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# THE CANADIAN MINER

Vol. I.

TORONTO, ONT., MARCH 6, 1897.

No. 8.

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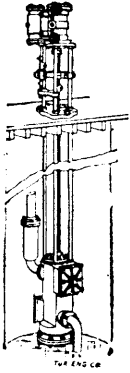
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TORONTO, May, 25th, 1894.

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# The Canadian Miner.

VOL. I.

TORONTO MARCH 6, 1897.

No. 8.

## HINTS TO PROSPECTORS.

By Henry DeQ. Sewell, M.E., O.L.S., D.L.S., A.M.  
Inst., C.E., Toronto.

THE object of this paper is to furnish a few practical suggestions or hints for the guidance of prospectors when in the field, which I trust may prove useful to many who have little or no knowledge of chemistry, and in the absence of being able to take an extended course of scientific study on this subject that they may be benefitted by the few simple rules here given. Especially, as when they are far from their homes and out in the bush they cannot conveniently carry much additional weight, beyond possibly a few ounces. Thus, by making a few practical tests of their discoveries on the ground, they may be enabled on their return to give others a fairly definite idea.

First of all it is self-evident that any serious addition to their kit, amounting to say even 10 lbs. would be entirely out of the question, as the prospector has generally to carry everything he takes with him, including his provisions, on his back, and therefore the length of time he can spend on a trip is closely governed by the available weight for provisions he can conveniently take with him, after deducting the weight of his blankets, tent, etc. Such being the case, the Ontario explorer, when he has found a good-looking vein, simply wishes to determine whether it contains gold or not (other minerals being practically outlawed, owing to the royalty clause imposed by our would-be wise Legislature), and he will also naturally wish to find out, whether the gold is present in a free state, or whether it is mixed with any mineral that will materially affect the cost of extracting the gold.

The method he commonly adopts is to load himself well with specimens of the ore (more or less picked) on his return home, where he usually keeps or borrows from a neighbor a large heavy mortar, sieve and pan, and with these he goes through the usual method of panning, which if properly carried out, it should afford him a fair idea of the value of the ore. By such means, however, his tests are usually confined to the veins he may consider most likely, and thus he easily passes over many fairly good veins that may contain gold in paying quantities (particularly if they should happen to be at some distance from the travelled watercourses, which he generally follows with his canoe), simply because he does not think it worth while to carry the samples of ore to his camp. Thus by taking with him a small box containing a few reagents and a blow pipe kit which will hardly weigh more than a pound, and can be purchased for \$2.50, to which may be added a small text-book, he can readily determine with absolute certainty any mineral he may come across. Since, however, the law practically restricts his search to gold, with its associated minerals, a much smaller kit will do equally well and thus be the means of preventing him from passing over too lightly, and without proper examination, many desirable veins to which otherwise he might have been hardly disposed to have given even a thought.

If then he takes with him, in addition to

his ordinary kit, a blow-pipe with a spirit or grease lamp, a small hammer, anvil, forceps, magnet, and a clay pipe for cupelling, with a little soda carb., bone ash, litharge, and charcoal the last he can generally make in the woods, if required—(weighing altogether about half a pound), he is in a position to make a satisfactory test for gold with its associated minerals.

By heating with the blowpipe on charcoal (commonly called roasting) a small quantity of the powdered ore, the presence of sulphur, arsenic, antimony and tellurium, can be readily detected, the first two by their smell, sulphur being that of a match, while arsenic smells like garlic or onions, besides giving off white fumes. Antimony also gives off white fumes which form a white coating on the charcoal, but they have no smell. Tellurium also gives off white fumes, which form a dense white ring deposit, slightly yellowish when hot and tingeing the flame point light green. As, however, there may be some difficulty experienced, without practice, in distinguishing sulphur from arsenic, where both are associated in the same mineral, it may be desirable to give another simple test for sulphur. It is well known that sulphur will tarnish silver, so we mix a little of the powdered ore with a little soda carb. and powdered charcoal, place the mixture on a silver coin, then gently heat it with the blowpipe, and should there be any sulphur present it will betray itself by the usual stain or tarnish on the silver.

Iron is another associated mineral. It can always be detected by the magnet, magnetite being magnetic, whilst hematite becomes so when heated.

Having thus made all the usual tests for associated minerals it only remains to determine the presence of gold and silver by cupellation. This can either be done from a small portion of the ore direct if sufficiently rich, or the process can be simplified by concentrating from a somewhat larger quantity of the ore. In the absence of a mortar and pan it is surprising what a handy man can do with an axe or pick, whilst a fairly serviceable pan can be extemporized by burning the grease off a frying pan, then taking a small quantity of the powdered ore or concentrates. After roasting it carefully on charcoal mix it with a little litharge, fuse it into a button on charcoal, and afterwards proceed to cupel it on a cupel which can be easily made by pressing a small quantity of bone ash into the clay pipe. This will take rather more time and trouble than the foregoing tests but it can be accomplished with a little practice.

After having determined to his satisfaction the presence of gold in the vein, the next thing to be done is to make a careful examination of the vein, noting its size, direction and dip, whether it goes with or across the formation, and what the formation consists of. He should also note whether the hill (if any) extends above the vein, and if so, to what extent. If there is any water in the neighborhood that should also be noted. The next point to be determined is the topography surrounding the vein, and should he be an adept at freehand sketching

he can show the vein with the principal features surrounding it. Otherwise, and perhaps still better, he can provide himself with a small photographic camera with which he can rapidly take all the views he may require. A camera, using film cartridges (each cartridge providing for 12 exposures), making pictures  $1\frac{1}{2} \times 2$  in. will measure  $2\frac{1}{4} \times 2\frac{7}{8} \times 3\frac{7}{8}$  in., weight 5 ounces, can be purchased for \$5. The principal advantage of this kind of camera is that anyone entirely ignorant of photography can use it successfully, for the cartridges are so made that they can be placed in and removed from the camera in broad daylight and the film is only exposed to light when taking a picture. The views so taken can on his return be developed, printed from or enlarged by any photographer, should the explorer either not have the desire or ability to do the work himself. Thus with very little trouble or expense he can place himself in a position to convey to others a fair idea of his discovery, an idea that, generally speaking, would considerably facilitate his prospects of making a sale, and possibly of getting a higher price for it.

I would particularly warn prospectors against the use of high flown names for common rocks, such as "protogene" for granite. These names are apt to be exceedingly misleading, and may possibly terminate in queer blunders. The writer once heard from a would-be English expert that he wanted a location with good veins on it, but it must be in the "Antipyrine."

## CANADA'S MINERAL PRODUCTION.

THE latest bulletin of the Geological Survey Mining Department shows the mineral industry to be the most progressive in Canada. The value of the output since 1886, when the Survey began to issue annual statistics, has increased very nearly 100 per cent. Here is the record by years:—

1896.....	\$23,627,305
1895.....	22,000,000
1894.....	20,900,000
1893.....	19,250,000
1892.....	19,500,000
1891.....	20,500,000
1890.....	18,000,000
1889.....	14,500,000
1888.....	13,500,000
1887.....	12,500,000
1886.....	12,000,000

Naturally, following the discoveries in the British Columbia mining region and the incentive to active operations in other parts of the country their exploitation created, the growth of value in output has been chiefly in the metallic division, including copper, gold, iron ore, lead, mercury, nickel, silver, platinum, etc. In these the growth in value in eleven years has been within a fraction of four-fold. The figures are:—

1886-88 (average).....	\$2,133,474
1894, production.....	4,594,995
1895, production.....	6,373,925
1896, production.....	8,039,640

The increase has been largely in the last two years, it will be noted, and to it British

Columbia has contributed, besides the greatest value in gold and silver, large values in copper and lead, which are found in combination with the ores of the more precious metals. It gave to the country last year \$1,788,000 of gold, \$2,100,000 of silver, and some \$400,000 of copper, besides a large value in lead. Against these satisfactory features there are noted, in this department, decreases in the production of nickel and iron ore. For the first no cause is given. The second is attributed to the dull state of the iron market during 1896, a condition that, happily, now gives promise of soon passing away, when, if nothing untoward occurs, a renewal of growth in this branch of industry should be experienced.

In the non-metallic division, which includes a large variety of articles, from mica to mineral water, the growth has not been so marked as in the metals. The figures are as follows:—

1886-8, average	\$9,595,334
1894, production	16,057,330
1895	15,295,231
1896	15,087,665

The falling off noted is chiefly in the subdivision of structural materials, and is no doubt to be attributed to causes of the same nature as led to the decline, in the past two years, in iron ore production, above alluded to, and arising out of the general dullness of trade. There are, however, some satisfactory features to be noted in spite of the drawbacks. The article of coal, which contributes nearly one-half of the total to the value of the division last year, exceeded the production of 1895, in spite of the slowness in trade, a fact due to the greater activity in Nova Scotia. The following shows the movement of the principal items in the non-metallic division since 1896:—

	Average. 1886-8	Product. 1895	Product. 1896
Asbestos...	\$229,411	368,175	429,856
Coal .....	5,011,882	7,727,446	8,006,305
Coke .....	124,024	143,007	111,560
Gypsum ...	179,804	202,608	174,403
Mineral wtr.	11,456	126,048	111,736
Natural gas	.....	423,032	276,301
Petroleum .	596,412	1,090,520	1,155,646
Phosphate .	288,812	9,505	3,990
Pyrites ....	216,642	102,594	101,155
Salt .....	193,016	160,455	169,677
Bricks .....	965,678	1,670,000	1,600,000
Buil'g stone	612,162	1,095,000	1,000,000
Lime .....	339,529	700,000	650,000

The disappearance of the phosphate trade and the falling off in the output of natural gas are noteworthy instances of the effects, in regard to the first, of the discovery of larger and better situated deposits, and, in the second, of the exhaustion of the supply. This latter appears to be a danger to which natural gas areas are peculiarly liable. It has been noted in the United States, as well as in the Welland district in Ontario, where the falling off chiefly took place. By many it was feared that the petroleum areas would be subject to similar danger; but the figures of the bulletin do not bear out the theory. The output of the Canadian wells last year was greater than ten years ago, and this in spite of a very material reduction of the protection they had against foreign competition. On the whole the Canadian mineral industry can be said to show many signs of healthy growth, that it can reasonably be hoped will be greatly increased in the immediate future. —Montreal Gazette.

#### Details of Production.

A SUMMARY of the mineral production of Canada last year has been issued by the

Geological Survey. The total value is placed at \$23,627,395, as against \$22,000,000 in 1895. The value of the metal is given at \$8,039,640, made up as follows: Copper (fine in ore, etc.), 9,385,556 pounds, \$1,021,148; gold, \$2,810,206; iron ore, 88,206 tons, \$184,313; lead (fine in ore, etc.), 24,199,977 pounds, \$721,384; nickel (fine in ore, etc.), 3,500,000 pounds, \$1,155,000; silver (fine in ore, etc.), 3,205,343 ounces, \$2,147,589; total metallic, \$8,039,640. The value of non-metallic minerals totals \$15,087,665, the chief items being coal, 3,743,234 tons, value \$8,006,305, and petroleum, 726,822 barrels, value \$1,155,646.

