice Stocks Handled. Examines and Reports on Mines.
TRAIL, B.C.

LEDOUX & COMPANY,
9 Cliff St., New York.
Engineers, Metallurgists and Assayers.
Public Ore Sampling and Storage Works.

All the principal buyers of furnace materials in the world purchase and pay cash against our certificates of assay, through New York banks. By special permission of the Secretary of the Treasury of the United States, cars of ore or Copper matte passing through in bond can be opened and sampled at our works. Consignments received and sold to highest bidder. Send for circular giving full particulars.
Mines examined and sampled. Assays and Analyses of all kinds.

MICHIGAN MINING SCHOOL.
A State School of Mining Engineering, located in the heart of the Lake Superior mining region, giving practical instruction in Drawing, Blue-printing, Mechanics, Mechanism, Properties of Materials, Graphical Statics, Mechanical and Electrical Engineering, Shop-practice, Analytical and Technical Chemistry, Assaying, Ore Dressing, Metallurgy, Plane, Railroad and Mine Surveying, Hydraulics, Mining, Mineralogy, Petrography, General, Economic and Field Geology, etc. Has Summer Schools in Surveying, Shop-practice, and Field Geology. Laboratories, Shops and Stamp Mill well equipped. Tuition free. For Catalogues apply to the Director, HOUGHTON, MICH.

THE QUEEN'S HOTEL

W. G. CAMERON,
PROPRIETOR.

Rat Portage, Ontario

Modern Conveniences.

Good Accommodation.

RATES FROM \$1.00 to \$1.50 PER DAY.

Reduced Rates to Tourist Parties by the Week

Bus meets all Trains.
Boats and Livery in Connection

Full and reliable information furnished of Mining Properties, and Guides
procured when necessary.

FOR FURTHER PARTICULARS ADDRESS—

W. G. CAMERON, Rat Portage.

Hilliard House

LOUIS HILLIARD, PROPRIETOR.

This Hotel is known from the Atlantic to the Pacific as Rat Portage's most progressive house; one that has kept fully abreast of the times.

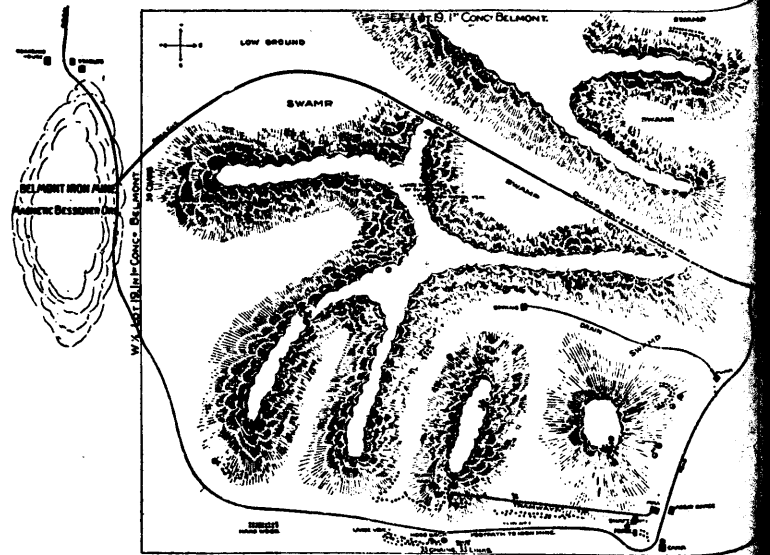
**The Largest and best Equipped
Hotel of the Lake of the
Woods.**

Largest stock of Foreign and Domestic Wines, Ales, Lagers, Mineral Waters. Best Brands of Whiskies, and the largest stock of Foreign and Domestic Cigars West of Toronto.

—MAIN STREET—

Rat Portage, Ont.

Plan showing the E 1-2 Lot 19, in 1st Con., Belmont Township, County of Peterboro', Ontario, Canada, the property of the Ledyard Mines Co., Ltd.



In 1893 Mr. H. P. Brummel, the Mining Engineer of the Geological Survey of the of Canada, made a thorough inspection of the mine and pronounced it entirely free of arsenic, and a good paying ore; also a number of good sized veins which have all the appearance of true fissure veins.