The official statistical statement shows increases in the production of coal, copper, gold, lead and silver, while the output of iron ore, natural gas (\$276,301) and nickel, has fallen off to a considerable extent. The increase in coal is altogether due to Nova Scotia, which produced 296,153 net tons more than in 1895, but this increased output is offset in a large measure by a decrease of 104,629 tons in the production of British Columbia.

Copper shows a large decrease in Ontario, and a small increase in Quebec, while British Columbia's contribution is 3,818,556 lbs., which amount is 1,848,193 lbs. more than in 1895. In gold large increases are to be credited to Nova Scotia and Ontario, but British Columbia heads the list with an increase over the previous year of \$497,675.

Owing to the dull state of the iron market during the year, the production of iron ore has fallen off to a considerable extent in all the provinces with the exception of Ontario. The exception is directly due to the erection of the blast furnace at Hamilton, Ont., the company obtaining all the Canadian ores smelted from that province.

The production of lead is altogether that of British Columbia, and has increased in the year by over 1,000,000 lbs., but a decrease in the market price of some 8 per cent. lessens the total value by \$28,582.

Natural gas shows a decrease in value of \$147,761, or about 34 per cent., which would seem to be due to a heavy falling off in the production of the Welland gas field.

Ontario's nickel production is reduced during the year by nearly 400,000 lbs., and shows a decrease in value of over \$200,000.

British Columbia shows an output of silver amounting to 3,135,343 ounces, valued at \$2,100,689, an increase during the past 12 months of 1,429,660 ounces in quantity and in value of nearly a million dollars.

The statistics have been prepared under the direction of Mr. E. Drew Ingall, Mining Engineer of the Geological Survey.

A new source of power is utilized in an engine invented by Hermann Pappé of Hamburg, Germany. The most peculiar feature of it is that the material producing the power can be used continuously, without a single renewal. A mixture of ammonia vapor and carbonic acid gas, eventually under access of steam, which, however, is not necessary, is employed, so that, by the expansion of the gas mixture entering under pressure, a cooling of the vapors in the cylinder of the engine is produced. Thus, a salt of ammonia is formed by a smaller or larger part of the gas mixture. The salt is returned to a disintegrating apparatus, working under pressure, in order to be disintegrated by heat into its volatile components, which are again utilized for power purposes.

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

## ONTARIO COAL.

A VALUABLE FUEL IS THE SUDBURY COAL—  
COAL NEAR KINGSTON.

ON the 27th ult., at the Canadian Institute, Dr. Ellis read a joint paper by himself and Mr. W. Lawson entitled "Chemical Notes on the So-Called Sudbury Coal." Specimens of the substance, carefully selected and freed as much as possible from ash, gave the following as the mean of several closely concordant analyses: Carbon, 94.92 per cent.; hydrogen, 0.52 per cent.; nitrogen, 1.04 per cent.; sulphur, 0.31 per cent.; oxygen, 1.69 per cent.; ash, 1.52 per cent.

There was also analyzed a specimen of "anthraxolite," from the neighborhood of Kingston, with the following results: Carbon, 90.25 per cent.; hydrogen, 4.16 per cent.; nitrogen, 0.52 per cent.; sulphur, 0.66 per cent.; oxygen, 3.69 per cent.; ash, 0.72 per cent.

It will be noticed that the percentage of hydrogen in the Sudbury mineral is much less than in the Kingston anthraxolite. This small percentage of hydrogen is the most striking feature in the analysis of the Sudbury coal.

Messrs. Ellis and Lawson also determined the heating power of the Sudbury coal, and found that one gramme in burning gives out 7,572 calories, or one pound 14,198 British thermal units, or enough heat to evaporate 14½ pounds of water.

This quantity of heat is not far from that evolved by a good anthracite coal in burning, but it must be remembered that the sample employed was picked, and contained only 4 per cent. ash. Large samples from the surface contain from 20 per cent. to 30 per cent. ash, and their heating power is correspondingly lower. The mineral burns very slowly.

The paper on the Sudbury mineral was preceded by a brief outline of the theory of the formation of coal from vegetable matter, illustrated by lantern slides. The coal which formed the subject of the paper is found in an area described in Geological Survey reports as "blackish silicious volcanic breccia, and black slate in places." At the time the locality was visited (end of June and early in July last year), the coal appeared to occur in a vein, dipping about 30 degrees to the east, and was at the point stripped about 10 feet wide. Intermixed with the coal there is in places a considerable amount of quartz, and occasionally a little iron pyrites. The quartz forms sometimes a network, in which rectangular fragments of coal are imbedded; in other places the coal is almost entirely free from quartz. The mineral has a lustre like anthracite, only higher; hardness nearly 4. This is considerably harder than ordinary anthracite, which has hardness of 2-2.5, the specific gravity, as determined by Mr. Lawson, 1.865, the specific gravity of anthracite being 1.4-1.7. The average of 10 commercial samples of anthracite from the western middle coal fields of Pennsylvania, was found to be 1.658; from the other coal fields less (Penn. Geol. Sur., 1895, p. 1929). Rhode Island anthracite has a specific gravity of 1.81 (Dana).

A mineral classed as anthracite, and closely resembling the Sudbury mineral, was found near Lake Onega, Russia. The lustre is described as adamantine metallic. Its hardness is 3.5-4, specific gravity 1.84, and chemical composition similar to the Sudbury coal (Naumann Mineralogie). The hardness and specific gravity of this interesting

Sudbury mineral are, therefore, on the extreme outer limit of anthracite.

Compare with this an anthraxolite from Kingston, collected by Mr. W. G. Miller of Kingston, who says:

"It occurs in a vein which has been worked for barite on the farm of John Woodruff, lots 16 and 17, 4th con., Township of Kingston. The vein, which is nearly vertical, is about 2½ feet wide, and cuts the limestone of the Black River formation of the Silurian system. This limestone is very fine-grained, and lithographic in character, and forms a comparatively thin layer over the Laurentian gneiss, which is exposed at places in the valleys. The most abundant mineral in the vein is barite, but calcite and fluorite are also found, as well as anthraxolite. This vein can be traced over the country for over 1½ miles; it is, however, not found in the valleys, where the gneiss is exposed. The anthraxolite has been deposited after the barite and other minerals, as it coats them and fills crevices in them. It is probable it has been derived from the bituminous matter in the limestone."

This anthraxolite from Kingston has a duller lustre than the Sudbury mineral, and inclines more to bituminous coal in appearance. It is also considerably softer, hardness being about 2 and specific gravity 1.365, and chemically it is entirely different. Anthraxolite, as described by Chapman, is "black lustrous, resembling anthracite in general character, but very brittle—hardness 2.25—2.50; specific gravity, 1.35—1.55."

Composition essentially carbon, with from 3 to 5 per cent. volatile matter, including a small amount of moisture. This substance, in all probability a product of alteration from petroleum or asphalt, occurs in narrow veins in rocks of various kinds, and in small masses and thin layers, or coatings in strata of the Utica and other formations. As it differs essentially, by these conditions of occurrence, from anthracite proper, the name anthraxolite has been given to it, but simply as a convenient term for present use." (Chapman, Min. & Geol., Ont. and Quebec, 3rd ed., p. 143.)

The Kingston mineral is evidently the anthraxolite of Chapman, and in mode of occurrence, physical characters and chemical composition entirely different from the Sudbury mineral. The occurrence of this anthracitic fuel in apparently large quantities in rocks supposed to be Cambrian, and in which no trace of vegetable remains have ever been found, is very surprising, and cannot be accounted for by the usual theory of the formation of coal from vegetable matter. In forming any theory as to origin, two facts should be kept in mind. In the first place there is already in sight a considerable number of tons of this mineral, and secondly, the chemical analysis and physical characteristics agree with some anthracites closely. It has, in fact, become more anthracitic in character than most anthracites. The conclusion which is inevitably forced upon one is that coal can be formed in some other way than by decomposition of vegetable matter, and it is to be hoped the development of these veins or deposits will throw some further light on the matter.

Analytical chemists, mining engineers, practical mining men, blacksmiths, carpenters and all others useful around a mine, can by using our advertising columns, reach directly the managers of Canadian mines. Two cents per word is the cost of advertising for positions. Four consecutive figures or less are counted as one word.

### WAHNAPIITAE GOLD FIELDS.

MR. D. O'CONNOR, one of the most thoughtful and enterprising mining men of the Sudbury (Ont.) district, or of Ontario, was in town this week. In an interview with THE CANADIAN MINER he gave the following information:—

#### The Comstock Gold Mine.

The Comstock Gold Mining Co., whose property is on Wahnapiitae Lake, close to the Crystal mine, has secured its charter. The development shows a real mine. One shaft is sunk to a depth of 80 feet, with a little drifting. The vein, which is a true fissure vein, at that depth shows three feet of ore and assays varying from \$50 to \$106 per ton. The work now will necessitate the employment of a larger number of miners. A stamp-mill will be erected in the course of a few months, and all the necessary equipment of the mine will shortly be in place. The company comprises Geo. E. Headley, J. J. Gunnelle, W. J. Gunnelle, J. F. McLaughlin and Jno. L. Donovan, of Buffalo, and D. O'Connor, of Sudbury. The capital is \$600,000, in \$1 shares. Of this one-half is treasury stock to be devoted to development.

Mr. O'Connor says that around Wahnapiitae there are several developments which have proven themselves to be very valuable, but he thinks mention of each of them might make invidious and offensive distinctions. The new steamer he has bought from the Polson works in this city (largely, we understand, by the Polsons' advertisement in our journal) was shipped north this week. It is to ply on Wahnapiitae Lake, and is to serve on a business basis the interests of the various mines. It is to be called the Mary Ann.

#### THE FINLAYSON TRAM.

THE Finlayson tram, built by the Colorado Iron Works Company, of Denver, Col., and the first one of which is now in perfect operation at the Noble Five may be said to be the mechanical triumph of the year, as it solves a problem of transportation upon which tramway men have worked for years i. e. a perfect working, safe, cable tram, automatic in load and dump.

It consists of two standing or stationary steel ropes one inch in diameter on the unloaded side and one and one-eighth inch rope on the loaded side, laid upon towers from 100 to 300 feet apart. In the case of the one under discussion the towers are from 30 to 900 feet apart and vary in height from 40 to 80 feet. On this rope run the bucket trucks. These buckets in this case number 52. Below the standing rope is an endless rope three-fourths of an inch in diameter, to which the buckets are attached by patented detachable clips 244 feet apart. This is known as the traction or hauling cable. The weight of the loaded cars pulls the empty ones up, the cable being controlled by powerful brakes at the two terminals. The clips referred to above are stationary on the rope and it is the automatic action at the terminals which attaches and detaches the clips to the buckets, dumping the latter at the lower station, which excites the wonder and admiration of all beholders. Space forbids a minute description of this action; but briefly, there are two buckets, one at the upper terminal being loaded, and one at the lower terminal being dumped and waiting for the arrival of the next bucket, which is always detached—the moving bucket on arriving at the station is detached, the cable with its stationary clip moves along a few

feet, engages a dog on the waiting bucket, never stopping, and moves with it around the station; before beginning its upward climb it engages a projecting arm, which action dumps the waiting bucket on the other side. The same operation is continued, a bucket arriving every 75 seconds. The same automatic action obtains at the upper end with the exception that instead of being dumped, the waiting bucket is loaded. The buckets are now being loaded with 350 pounds of ore, but will carry 700 pounds.