T. D. LEDYARD Dealer in MINES and MINERAL LANDS.

57 COLBORNE STREET, - TORONTO, CANADA.

SPECIALTIES:—High grade Bessemer Iron Ores. LOW GRADE GOLD ORES.

Canada is rich in economic minerals. 110 miles east of Toronto is a large deposit of iron ore suited to make the highest grades of tool steel, being rich in iron and very free from impurities. Into this Belmont mine a Railway has been built which connects with The Canadian Pacific Railway and The Central Ontario Railway, giving easy access to Lake Ontario, from which the ore can be shipped to any point on the great lakes. Adjoining the Belmont mine is the property of the Ledyard Gold Mines Co., (Ltd.), in which are several veins of iron ore containing free gold and auriferous pyrites, on which considerable development work has been done. These mines can be reached by all rail route, in about five hours from Toronto.

THE SMITH-HEWITT CO.

Mines, Stocks and Real Estate

COMPANIES ORGANIZED. CORRESPONDENCE SOLICITED.

SCOTT BLOCK, COLUMBIA AVE. AND LINCOLN ST., ROSSLAND.

A. A. NEWBERY.

CHAS. G. GRIFFITH,
Mining Engineer.

NEWBERY & GRIFFITH,

DEALERS IN MINES.

JAMIESON BLOCK, SPOKANE, WASH.

WALTER C. ARCHER

Mining Agent and Stock Broker

Quotations on all Stocks by Letter

LALONDE & RODIER BLOK

ROSSLAND

In replying to Advertisements in this paper, mention The Canadian

INGERSOLL ROCK DRILL CO.

Rock Drills

For TUNNELS,
MINES AND QUARRIES.

STRAIGHT LINE, DUPLEX AND COMPOUND

AIR COMPRESSORS

Stone Channelling Machines, Coal Mining Machines, and Complete Plants
of Mining Tunnelling and Quarrying Machinery.

64 St. James Street, - - Montreal.

MINING AND MILL MACHINERY.

Steam Engines, Rock Crushers, Boilers, Derricks, Steam Pumps, Water Wheels,
• Brass and Iron Castings of every description.

ALEX. FLECK, - - VULCAN IRON WORKS, - - OTTAWA.

R. T. HOPPER & CO.

Successors to IRWIN, HOPPER & Co.
(Established 1878.)

Miners and Shippers of Minerals, Etc.

31 BOARD OF TRADE BUILDING, MONTREAL, CAN.

Asbestos, Crude and Manufactured, Mica, Plumbago, Soapstone, Etc.

Also MANAGING DIRECTORS and
SELLING AGENTS for

- The Anglo-Canadian Asbestos Company, Ltd.
- Loughboro Mica Mining Company, Ltd.
- The English Portland Cement Company, Ltd.
- Montreal and Kootenay Mining Company, Ltd.

The Reddin-Jackson Co.,

LIMITED LIABILITY.

The Pioneer Brokers of Rossland.

THE EXCELSIOR VALVE CUP WORKS

EAST END, PETROLIA,

We have now on hand a large quantity of
the best

SPANISH TANNED CUPS

for sale. Special sizes made to fit any working
barrel on the shortest notice. Usual discount
to the trade. Factory and office at the Curling
Rink, East End.

H. COOLEY, Manager.

W. M. NEWTON, Customs Broker,

Mines and Mining Stock Broker, Fire
Insurance, Notary Public.
Assisted by Edwd Baillie, Expert Accountant.
52 Columbia Ave., ROSSLAND, B.C.

BRITISH COLUMBIA EXPLORATION CO., Ltd.

John Thomas, Pres. Jas. B. Owens, Secy.
Ernest G. Locke, Con. Eng.

Bids Offered on Mines and Prospects.
Contractors for Treasury Stock.

OFFICES—1 AND 2 HART BLOCK, ROSSLAND.

PEARL, CRANSTOUN & CO., Mining Brokers,

Mining Properties, Developed and Undeveloped,
Bought and Sold. Contractors for
the sale of Treasury Stock.