The Noble Five is 6,100 feet in length and has a drop in that distance of 2,100 feet. At one place it crosses the famous Noble Five slide with a 900 foot span at a height of 443 feet.

A leading feature of the Finlayson tram is the cheapness of operation, a trifling cost compared with other systems. Another feature is its great convenience as an up-carrier; supplies for the mine, timbers, rails, etc., can be placed in the up-going buckets and taken up without cost. The capacity of the tram now in operation is about 400 tons in 24 hours.

Many visitors are being attracted to Cody, some from as far away as Utah and Colorado, while every mining man in this section who has not already visited the works intends doing so at an early date. No doubt many Finlayson trams will be put in as a result of the Noble Five's successful experiment.—*Kootenaiian*.

#### HOW TO GET ENGLISH CAPITAL.

A WRITER in the London, Eng., *Mining Journal*, who knows Ontario's gold districts, says Canadian capital is not sufficient to develop the enormous wealth in gold that we have in this province, and unless British capital comes to our aid, many of the richest properties now being opened for operations will have to close for lack of capital. The writer goes on to say:

"Fortunately, no very great difficulty is presented. All that is required is for the promoter to turn his attention to where there is an abundance of capital waiting for investment, and that place is England; and, once let the fact become generally known throughout England that the greatest mining experts of the day who have visited the gold fields of Ontario have proclaimed them the richest in the world and 'second to none;' then, and not until, will capital come to Ontario in a continuous flow. Accordingly, it is of the utmost importance that capitalists and investors in England should be made acquainted with the fact that Ontario does contain vast mineral wealth, and, as I suggested in a previous article, the Government should send a representative of the Ontario Bureau of Mines to England to deliver lectures on the gold fields of Ontario in London and the principal commercial centres, as the best means of diffusing such knowledge among the English people. There is every prospect of a brilliant future for Ontario; the fertility of her gold fields is inexhaustible, far surpassing her sister provinces. We have all the essentials for successful mining in the shape of water, fuel, and labor, and it behooves all persons connected directly or indirectly with the mining industries to do all in their power to urge the Government to bring these facts prominently before capitalists and investors in England. The Government must make its own market as the individual is obliged to, and must convince capitalists and others who lead off in investments that they are determined to push forward the province."



# 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.

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## NOTES AND COMMENTS.

THE Crow's Nest Pass Railway, under whatever auspices it may be launched, requires a little watching by the public. The true inwardness of some of the schemes connected with it are yet unknown to the public, but enough is known to many to justify great caution. There are railway rights already in existence that can be utilized by the C.P.R. There may be stool pigeons with interests to serve. There is a big coal field in and around the Pass. Coal fields are not overlooked by the men of foresight who have the financial means to obtain control of them, and by the railway companies that know intimately the value of the combination of coal mining and railroad management in the eastern coal fields of this continent. There are reasons for haste in the construction of the road; there are reasons for delay. We are between Scylla and Charybis in the matter of company and government control. The legislators of the very early future may have to meet conditions such as statesmen have not met since the days of the French Revolution.

ONE reason for haste in the construction of the Crow's Nest Pass Railway is that at present many of the Rossland mining companies that are drawing on Eastern Canadian and on American capital, plead the lack of shipping facilities as an excuse for the lack of development of their mines and the small prospect of early dividends. A Crow's Nest Pass road would see several of these companies vanish into thin air, along with the capital of the gullible investor. The sooner the better.

THE Crow's Nest Pass road may be important for certain sections of British Columbia, and none of the sister provinces of the Dominion feel inclined to begrudge anything that will develop the resources of that province. But whatever the need may be, Ontario has a gold field in its own north-west which rivals the richest in the world. The Rainy River Railway is quite as important a project. And it draws business into Ontario, which pays sixty per cent. of the revenue of the Dominion. The other railway is of less interest to Ontarians.

Who own the coal lands beyond Lethbridge and around Crow's Nest? If any portion of them has not yet been grabbed by private individuals, or by railway companies acting through private individuals, it would be well for the Government to retain ownership. The fuel question is not only one of those questions that are of vital interest to the citizen and the manufacturer, but one which touches millions to the quick. To be forewarned is to be forearmed. It is just possible that the United States is as near trouble as France was in 1780, and perhaps many of the political and financial rulers of the U.S. and Canada are almost as innocent of knowledge of danger as were their like in the old world before the storm of 1789. We think many of them are not as ignorant, but life is short and the biggest of them have not had time to grasp the whole significance of the rapid drift of our age.

CHEAP coal and cheap transportation are essential to the building up of the Dominion. On these the prospect of development of the great North-West largely depends.

THE Alaska-Mexican mine shows wonderfully cheap production of free-milling ore of very low grade. In September the bullion shipped amounted to \$21,258, and the ore milled was 12,996 tons—an average of 433 tons a day. One hundred and twenty-nine tons of sulphurets, or one per cent. of the ore milled was treated, and the bullion from this amounted to \$5,374. The working expenses of the mine were \$17,017, and the profit for the month, \$4,241. The average yield was only \$1.64 per ton on ore milled, but the average cost was only \$1.31 per ton. Miners' wages are \$3.50 per day in Alaska, against \$1.25 in south-eastern Ontario, and the expenses of living are correspondingly higher. The low cost of production is very suggestive to owners of free milling properties in Canada.

MR. W. HAMILTON MERRITT, F.G.S., As. R.S.M., is the author of a little pocket companion for the prospector and the student of mineralogy. "Gold and Silver Ores," is the title of this timely work, which gives simple field tests to enable the prospector, with a light and inexpensive outfit, to test their nature and value when out in the exploring field. The work is a little pocket edition with lapped cover, and contains besides the clear, bold letter-press description of the prospector's outfit and the tests that can be made in camp or field, useful information to the experienced and the novice, and a glossary of terms common to practical miners and geologists. The little volume is illustrated by sketches of many of the articles making up an outfit. T. R. & J. P. Clougher, Toronto, are the publishers.

THE Rainy Lake Journal, (Minnesota side) is gifted with humor and just a little of that "humbug," which Barnum said "is the greatest source of happiness to the greatest number of American people." As witness of the following outburst of enthusiasm on the Rainy River gold region: "THE THRONE ITSELF. Queen Victoria has heard of our gold and offers congratulations. In a report of the opening of the Ontario Legislature, we find the following reported as the utterance of the Queen: 'I rejoice to know, etc.'"

Of course it's all right Bro. Bowman, but don't let your readers on your side of the line, and you deserve many, spring prospectuses in the wrong quarter. Just explain, to save them trouble, that the Throne, that is the People in our great British democracy, takes that way of talking to itself when it opens its parliament; and you might tell them, with the authority of a British paper—ours—that Her Majesty, who represents so well the dignity, magnanimity and freedom of our Imperial Commonwealth, may shortly make some investments up the region that drains into your beautiful lake.

THE Northern Pacific Railway has issued a map of the Kootenay, Arrow Lakes, and part of the Okanagan country of southern British Columbia. It is a model in excellence of drawing. Mountain slopes are traced with great success, and the map is remarkably clear. The artist who did the work merits success; he should at any rate receive praise.

MR. W. J. MILLER, of Thessalon, who has followed the mining interests of the north shore of Lake Huron for nearly two decades, and done much towards its development, says the region needs good prospectors more than good miners. The Bruce Mines settlement drew a large number of old country miners to the district and the mining instinct remains. But there are few good prospectors in the region, and he says they are needed.

GOLD mining in Canada, both in Ontario and British Columbia, is now an established industry. It will grow rapidly, and shortly place the country amongst the foremost in gold production, and this notwithstanding the failure of many of the companies that have been launched imprudently and even in some instances with a view of simply extracting money from the pockets of a gullible public. But all the same, these fake enterprises will seriously retard our legitimate enterprises, and even those to whom the plea, this is morally right and that is wrong, can scarcely be advanced without the painful apology that the right will pay them, have good reason to put every obstacle possible in the way of the confidence men who lead these fake companies, or share in their ill gotten gains.

THE great nickel field in the Sudbury country, is comparatively quiet at present. The Canadian Copper Co. (Copper Cliff) a few miles from Sudbury, employs in the mine itself about 400 men. A depth of 1,000 feet in this vast body of nickeliferous ore has been attained. We have reason to believe the by-products of this successful American company swell a good deal the very large dividends of the company. Last year about \$1,260,000 of gold is said to have been extracted in the process of obtaining nickel, and other metals have added to the receipts of this veritable bonanza. The affairs of the company are kept rigidly quiet. The final processes, completed down east in the States, are reputed to be very successful, but whether the dividends paid are twenty per cent. as some people are led to believe, or forty per cent. and a little over, is mainly the concern of the shareholders. The industry contributes to the prosperity of Sudbury and the region thereabout and incidentally to the

Dominion. The profits go to Americans, because Canadians did not understand at the time the opportunity open for them, or because those who did understand had not the capital.

THE Ontario gold fields merit the attention of the world and especially the energy and enterprise of the people of this province. The tremendous energy which in the early ages of our planet left Lake Superior as an evidence of its force, left, too, many a gigantic fissure in which gold and other metals have accumulated. Gold veins, rich in free milling metal, and twenty to eighty feet wide, we are familiar with, or at least with their surface. We know of veins or bodies that are several hundred feet in width. One body in the Seine River valley is 700 feet wide with rich surface assays that compare well with assays from many narrow veins of great celebrity. Such bodies might well astonish the world in view of the dimensions of the veins that have been worked elsewhere. One vein in the north is said to be more than a quarter of a mile in width. Quarrying is to be the method of extracting the ore on these wide bodies. After a little while the world will become familiar with such occurrences, but in the meantime the actual dimensions are enough to stagger geologists and the mining investors who do not know the peculiar formation of the Great Lakes region.

DEVELOPMENT companies are naturally favored here, for the country has not the money to spare to develop its mineral riches, but has enough—if well directed—to prove its mines and enlist the capital of nations that can convert good properties into real mines. But into development companies the "fakir" has already entered, and Canadians should beware of him. There are M.E.'s and M.E.'s. A prospectus has just drawn our attention. The M.E. who made the flattering report on the properties was unknown. Our enquiries resulted in the discovery that the enterprising individual who assumed the M.E. was in the habit of writing expert reports by the simple process of getting "facts" from the crooked promoters of the companies, and sitting down in a hotel or anywhere else and writing them out for his patrons, without the trouble and expense of even a glance at the belauded properties. This is one of the devices of the purse miners. Another often associated with it, and sometimes not, is to "fool" some man prominent in business or political circles into lending his name as an investor or as a director. We are sorry to say the device has frequently worked successfully, though excepting in a few instances, the shareholders have not had time to feel the effects.

THE coal deposits of the northern provinces of China back of Peking, are stupendous in bulk, and when developed for export trade will find a very large market on both sides of the Pacific. Tunnels from the canyon-like river banks will suffice to mine these beds without the cost of hoisting incurred elsewhere, but even at present China's minor deposits are affecting the market. A contemporary says: China has thrown down the gauntlet to the big coal miners of the United States. An American bark recently brought to the Pacific Coast a mixed sample cargo of anthracite and manufactured coal, mined and made in the Tonquin district. It is intended to push the Chinese fuel at prices greatly be-

low those which Pennsylvania and Welsh coals of the same character are now bringing. Experts have pronounced the Tonquin coal bed practically inexhaustible.

The manufactured coal is entirely new to American markets. It is made by the Chinese natives from coal dust. The dust is mixed with a pitchy substance and compressed into egg-shaped lumps. The inflammable cement aids combustion, and the coal makes a very hot and very clean fire. The imported coal is said to be of the finest quality, fully equal to the best American or British coals, while it can be sold probably at a price much below the standard rates.

Pennsylvania and Welsh anthracite for house use are now selling on the Pacific Coast at about \$13 a ton. The Tonquin coal of the same grade can be sold to give a good return at \$9 a ton, while Tonquin anthracite steam coal can be quoted at least \$1 a ton under the present price of Welsh coal of that grade.

### THE SUDBURY NICKEL FIELD.

A JOURNAL up north in the Sudbury country criticizes, in a very peculiar and unjournalistic fashion, a comment made by us a few weeks ago in favor of the Government encouraging the creation of custom "smelters to supply the needs of pockety nickel deposits, such as those of the Sudbury country." We do not care to give space to pointing out the foolishness of much of the personal criticism; generally the critic regrets that himself, as he becomes older and broader. We do not intend to "lay" for him; (that's not grammatical, our northern critic,) and criticise the grammar of any paragraph that just as he goes to press is knocked into "pi" and hastily arranged by the maker up of a press form, nor do we wish to say much about an editor who supposes the "planets" have anything to do, at the present stage of mundane knowledge, with the issue of weather probabilities. The whole flood of invectives is due to the reference to "pockety nickel deposits." This needs no explanation to the American and European experts who have visited the Sudbury region and know its nickel deposits to be the largest in the world. The great nickel mass at Copper Cliff, which is one of the most profitable mines in the world, is none the less so in the minds of its owners because it appears to be a pocket. The big hematite pocket near Madoc was the most successful iron mine ever worked in Canada, west of Nova Scotia, and the Hastings people congratulated themselves on what they called their "pockets." The great Kimberley diamond pit in South Africa was a pocket, but the fact did not affect the value of that famous field, nor injure its reputation the world over. Whatever may be the objections to "pockety" gold veins, they do not apply to the vast lenticular bodies of nickeliferous ore found in the Sudbury country, and which, excepting in their greater body and the extent of territory over which they are found, resemble the nickel pockets of Scandinavia.

A customs smelter at Sudbury, or some other convenient point would meet the needs of the owners of "pockets" the extent of which and the permanence of which are for

lack of development, so uncertain as not to justify the erection of smelters such as nickel mines that are known to be very large, very properly erect. Such a smelter would enable many an owner of nickel property to "prove" its value to the home or foreign investor. Before the editor of our northern contemporary probably knew anything about Sudbury, the desirability of meeting the needs of many "pockety nickel deposits" was urged on the Ontario Government, and was recognized by some of its members. The "royalty" legislation injured the interests of the nickel industry, and certain other events over which the Government had no control, added to the injury; but now that nickel is in greater demand, the erection of a customs smelter for the benefit of undeveloped properties is worthy of attention. Many of those most heavily interested financially in Sudbury nickel have always regarded the deposits there as "pockety," and use that term in describing them. So do the pioneers in the nickel enterprise of the north. The hundred-miles-long belt of nickel deposits in the Sudbury region speaks volumes for itself. Misrepresentation or overcoloring, such as has been not infrequent in the past in describing these deposits, has disappointed foreigners who have sent experts to examine, and these experts have sometimes expressed themselves in a way not uncomplimentary to the nickel wealth of the country, but to the owners of little bits of it, who through ignorance or otherwise, have hindered investment. It is poor policy, too, to run down other properties that a man may sell his own. A little development speaks for itself with outside investors, and a mutual interest in letting the actual mineral wealth of the country become known abroad is, in the long run, more advantageous to each owner of the nickel properties than the pushing of one property by hints that other properties just as good are not as valuable.

For the benefit of readers who may not be familiar with the occurrence of pockets in certain mineral deposits, other than those in ordinary gold or silver veins, we give a definition of a "pocket" as briefly described in Mr. W. Hamilton Merritt's excellent little field book, "Gold and Silver Ores," issued from the press a few days ago. He says a pocket is "a single mass of ore, which may be of any size." The masses of ore in the Sudbury region are often enormous; some that are smaller may be very profitably worked, but more economically through having a customs smelter near at hand, than by erecting a smelter on the property. It is not good policy to let the mineral wealth of this country fall into a few hands. There are dreadful possibilities involved in that kind of distribution of wealth.

Belleville has presented a memorial to the Ontario Government, asking for the establishment of a free assay office in that city. Well, of course, this is done in kind with the farmers, but—. A good point made in the memorial is that the lumbering business has naturally become extinct and the encouragement of mining may afford work for those who formerly underwent the hard work of the lumber camp.

## EASTERN ALGOMA.

ONE OF THE GREAT GOLD AND COPPER FIELDS OF CANADA.—WHAT A VETERAN PROSPECTOR SAYS.

MR. W. J. MILLER, of Thessalon, Algoma, a pretty little village of about 1,000 population, and with waterworks of its own, on the north shore of the North Channel of Lake Huron, is in the city, and has been interviewed by the CANADIAN MINER. Mr. Miller is no novice in mining. Attracted to Eastern Algoma by the lumbering interest and other business enterprises dependent on it, Mr. Miller soon became interested in the mineral riches of the district, which promise probably more for its prosperity than even the great timber properties. Thessalon is at the mouth of the Thessalon river, a long, devious stream of considerable body and many lakes, but which, owing to the rapid plunges the waters make that drain from the height of land between the St. Lawrence basin and that of Hudson Bay, is navigable but for a few miles. It is a prosperous community, its lumbering industry and the rich agricultural country behind it giving it a comparatively steady trade. People in our Silurian and Devonian southern Ontario know comparatively little of the agricultural resources of the north. The belt of distinctly agricultural land lying on Laurentian and Huronian rocks north of Lake Huron, is about 25 miles wide, from north to south, behind Thessalon, and extends for a hundred miles or more between Blind River in the east and a little beyond Sault Ste. Marie in the west. All of this is not arable land, but more than 75 per cent. is. Outcropping from the fertile plains rise masses of the earlier rocks, glacier swept, and therefore easily open to the investigations of the prospector, who, however, must encounter the obstacles that trees and other vegetation oppose to his search for precious metals.

The country is fairly well settled (for a new community) with a population of about 25,000, but could contain, on agriculture alone, that number multiplied several times over. In the woods pine is found, much as elsewhere in the Laurentian region, in patches or interspersed with deciduous trees. Maple, birch, ironwood and oak are common hardwoods; pine, spruce and tamarack, etc., occupy an important place in the forestry of the region. The agriculture of the country will be a great convenience to the mining industry of the district. Wheat, oats, pease and barley are leading crops: pease, especially, thrive well. Indian corn, as a garden crop, does well. Small fruits are, as in the north generally, very abundant. If the vineyards of the warmer south of Ontario are absent, apple orchards are found to be very profitable, and plums thrive fairly well. Tomatoes succeed. Vegetables, generally, yield large returns. Dairying is an important industry. As a result of this agricultural wealth, schools are scattered over the land, and the miner can pursue his avocation amidst the opportunities and comforts of a civilized community. This is no small advantage to him.

Now, over this district and behind it Mr. Miller roamed for many years in quest of minerals, as did numbers of others, when the province gave no attention to its mineral wealth. He says it is very rich in true fissure veins of gold ore, and has a great abundance of copper.

The Ophir mine, in the township of Galbraith, 22 miles north-east of Thessalon, near Thunder River, Mr. Miller was closely connected with at its first discovery and preliminary development. He began its development in 1891. The property was sold to an American company, and developed further, but for some reasons not connected with the quality of the veins, but with

personal differences, the mine lay idle. It is now to begin operations very actively. The leading vein is 12 feet broad, and exposed on the surface for 600 feet. The depth attained is about 100 feet, and a little drifting has been done. Assays are high, and the vein holds its richness and increases it with depth. The wall rock on both sides is a greenish gray diorite, and the vein is well defined. Another vein on the Ophir property is 4 feet wide, between, diorite and quartzite. The mine has a 20 stamp-mill.

A company has been formed at Thessalon for developing other gold veins. The country, where the rock is exposed, shows many of these veins.

Copper is another of the abundant minerals of the district. Amongst the copper leads of note there is a good grey one in the township of Plummer, which is south of Coffin, and west of Gabraith. It is north of the line of the C.P.R. A good government road passes the mine. The vein is 12 feet wide, with  $1\frac{1}{2}$  miles of surface showing. At a depth of 33 feet the ore yields 4 per cent. of copper.

In Gould township, 22 miles north of Thessalon, and near a government road, there is a gray copper property, with assays as high as 67 per cent. The ore is richer, but harder than in the Plummer property, just referred to. The vein has been worked most of the winter. A steam drill is used, and a depth of 40 to 50 feet has been attained. There are several other copper prospects known to be good in both Galbraith and Coffin townships.

Mr. Miller says he has lived in Eastern Algoma for 18 years, and could not wish to live in a finer and better country.

## A NEW RAILWAY.

THERE promises to be an epidemic of railway lines in the James Bay region. The Nipissing and James Bay Co. was organized 15 years ago, but has failed to accomplish anything.

Now another project is on foot, and another railroad company is being formed to be known as the Sault Ste. Marie & Hudson Bay Railway.

One of the leading men in the new enterprise is Mr. Charles T. Harvie, while Hon S. H. Blake, is another promoter, and the solicitor as well. Several prominent business men of Toronto are also interested.

The proposed railway will have no direct connection with this city. The southern terminal point of the proposed road is Missanabie, a station at Dog Lake, on the main line of the Canadian Pacific Railway, almost due north of Sault Ste. Marie. The line will be 240 miles long, and will run to Moose Factory, on James Bay. It will be almost parallel to the James Bay Railway and only some 200 miles further west.

A large freight trade in Hudson's Bay fish is expected to yield revenue to the company.—*Star*.

Private advices from London, Eng., say that capitalists are afraid of the big capitalization of companies of British Columbia, and are looking with more favor on the Ontario properties.—*Vancouver Dispatch*.