515 Hastings St., - VANCOUVER, B.C.

HENRY CROFT

Assoc. M. Inst. C. E., M. I. M. E.
Real Estate, Mining and Financial
Broker.

ROSSLAND, B.C.

THE R. J. BEALEY CO.,

(Limited Liability.)

Mines, Real Estate, Insurance,
... Notary Public ...

Telephone 14.

50 Columbia Ave, Rossland, B.C.

ROBT. H. AHN, Mining Broker.

Mining Properties Developed and Reported on.

MANITOBA

ONTARIO

LAKE OF THE WOODS GOLD FIELDS

SHEWING LOCATION

GOLDEN GATE MINE

MINING BROKER

R. H. AHN, RAT PORTAGE

Choice Mining Properties for Sale in the Lake of the Woods, Seine River, Manitou and all known Rich Districts.

Information relating to Canadian Mines Furnished.

Address: RAT PORTAGE 75 Canada Life Building TORONTO and All Branches of Trade - MONTREAL

HIGHEST AWARD TO

Vinolia Soap

SOLD :: :: ::

ALL OVER :

THE WORLD

FOR

Sensitive Skins



Vinolia

GUARANTEED HARMLESS

40 CENTS PER BOX.



A Plastic Emollient Cream

.....FOR.....

Minor Skin Ailments.

Vinolia

Shaving

Stick...

CAUSES
NO
BLOTCHES



Does not leave the Skin
Leathery and Shrunken.

Price, - 15 Cts.

SOLD ALL OVER THE WORLD.



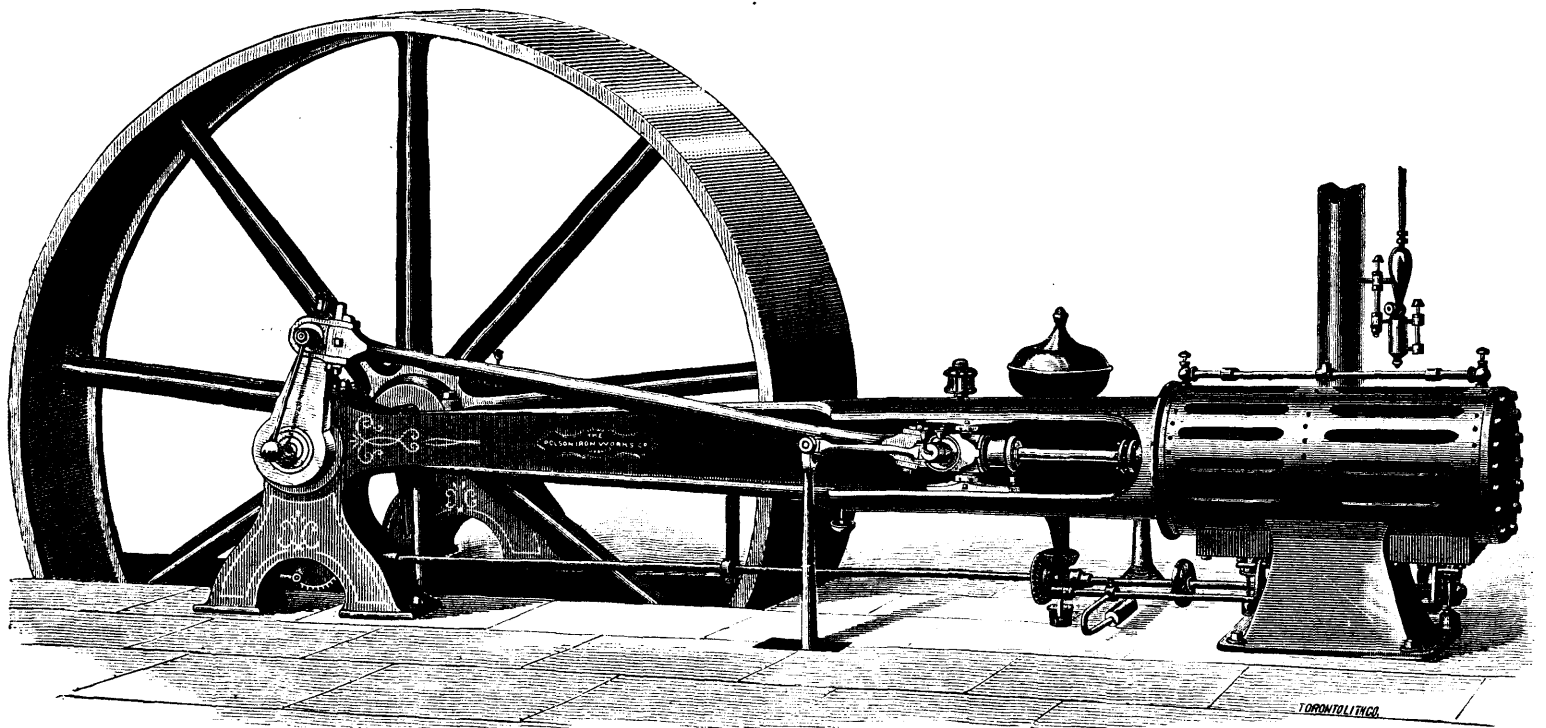
.. THE ..