A despatch from Victoria, B.C., says:—It is said that an excellent quality of coal has been struck at South Vancouver, where boring operations have been in progress for some time. Indications became favorable two or three days before coal was struck, and now every foot of ground within a radius of a mile from the prospect has been bonded.

If you want to make money through gold mines, buy the Canadian Miner. Price 10 cents per number, or \$2 per annum.

## ONTARIO NEWS.

## Lake of the Woods.

A map of the Lake of the Woods, suitable for navigators, is shortly to be issued.

Already there is a scarcity of miners around the Lake, and this, it is thought, may increase the expense of mining.

The Hudson's Bay Co. are to put a 30 foot keel steamer, with beam in proportion, on the Lake of the Woods. The proposed boat will be fitted especially for traffic to and from mining camps.

Rat Portage surveyed property has all been sold, says the Rat Portage *News*, and new town sites will have to be laid out. Tunnel Island property is in demand. There is a real estate boom there; we hope it will not be overdone as it was in Winnipeg and Toronto.

Docks are to be constructed at the foot of Matheson street in Rat Portage, running south-east towards the property of the Rat Portage Lumber Co. It is the intention, says the Rat Portage *News*, to build a large dock suitable for transferring passengers and freight, and thus avoid the present long haul.

From the Rat Portage *News*.

Rat Portagers will soon be able to boast of the handsomest opera house in the north-west. The contractor is rushing the work as rapidly as possible and expects to have it finished in June.

Mr. J. Burley Smith, from the Sultana, where he had been to inspect the work of the diamond drill, informed a *News* reporter, that a very rich lode had been cut at the shore of Sultana Island. Questioned as to what he intended to do now that he had found the lead, replied, that he intended sinking a shaft before the ice breaks up. The vein is enormously rich.

Latest reports from the Master Jack Mine contained in a letter received this week from the local overseer, are exceedingly favorable. The main shaft has now reached a depth of 110 feet and 125 feet of drifting has been done, which removes all doubt as to the continuity of the vein. It will be remembered that this vein has maintained an average width of 6 feet throughout, but it is now found that at the lower depth it is widening out, not abruptly but gradually, giving great promise of developing an extensive ore body or possibly, as in the case of the Sultana, a great deposit of highly auriferous quartz. About 4,000 tons of ore, having an average assay value of \$7 per ton, is now in sight.

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## Around Madoc.

Twenty-five men are employed in getting out ore at the Ledyard mine near Havelock.

A syndicate is trying to buy thousands of acres of mineral lands in Marmora and Lake townships.

Gold has been found in promising quantities in Chandos township, Peterboro county, and it is said a coal deposit has been found near Apsley.

A strike of free gold has been made on location 337, adjoining the Folger Hammond property, in Frontenac county, owned by Sir Richard Cartwright.

The Bannockburn old mill has 15 stamps, old style, we assume. The mill is owned by a Toronto company, of which Mr. John Lamb is the practical head. The company owns the old Richardson mine, or "hill" at El Dorado.

There is no doubt, it is said on trustworthy

authority, that the process of treating refractory ores at Deloro has proved a success. This success may bring the cost of extracting gold from refractory rocks down to something like the cost of getting gold out of free milling ores.

An option, at \$12,000, has been taken on the Craig mine, a few miles from Bannockburn, by Toronto men. The owners of the property are James Maitland, Bannockburn; Mr. Vankleek, Hastings County Roads Superintendent; City Clerk Robertson, of Belleville, and Col. Brown, of that city.

(From the Bancroft Times.)

Mr. Walter Whitefoot left us some fine specimens of graphite from his property near town; he also has a good showing of copper ore. The specimens were taken from the surface.

Mr. James Best gave us a call on Monday while on his way to Belleville. He reports things in readiness to begin developments at his copper mine as soon as spring opens. The appearance of the surface ore is most encouraging.

Mr. James Lavoy, of Bangor, reports that the corundum extends beyond the limits of the Carlow deposit and is being located through Bangor. The development of this rare and valuable mineral, which exists in an almost inexhaustible quantity, will be a great boom to the district.

At the depth of four feet, the Jackson mine, near Ormsby, is showing a rapid and steady improvement. The first assay from the cap rock showed a good percentage of both silver and nickel. Mr. R. A. Jackson went to Toronto on Monday to have another assay made, and it is believed that at the present stage of development pay ore has been reached.

A deputation consisting of Mr. Swinney of the Deloro mine; A. F. Wood, ex-M.P.P.; Thomas Cross and Arthur Coe, of Madoc, has urged the Ontario Government to immediately erect a reduction furnace at Madoc to test ores in considerable quantities, so as to be ready to meet the movements in mining in the district that will occur this spring. Assays, of course are properly not regarded as an efficient test of the value of a property. One member of the delegation proposed that as the Government had 40,000 acres of mineral lands north of Madoc, they should dispose of 5,000 acres of it at \$2 per acre, and so secure the \$10,000 necessary for erecting the proposed reduction works.

It appears that there is now no doubt the Canadian Gold Fields Co., an English company, operating at Deloro, Hastings County, can by means of its bromo-cyanogen process, treat the mispickel gold ores of the region. It is said that 92 per cent. of the gold can be saved by the process, and the cost of treatment is only \$2 per ton. If this be true even the low grade ores averaging \$8 or a little more can be made to return money. The Deloro Company referred to have incurred an expenditure of \$350,000 in acquiring land and plant, and it is proposed to increase the expenditure to \$2,500,000, and even, it is said, to increase the reduction plant to a capacity of 1,000 tons a day, but we doubt the early increase to what would be equivalent to a milling capacity of 500 stamps.

The Campbellford Herald says:—We have been informed of the discovery of a valuable marble quarry in North Hastings, which will be of interest to the building trade as well as to monumental dealers. It is a pure silica lime-stone, and when dressed or polished will

become harder, and is destined to take the place of granite or any marble for building rough or for the finest finish. The quarry is situated on lots 9 and 10 in the seventh concession, on the north shore of Salmon Lake, near St. Ola, in the Township of Limerick. We learn that Mr. J. E. Appleby, M.E., of Toronto, one of the owners of this property, has a gang of men now at work taking out stone for the trade, and has already many orders for a considerable quantity. The working of this quarry will place within the reach of the building trade a stone that will answer all purposes equally with the best imported and at a lower rate.

(From the Marmora Herald.)

Mr. Peter Vesterfelt, of Warriston, has been engaged as prospector by the Canadian Gold Fields Co., Ltd., and is now prospecting in Belmont township.

The mineral rights on lot 13, in the 9th con. of Marmora, have been purchased by the Canadian Gold Fields Co., Ltd., from the North American L. S. & A. Co.

The undisposed machinery of the North American L. S. & A. Co. was sold by auction to Messrs. G. Kruger, of Newark, N.J., and Geo. C. Clauson, of New York city, for \$700. Jason Tice, auctioneer; W. J. Joyce, bidder.

(From the Kingston News.)

Mr. John F. Keller, Croydon, owner of the Keller gold mine, which is situated in the eighth concession of Camden, east of Tamworth, has an offer of \$30,000 for the mine from the following Picton parties: Messrs. Herbert S. Miller, T. Wilson, Harrison and Geo. Hepburn. Mr. Keller has the offer under consideration.

The gold in the mispickel ores of North Hastings runs from \$8 to \$16—occasionally very much higher—to the ton. To extract it by the bromo-cyanogen process costs only \$2 per ton, which may possibly be covered by the results of a valuable by-product, arsenic. Inasmuch as fully 92 per cent. of the gold in the substance treated is said to be recovered, it will be seen that a very handsome profit indeed remains to reward the lucky investor. North Hastings, let it be distinctly understood, is no place for the old-fashioned and simple mechanical process in vogue for the treatment of quartz twenty or thirty years ago. Ores can be found there capable of being treated profitably that way, but only in pockets. The regular ores of the district must be treated chemically. This means that whatever is done must be done by joint-stock companies, with large capital, and not by individuals. Canadians who are not fortunate enough to own stock in such companies will not get the cream of the business. But the employment that will be afforded to hundreds of hands, the market that will be developed for farm products, and the money that, in various ways, will be put into circulation, will give a substantial impulse to trade throughout the Bay of Quinte district.

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#### Manitou

The Neepawa Gold Mining Co., Ltd., says the Rat Portage News owns a rich property of 106 acres 18 miles south of Wabigoon. Nine leads so far have been discovered; only one vein has been developed. This vein is on location McA. 28, Upper Manitou. A shaft is down 50 feet and about 60 feet of tunnelling has been done. The vein on the surface is about 40 feet wide and at the present depth it is 44 feet. Hoisting and pumping machinery have been purchased, and it is the intention of the company to erect a

20-stamp mill. Other leads are shortly to be opened during the summer. Mr. Alston is manager of the mine. The directors are: Jno. A. Davidson, of Neepawa, President; Hon. Dr. Harrison, Vice-President; B. R. Hamilton, Secretary-Treasurer; Jas. H. Davidson, of Neepawa, and Alex. Trotter, of Brandon. The capitalization is \$1,000,000 in \$1 shares. 100,000 shares have been taken up.

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#### Seine River.

The Security Gold Mines Development Co., Ltd., is organized to acquire gold and other mining locations in the Seine River, Rainy Lake and Manitou districts. The officers are: President, J. C. Foley, of the Foley Mine; Treasurer, Fred. J. Bowman, of Rainy River City, Minnesota; Secretary, D. M. Tracey, of the Foley Mine, and Mining Engineer R. H. Flaherty, of the Foley Mine.

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#### Sudbury.

The Trill Nickel mine, 25 miles from Sudbury, is working its full capacity, with 75 or 80 men employed. It has now attained a depth of about 200 feet. The Murray mine (H. H. Vivian Co., of Swansea, Wales), is partly flooded. It is probable that operations will shortly be recommenced.

About 30 men, says the Sudbury News, are employed at the Crystal Mine, Mr. Chew is in charge of a gang getting out timber for a saw mill which will be erected at Wahnapitae Lake as soon as possible. This will be a boon to mining men as at present lumber has to be hauled from Sudbury a distance of 30 miles. The second car of machinery for the Crystal will be here in a few days and freighted to the mine without delay.

Mr. M. C. Biggar, President of the Citizen's Gold and Coal Mining Company of Sudbury reports that the diamond drill working on the coal property owned by his company at Chelmsford, says the Sudbury News, is making satisfactory progress, and is down about 50 feet. The core brought in shows slate with iron pyrites. Work goes on night and day. The Government drill on the Gordon property is also working steadily.

(Condensed from the Sudbury Mining News.)

Prospectors Kelly and Vrooman at the head of Maskinonge Lake have done much stripping and are commencing a shaft. A vein owned by Pickard, Chapin and Vrooman has widened from 8 inches on the surface to 4 feet at a depth of 10 feet and the showings of free gold on other veins has been good. Prospector Townsend shows fine samples of free gold from the Homestake. The vein is said to be 32 feet wide, with walls nearly vertical and faulted. The vein is much broken and rotten from the oxidizing of the sulphides. The mine is one of the most promising in the Wahnapitae region, S. Greenrod is developing his claim on the Matagamshing Lake. The widest vein is 4 feet, and free gold has been panned from stringers. The Gold Cliff people are tunnelling night and day at Lake Ko Kogaming to strike a vein. Prospector Jessop has sunk a shaft 10 feet on a vein and finds it is widening and increasing in richness with depth. The Sudbury News in recognition of a function it has to perform for the important mining region of which that town is the centre, has changed its name to the Sudbury Mining News.

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#### Eastern Algoma.

(From the Advocate, Thessalon.)

At the Iron Mine at Desbarats eleven tons of ore were blown out at one shot last week.

Some of our citizens profess to have dis-

covered another gold mine not far from here but are very reticent about the locality.

The president of the Hamilton Smelting Works, for whom the Desbarats Iron Mine is being operated, will use 100,000 tons per annum.

Mr. Wylie C. E. Res. Engineer and Inspector for the Great Northern Mining and Development Co. is examining locations in Wells to where Frank Marks is opening up a couple of shafts.

The Ophir Mine in Galbraith tp. will no doubt come to the front again in the spring. From the first development, it showed a very rich pay-streak of native gold, and there is no doubt that the vein now is as rich, if not richer, than nearer the surface. An experienced practical miner who knows the mine well says that there is no signs at the depth reached of any diminution in the richness of the lode, but that it is all right and only requires working to produce any amount of gold.

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#### Chips.

Midland is a little interested in a prospect for coal mining. The seam is long and wide; the coal is said to be hard and suitable for stoves.

Gold is reported in the mica claim of Jackson & Dorey, about two miles from Gananoque, and tests are to be made. The vein in which the gold was found is at right angles to the mica vein.

It is said W. H. Casement's lithographic stone quarries near Lakefield, Peterboro' County, may turn out very profitable. A short time ago samples of the stone were sent to the United States to test, and the results were two splendid specimens of lithographic work, one by the architect edition of Scientific American and one by Armstrong & Co., Riverside Press, Cambridge, Mass. The letter accompanying the prints referred to spoke very highly of the stone, saying that it was equal to if not better than the best German stone.

It is rumored that the Toronto Silver and Antimony Mining Company will shortly put in a plant to work their valuable property in the township of Barrie, seven miles from Plevna village, Frontenac county. Assays made by Dewar & Son of Toronto gave over \$400 to the ton in silver, antimony, copper and lead. Then again, seven miles west of this property, is to be found one of the best properties of white mica in Ontario, with tons of mica in sight; and it also is idle and has been for some time. A party in New York is in communication with the owner with a view to purchase and work the mine. Samples of the mica would cut 12x16 inches.

### BRITISH COLUMBIA.

#### Rossland.

The Rossland *Miner* asks the outside press to confer a favor on Rossland by informing the public that there are more laborers in that place than can find work.

The shaft on the Parker on Bear Creek is down 70 feet, with six feet of ore carrying iron pyrites, copper pyrites, and galena with gold and silver values. Latest assays give \$22 in gold and two ounces of silver.

There are rumors that most of the value of Rossland ore may be extracted by stamp mills. If the rumors prove true it will give the Trail region, and other regions also, an immense forward impulse. The experiments are made at the O. K. mine.

In one month on the Evening Star, the

manager has sunk a shaft from an old surface cut a distance of 22 feet, giving a total depth from the surface of about 35 feet. This work is at the point where the first rich ore was found on the Evening Star, and on the ore body from which the first shipment was made. This shipment, it will be remembered, gave smelter returns of \$25.80 per ton. The shaft sunk by Mr. Nichols shows three feet of good grade ore in the bottom, which began to come in about 10 feet from the surface, and appears to be gradually widening.

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#### Slocan.

F. Steele, of the Ibex mine, says the Nelson *Tribune*, reports that the cross-cut tunnel on the Ibex is now in 165 feet, and the ledge is expected to be reached within the next two weeks. This will give a depth of 100 feet. The company is working three eight-hour shifts.

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#### Harrison Lake.

The Harrison Lake District, which lies 60 miles east of Vancouver and 20 miles north of the C.P.R., was not known as a mineral country before August of last year, but since that time, says the *New Denver Ledger*, there have been somewhere in the neighborhood of 100 claims staked off. The first one to discover mineral there was J. O. Trethewey, who staked off the Providence claim, which is now shipping ore to the Everett smelter. This is spoken of as one of the wonderful properties of British Columbia, it having paid from the grass-roots, and as the shaft goes down the ore improves in richness, the average assays at a depth of 17 feet being \$200 to the ton. The rock in this claim, with a very fine grade of silver, is of a darkish color, resembling the native silver ore found in Montana.

There are a number of other very promising locations on the lake, one of which is a galena proposition situated about a mile south of the Providence. This is said to be now under bond to Vancouver people for a nice little sum. It is confidently stated by practical men who have visited Harrison Lake recently, that it is destined to be one of the wealth producers of the province, and owing to the splendid shipping facilities, much lower grade ores may be handled from there than from any other part of British Columbia.

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#### Pannings.

About 250 laborers and over 100 teams are at work on the Trail Robson railway.

Within corporation limits Rossland will have 1,920 acres, Nelson 372 and Grand Forks, 837.

Forty-two mining companies with a nominal capitalization of \$32,000,000, were incorporated last week.

The Van Anda mine on Texada Island, which opened as a prospect a year ago, is at present producing 20 tons of first-class gold-copper per day, and is making regular shipments of ore that gives average returns of \$50.

The tunnel on the Minnie L. claim on Kootenay lake, opposite Ainsworth, B.C., is in about 20 feet, where a vein about two feet thick has been struck. The ore from this vein carries about 70 per cent. lead, and from 80 to 100 ounces in silver.

Around Quesnelle there is every evidence of a revival in mining this season. A few men are steadily working at the Law claim, and the tunnel is now carried about 150 feet into the hill. It is expected that in the early spring the force of men will be increased and work pushed with greater vigor. The Occidental claim, owned by Messrs. Perkins and Bowron, is to be developed this spring.

O. L. Spencer, barrister, of Toronto, submits

a proposition to Vancouver to build a smelter at that city. His clients, who have their headquarters at Toronto, offer to complete a smelter capable of treating 200 to 250 tons of ore per day, with a capacity to increase the amount to 500 tons. The condition of building the smelter is the objectionable one of a bonus of \$70,000 in cash to be paid on completion of the building and plant, the blowing in of the furnace and the smelting of the first ton of ore. The city is asked to furnish a suitable site and to exempt the smelter, refinery and plant from taxation for two years.

Mr. Gaston, the discoverer of the new copper field in southern B. C. says:

"I have just bonded 14 new claims in the new district, and expect to bond some additional claims. This ore is contained in an immense body, that is well-nigh inexhaustible. The ledge, which is well defined for a distance of several miles, runs from 12 to 40 feet in width on the surface and extends from the northern boundary in Okanagan county across the line into British Columbia. Assays which I had made from the rock at Victoria showed returns of from 10 to 90 per cent. copper, \$6 to \$16 in gold, with just a trace of silver. At Seattle I gave a friend a sample of pure native copper weighing about 75 pounds, just as it came from the ledge. On my next trip up there I shall bring back with me several hundred pounds of the rock."

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#### MARITIME PROVINCES.

The St. John *Sun* says a company is to be organized to work a silver and gold property, discovered at Frenchman's Creek, immediately back of Spruce Lake. Tests show \$50 per ton.

#### COMPANY NOTES.

THE Spokane-Kaslo Mining and Milling Co. owns four full-sized silver claims in the celebrated Whitewater Creek district, between Slocan lake and Kaslo, and about a mile from the railway. Around it are many shipping mines, and perhaps as many more—over 40 likely to ship before the close of the present year. On one of the claims a tunnel has been run 200 feet, and shipping is likely to take place early this spring. The tunnel is in good ore, with assays of galena running up to \$90 per ton. On two other of the claims some surface development has been done and some tunnelling. On the first claim referred to the tunnel is entirely within the ore vein and no dead work is done. From prospectus statements and somewhat from other conclusions, we think this property offers a very good chance of turning out very profitable. We are pleased, too, to find that, unlike most of the B. C. properties offered in our eastern market, of the capitalization—\$900,000—two-thirds is devoted to treasury stock for development and the promoters' stock is pooled. We hope other B. C. companies, that hope to find a market for their stock in Eastern Canada, will follow this example in the proportion devoted to development purposes.

About twenty men are at work on the Ledyard mine in the Madoc region. The vein at shaft No. 1, is 19 feet wide at a depth of 90 feet, and is heavily mineralized with gold bearing sulphurets. The vein walls are very well defined. Shaft No. 2, 700 feet west of No. 1, is being sunk under the superintendence of Mr. Wm. Nichol, and now shows a large vein containing a large quantity of honeycomb quartz with free gold and a good proportion of sulphurets.

## CORRESPONDENCE.

## EASTERN ALGOMA'S WEALTH.

Editor of THE CANADIAN MINER:

SIR:—As I understand THE CANADIAN MINER has already a fair circulation outside of Canada—and its outside circulation will of course grow—I take the opportunity to call your attention to the fact that in a large portion of the Districts of Algoma, Thunder Bay, Rainy River and Nipissing ("New Ontario") very good agricultural land can be found. I know more about Eastern Algoma than I do about the other districts named, but I am given to understand that they all largely present this feature; namely, that they all contain valleys where splendid soil for farming purposes can be found.

And I wish you would kindly call the attention of your readers in the Old Country and the United States to the fact that "New Ontario" is probably the only mining region in the world where mining and agriculture can be carried on successfully almost side by side, and where the producer and the consumer can live almost side by side.

If any one doubts the agricultural resources of this part of the province, he should attend the fall fairs held at Sault Ste. Marie, Thessalon, Bruce Mines, Iron Bridge and other places along "the North Shore," and he will be surprised and astonished to see the exhibits of all kinds of grain, roots, dairy produce, and even fruits which are raised all over a part of the province of Ontario which bids fair to be a great mining country. Here and there through the district farmers have even gone into the raising of apples, and I am told they have met with great success. (As to this point your readers should write Mr. Wm. Harris, J.P., Day Mills, Algoma.) A country which can successfully raise the different kinds of produce which are yearly exhibited at the different fall fairs I have mentioned cannot be said to be a barren country or to have an inhospitable climate.

Some years ago I took the trouble to gather what information I could on the subject of agriculture in this part of the province, and I interviewed settlers living in different parts of the District and obtained their views and the result of their experience, and I compiled a couple of pamphlets on the subject, which were circulated in the Old Country and which I trust have done and are yet doing good. One of these pamphlets was entitled "Algoma Farmers Testify," of which two editions were printed. I send you a copy, your readers in England can obtain copies from P. Byrne Esq., the agent of the Government of Ontario, Nottingham Buildings, 19 Brunswick street, Liverpool, Eng. The other pamphlet was entitled "Handbook of Information Respecting the District of Algoma," and copies can be obtained from J.G. Colmer Esq., C.M.G., of the High Commissioner's office, 17 Victoria street, London, S.W. I also enclose a copy of this pamphlet. These pamphlets were published under the auspices of the Algoma Colonization Society, in the work of which Mr. A. G. Duncan, J.P., of Marksville, Algoma, took great interest, and largely aided. Mr. Duncan is well known among Algoma mining men, having been one of the very first to endeavor to attract attention to our mining interests, and having been at one time the vicepresident of the Vermilion mine near Sudbury.