POLSON IRON WORKS

TORONTO, - - CAN.

The Best Equipped Boiler and
Engine Works in Canada.

STEEL BOILERS



We Manufacture The Brown Automatic Engine, Single, Compound and
Triple Marine Engines.

HOISTING and MINING ENGINES

Steam Yachts and Launches of Every Description.

Esplanade, Foot of Sherbourne St., **TORONTO**

THE CANADIAN MINER.

THE CANADIAN MINER'S AUTHORIZED STOCK BULLETIN.

NAME OF STOCK.		NAME OF STOCK.	
Alberta	0 15	Josie Mac	0 12½
Bondholder	\$0 17	Jumbo	0 60
British Canadian Gold Fields	0 27	Kootenay London	0 12½
Big Three	0 12½	Kelly Creek	0 15
Colorado Gold Mining and Development Company	0 40	Lily May	0 20
Columbia and Ontario	0 10	Lake Harold	0 15
Caledonia Consolidated	0 10	Le Roi	7 50
Colonna	0 25	Lloyd Gold Mining and Development Company	0 06
Cracker Jack	0 10	May Flower	0 17½
Commander	0 30	Monte Christo	0 18
Crown Point	0 57	Morning Star	0 12½
Cariboo M. M. C.	0 58	Monarch	0 10
California	0 15	Minnehaha	0 10
Deer Park	0 23	Mabel	0 15
Eldon	0 10	Novelty	0 10
Elise	0 15	Norway	0 10
Evening Star	0 15½	Orphan Boy	0 15
Empress	0 23	O. K.	0 30
Ethel Group	0 10	Old Ironsides	0 15
Eastern Mining Syndicate	0 25	Phoenix	0 15
Eureka Consolidated	0 10	Pug	0 17
Exchequer	0 10	Princess	0 25
Enterprise	0 20	Poor Man	0 11
Germania Gold Mining Company	0 10	Queen Victoria	0 10
Great Western	0 17	R. E. Lee and Maid of Erin	0 11
Gertrude	0 15	Rossland Red Mountain	0 25
Gold Hills Exploration and Development Company	0 10	Red Eagle	0 10
Golden Queen	0 10	St. Elmo	0 12½
Good Hope	0 10	St. Paul	0 12½
Homestake	0 17	Spokane-Kalso Mining and Milling Company	0 10
Hansard Gold and Copper Mining Company	0 10	Silverine	0 12½
Heather Bell	0 20	Silver Bell	0 10
High Ore	0 07	Victoria Triumph	0 10
Iron Mask	0 60	Virginia	0 19
Iron Colt	0 20	West Le Roi and Josie	0 27
Iron Queen	0 04	War Eagle (Con)	1 25
Josie	0 60	White Bear	0 15
		Zilor	0 15

LONDON (ENG.) QUOTATIONS.

PAR VALUE £1.

Cornucopia (Lake of The Woods)	\$7 50
Mikado	7 50
Gold Exploration Company of Canada (Seine River)	5 00