The Society has widely circulated these two pamphlets over older Canada and to some extent throughout the United States.

I would ask you to read over the two pamphlets which I send you to-day, and to give your readers in the Old Country and the United States a general idea of the kind of country

they would be coming to if they locate in "New Ontario." You will notice a little map on the cover of each pamphlet showing the townships on "the North Shore," between Maimainse point on Lake Superior, N. W. of the "Sault" and Sudbury. I feel sure that if any of your readers wrote (enclosing a stamp for return postage) to either of the two gentlemen I have mentioned or to Alex. McQueen, Korah township, Sault Ste. Marie, Ont., or Henry Knight, President of the Central Algoma Farmers' Institute, Sault Ste. Marie, Ont., asking for further information as to the agricultural resources of "New Ontario" his letter would be answered. Yours faithfully,

FRED ROGERS.

SAULT STE. MARIE.

## NEW MINING COMPANIES.

LETTERS patent have been granted incorporating the following mining companies:

The Wabigoon Land Agency, capital \$300,000, in \$10 shares. The incorporators, who seek general mining powers, are John Sifton Dignam, William Henry Jones, manufacturers; Francis Phillips, contractor; Frederick William Garvin, barrister; Robert Samuel King, broker; and Lewis Van Allen, journalist.

The Wabigoon Free Milling Gold Mining Company; capital \$1,000,000, in \$1 shares. The incorporators are: Robert Thornton Johnston, Ontario land surveyor; William Theophilus Stuart, physician; Christopher Conway Robinson and William Holloway Wallbridge, barristers; Archibald Mills, jeweller; Barnett Lawrence, wholesale optician, and Harriet Maude Jewell, widow, all of Toronto.

The Nanki Poo Gold Mining Company of Ottawa; capital \$1,000,000, in \$1 shares. The incorporators are: Albert Henry Edmison, Rat Portage, physician; John Murray Clark, barrister, and James Todhunter, wholesale merchant, both of Toronto; William Andrew Clark, express agent, and Angus William Fraser, barrister, both of Ottawa.

The Eastern Mining Syndicate of Ontario; capital \$1,000,000, in \$1 shares. The incorporators are: John Alexander McGillivray, Uxbridge, barrister, and Alfred Ansley and William Kirkpatrick McNaught, merchants; Thos. Winning Dyas, gentleman, and Hugh C. McLean, publisher.

## CLAIM JUMPING, ETC.

MR. WM. MARGACH, Crown Timber Agent at Rat Portage, interviewed by the *Globe*, says: There is a decided increase in the demand for lumber in the mining districts, and the lumber industry is employing nearly a 1,000 men in the Rainy River district alone. As to blanket applications and claim-jumping Mr. M. says: You evidently hear more of it in Toronto than we do up north. Of course, there may be some claim-jumping done, but not nearly to the extent alleged. It would indeed be surprising if there was not an occasional instance. Can you name any line of business in which means are not used by men to outgeneral each other and gain a point? In my opinion the so-called prospector is more of a "blanketer" than the man who takes up a few locations and pays for them. The prospector who takes up a number of locations and does not pay in a cent on them does far more harm, and the department would be justified in disregarding such applications. When a bona-fide purchaser comes along this prospector asks a fabulous price for his so-called location. I know of some explorers on the Seine River and Manitou Lake who have had a number

of locations surveyed but who have not paid a cent on them. They have not even paid for the survey. These are the men who are crying out against those who are willing to pay for the land and take their chances. There are others who don't even send in their applications and plans to the department, knowing that they would next be called upon to pay the purchase money for the first year's rental. They content themselves with doing a few days' work on each claim so as to prevent a purchaser from making the necessary affidavit as to no adverse occupation or improvement.

There should be an inspector appointed for the country north and west of Lake Superior—I mean a competent Government representative, stationed, say, at Rat Portage, who would hear evidence in disputed cases and determine as to the first applicant, the improvements and as to the quality of the evidence offered, and then submit the same to the department at Toronto for a ruling. Such an officer, especially if he had a knowledge of surveying, could be of great use in this way, and he could sift the rival affidavits and claims. The saving of time, too, would be another feature in favor of such an appointment.

The mining activity will increase the risks of fire in the timber for some explorers are unfortunately very careless with fire. A burnt-over country is much more easily explored for minerals, as the vegetable matter is removed, revealing the veins more clearly. They perhaps do not stop to think of the great loss a forest fire causes. As a matter of fact, they should be as much interested in preserving the forest as the lumberman.

There must be 500 men employed in the various mines, and in assisting explorers and prospectors. The greatest activity is in the Lake of the Woods and Shoal Lake districts. The indications, are equally good, though, for the Manitou section, where some of the very best outcroppings have been found. With further development and exploration, I predict that the Manitou country will equal the Lake of the Woods part. Then the Seine River is very promising.

I have been acting as Crown Lands agent temporarily for the past year, and I can therefore speak from experience that the inquiries have been greater than for some years past, not only from Ontario, but especially from Michigan and other States, and I look for a large influx of settlers in the spring to the Rainy River country, where there is excellent land to be had, and where high prices for produce will prevail owing to the demands created by the mining industry.

## SMALLEST IN THE WORLD.

THE smallest coal mine in the world is in the southern province of New Zealand, where, according to the reports of the inspectors of mines for the colony, the Murray Creek Colliery is worked by one man, T. Bolitho, a Chinaman, who owns, manages and works this small, but to him valuable, coal mine. There is another small colliery in the same province worked by one man with the assistance of a donkey. The next smallest colliery is in England, in the village of Nelson, in Lancashire. It is situated near the Colliers' Arms, and affords employment for two miners, father and son, who combine in themselves the positions of proprietors, managers, miners and haulers of the undertaking. They have the assistance of a donkey, and all the output of the mine is sold to the householders who live in the village or its immediate vicinity.

## MINES IN HASTINGS.

A MARMORA correspondent of the *Belleville Intelligencer*, gives particulars regarding some of the mining developments of Hastings County. He says:

The first and principal one on the Arsenical Belt is that being now operated by the Canadian Gold Fields Co. Ltd., and was formerly the "Canada Consolidated Gold Mining Co's" property. It comprises some 400 acres, composed of parts of lots No. 8, 9 and 10 in the 8th and 9th concessions of Marmora, on which a large amount of exploration and development work has been done; shafts have been sunk on the veins, of which there are four, to depths from 50 to 180 feet; levels have been run at depths of 50, 100 and 140 feet to distances of 100 to 500 feet; test pits have been sunk all along the different veins at various points, so that the ore supply is established beyond doubt, as well as its richness, as assays running from \$12 to \$500 per ton, and over, have been made from ore taken from all parts of the property.

The question often asked, why was the mine not worked when all the conditions surrounding it are so favorable? may be answered in two sentences—bad management and the refractory nature of the ore.

The first can be easily overcome, as mining in these latter days has made such rapid strides towards cheapness and economy, that ores heretofore considered of no value can now be worked, and are worked with a profit.

The second trouble was rather a hard nut to crack and for years baffled the skill and efforts of the best mining experts in the world until they one and all became disgusted and gave it up, the mine lying idle for some years; but about a year ago the present superintendent of the Canadian Gold Fields Co., Ltd., Mr. A. J. G. Swinney, was induced to come and inspect the property, and was so pleased with it after examination that he induced his Company to acquire the property, which they did, after making such tests by their Cyanide process as satisfied them that it could be successfully treated, a large quantity being shipped to England for that purpose. I understand that one lot of 8 tons was treated by the present chemist, Mr. F. R. Pickard. As soon as they had solved the problem of treatment successfully, they started to erect their plant and operate the mine. The plant is so near completion that I understand a preliminary run of the machinery will be made in a few days.

## THE GATLING FIVE ACRES.

Just about in the centre of the above property is situated "The Gatling five acres" with a mill site on the River Moira of six acres more. This property has a history and is supposed to be the cream of the belt. Mr. W. J. Gatling, brother of the inventor of the famous Gatling gun, was the original owner of all these properties and when selling out to the Canada Consolidated Gold Mining Co. in 1830, reserved this portion of the property, and so impressed was he of its richness that he refused some \$60,000 for it, being satisfied from the development both to the north and south of it and on itself that he had a property of great value. After his death it was acquired by U. E. Thompson, banker; H. Corby, M.P., and others of Belleville, who are its present owners. There is no doubt that it is a rich property. There are three north and south veins running S.W. by N.E. across the property. Assays made from the ore taken from trial shafts

and openings run up to \$1,000 per ton. This mine is richer than the "War Eagle" of Rossland. Now that the cyanide process is demonstrated to be successful in treating the ore at a much less figure than the smelters charge the Rossland mines, this property cannot but prove a bonanza to its owners.

## EAST ½ LOT 6 IN THE 8TH CONCESSION.

This mine is situated south of the Canadian Gold Fields Co.'s property and the veins are probably a continuation of those on that property. A shaft has been sunk on the vein to a depth of 80 feet in pay ore all the way. Two assays made by Prof. Chapman from average samples taken by himself from blasts put in under his own directions gave \$134,000 and \$132.56 per ton of 2,000 lbs., respectively, a sample of selected ore going much higher.

In his report upon the property he says, "The vein is well defined" "is of good and increasing depth and is of the same character" "as those on properties adjacent which are undoubtedly rich."

Just to the south is the Dean & Williams mine, which was worked years ago under the old stamp mill and plate amalgamation process, which did not save over 50 per cent. of the gold. This property is also sufficiently developed to prove beyond a doubt both the quality and quantity of the ore. I understand this property has passed into the hands of an English syndicate for a large sum, and that operations are to start on the mine in two weeks' time.

## THE GLADSTONE.

This mine is situated on lot 17 in the 11th concession of Marmora, and adjoins the Crescent Gold Mining Co's property. A great deal of ore from this mine is free-milling, and some years ago it was worked by the stamp and amalgamating plate system; over \$20,000 in gold was taken out, but as the bulk of the ore is arsenical it was found unprofitable to continue, and work was stopped until some process could be introduced that would treat the mispickel. This property comprises 23½ acres on the lode, also 4 acres on the river Moira for a mill site:

On lot 18, just north of the Gladstone, is the Sulphuret Mine, comprising 63 acres, the river Moira forming the eastern boundary. On this property there are two fissure veins, on which shafts have been sunk to a depth of 20 and 35 feet respectively in solid sulphurets. The veins are 3 and 6 feet wide, and average samples assay \$15 to \$30 per ton.

There are also many other good locations, among them east ½ lot 15th in 10th concession, west ¼ 14 in the same concession, on which true fissure veins have been found and opened up.

Both of these properties have been examined and most favorable reports made on them by C. Roepell, M.E., of London, England, a well-known authority.

East half 15 in 10th is owned by A. W. Carscallen, M.P., of Marmora, and 14 in the 10th by the Canada Gold Fields Co., Ltd.

I could give you a list of many more gold mining properties and prospects, did space permit, that if they were in Rossland or even in the Lake of the Woods District, would before now have been stocked at a million or over and placed upon the market, and I have not the least doubt after development would pay dividends on that sum.

The Santa Rita copper mines, near Silver City, New Mexico, are again reported sold. The price this time is stated at \$1,500,000, and the London Exploration Co. is named as a buyer.

## UNITED STATES NOTES.

DURING the month of January the mines of the United States produced 39,500,000 pounds of copper, exactly the same amount produced in December; foreign mines produced 6,600 tons of 2,240 pounds each in January, against 7,700 tons in December, a decrease of 1,100 tons; export of copper from the United States during January amounted to 9,700 tons.

The Butte *Inter-Mountain* stated a short time ago that over \$2,000,000 went to waste in smelter smoke each year in Butte. Now some chemists have under contemplation a plan to convert the fumes of the smelter into sulphur and begin the manufacture of chemicals in which sulphur forms the principal ingredient. All the sulphur used in the United States at the present time is imported, and during the present winter the price of this product has almost doubled.

News comes from the Pacific coast of the United States to the effect that the big powder companies operating in San Francisco, have signed agreements whereby a mammoth powder trust has been perfected. For several years past there has been a war raging between the different manufacturers, and it is said that the powder consumers have profited thereby, and that the profits to the shareholders have been but slight. If this combination carries out its designs, the price of powder will be advanced 2 or 3 cents per pound, all of which will fall on the consumer. We have no doubt as to the results. We do not think that the large mining companies will stand such a sudden and big advance in their powder consumption. It was just about such an unreasonable demand that led them to go into the lumber business and the coal business and several other branches of commercial business. It would not be unreasonable to expect them to branch out still further and go into the powder manufacturing business. If they do it will be safe to say that they will be able to make a saving just as they have done in other branches, and that the sale of the powder companies will be next to nothing in the mining districts and states.

## NICKEL.

THE results obtained, chiefly in the United States, with nickel-steel have had a marked effect abroad, and France, Russia and Germany have decided to reconstruct their artillery, using nickel-steel entirely for the new guns. The first work to be done in France will be in the construction of a large number of cannon for the field artillery service on the modified Canet rapid-firing system. This will be followed by the building of a number of heavy guns for the fortifications out of the same material. The term "building" a gun is now an appropriate one, since the modern heavy cannon is not cast or forged in one piece, but is a complex structure, built up of successive rings or jackets, each of which is a separate forging. Germany is more reticent about her plans than France, but it is understood that the adoption of nickel-steel has been fully decided on. The French government, it is said, has appropriated 200,000,000 fr. for this purpose, and it is said that steel containing as high as 15 per cent. nickel will be used though experiments here indicate 4 or 5 per cent. as the limit of practical economy.—*Engineering and Mining Journal*.

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A group of four full-sized Mineral Claims in the "Sterling Silver" Slocan.

Authorized Capital 900,000 shares at a par value of \$1.00 each, fully paid-up and non-assessable, of which 600,000 shares are Treasury Stock for development purposes.

**W. H. BLEASDELL & CO., BROKERS, 50 Yonge Street, Toronto, Ont.**

## PROSPECTUS - ALL PROMOTERS' STOCK HAS BEEN POOLED.

The Spokane Kaslo Mining and Milling Company has been organized for the purpose of developing Silver Mining claims in the Slocan, British Columbia, one of, if not the richest silver-producing mining districts in the world.

It will be noticed that the capitalization is but 900,000 shares, at a par value of \$1.00 each, of which 600,000 shares have been placed in the Treasury for development purposes.

The Company owns, without a dollar of debt or liability, FOUR full-sized Silver claims, of fifty-two acres each, in the heart of the rich WHITE-WATER SILVER MINING CAMP, situated upon the KASLO AND SLOCAN RAILWAY, seventeen miles west of KASLO, and about one mile north of the Railway, thus making transportation easy and inexpensive.

The four mineral claims owned by this Company are the "SPOKANE-KASLO No. 1," "SPOKANE-KASLO No. 2," "ACME" and "AMERICAN," which, by reference to Map accompanying Prospectus, you can easily locate, and see their great geographical advantages as to shipment and position in relation to the natural trend of ledges or veins upon this mountain, which invariably run in an easterly and westerly direction, each claim being 1,500 feet square.

You will observe that this Company has 4,500 feet of mineralized area, running due north and south, and so situated that they must carry all the veins upon this mountain, from and including the "Whitewater," "Wellington" and "Lone Star" claims, at the least five in number, giving a minimum of 12,000 feet, or over 2 1/2 miles of mineralized vein matter.

The two Northerly claims embrace an area of 1,500 feet north and south, by 3,000 feet east and west, and the two Southerly claims 3,000 feet north and south, by 1,500 feet east and west, which is a wise and a favorable location, as we believe investors in this stock will duly appreciate.

Immediately about these claims, north, south, east and west, and in a small area of country, there are fifty developed and shipping silver mines, whose products rival in richness and output those of any country in the world.

"The Rich Slocan" is becoming so famous that we deem it unnecessary to go into further particulars beyond the fact that the silver output for 1896 from this small district amounted to Two and One-quarter Million Dollars, and it is confidently expected by conservative authorities that the output for the current year will exceed \$5,000,000.

In addition to the working mines referred to, there are between forty and fifty others rapidly developing, which will become shippers before the close of the present year. All of the Company's claims are advantageously situated and can be worked by tunneling.

The Company's claim, SPOKANE-KASLO No. 2, is, and has been for some time, under continuous development, and a tunnel has been run up to date, February 14th, 1897, 200 feet, and is constantly improving with depth.

Six hundred feet of tunneling is under contract, and has been paid for, to be completed by May 1st, 1897, and there still remains unused about 300,000 shares of Treasury Stock.

On the Spokane-Kaslo No. 2, along one wall the quartz is well mineralized, and the amount of galena increases with every foot in depth attained. Assays of the galena have run as high as \$90.00 to the ton. From present indications, the Company will undoubtedly be able to ship ore from this claim within ninety days.

Considerable surface development, and some tunneling, has been done upon the "ACME" and "AMERICAN," and they both make a fine showing, so far as developed. On the second and third claims east of the "ACME" and on the same ledge rich galena ore has been opened up at a depth of about thirty feet. The claim adjoining the "ACME" on the west is owned by an English syndicate, and development of the same has made such a good showing that it will be worked continuously.

A very limited amount of the Treasury Stock has been placed on the market for a short period at TEN CENTS A SHARE, Subject to advance or withdrawal without notice.

Any further information desired may be obtained from JOSEPH ROSSLER, Secretary of the Company, Spokane, Washington; W. A. DAVIES, Resident Agent at Kaslo, B.C.; or W. H. BLEASDELL & CO., Brokers, Toronto, Ont.

NOTE - It may not be out of place for us to say that we have a personal knowledge of the Whitewater Camp and these properties, as also of the promoters of the Company, and we have every pleasure in stating, and do honestly believe, that all buyers will make a wise and profitable investment in the stock of this Company.

It is Prospectively Good. We might almost say an "absolute winner," and we will be pleased to have our clients show their appreciation of what we consider an honorable and good mining proposition. Correspondence invited. - W. H. BLEASDELL & CO., Brokers, 50 Yonge Street, Toronto, Ont. - February 23, 1897.

NOTE - The following letter from W. A. Davies, Manager of Mines, was received Monday, February 22nd. It reads as follows: - "Kaslo, B.C., February 14th. - I have just returned from the mines. Everything is going on nicely. We have six men working and will increase staff very soon. We have driven tunnel about 200 feet, and have a very good showing. As you know, we are entirely in ledge matter, lead or vein being much wider than the tunnel. Just now we have two feet of spar speckled with galena, and several wide streaks of fine talc, and some quartz."

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If a prospector has confidence in the future of a claim he would much rather retain an interest than sell outright. If he has no particular confidence in it he would sooner get cash.

Being as a rule more or less of a practical miner he would sooner work his own claim, if possible, but to do this he requires a partner with money. What we propose to our shareholders is to go into partnership with him, the corporation to provide the actual money required for the proper and economical development of the claim, for which it gets a controlling interest, say from 60 per cent. to 75 per cent. By doing this the corporation gets the very best possible return for the money invested. All money goes into the claim and not three-fifths into the middleman's pocket.

The proposal is to get as many claims as possible on the above plan in the different districts. By treating prospectors fairly we think our plan should command their confidence and be the means of securing us the very pick of newly discovered properties.

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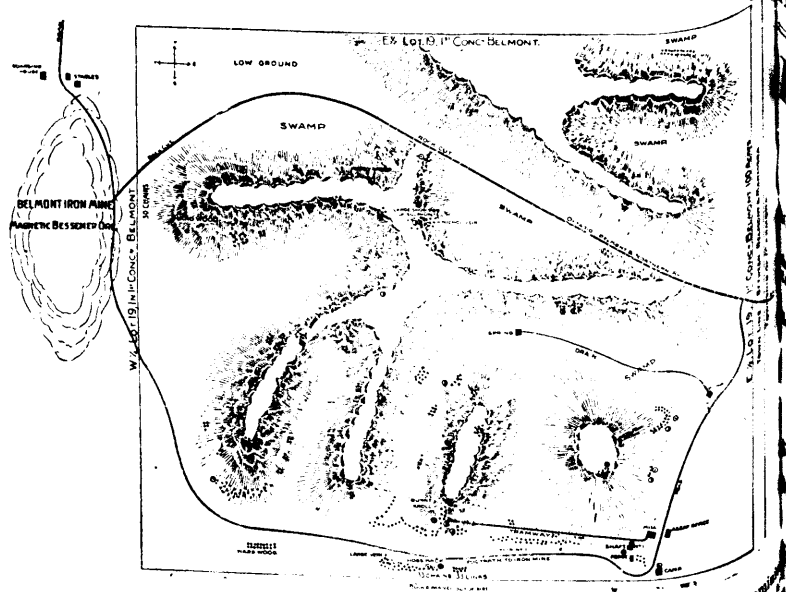
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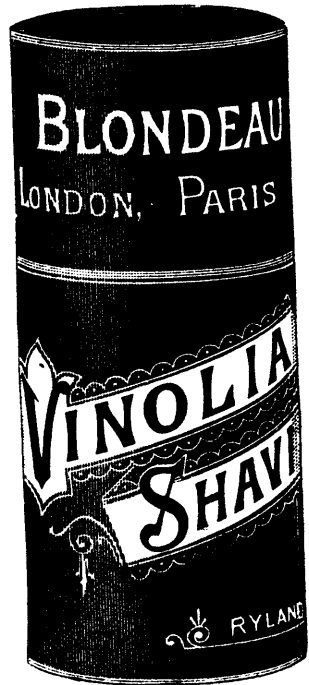
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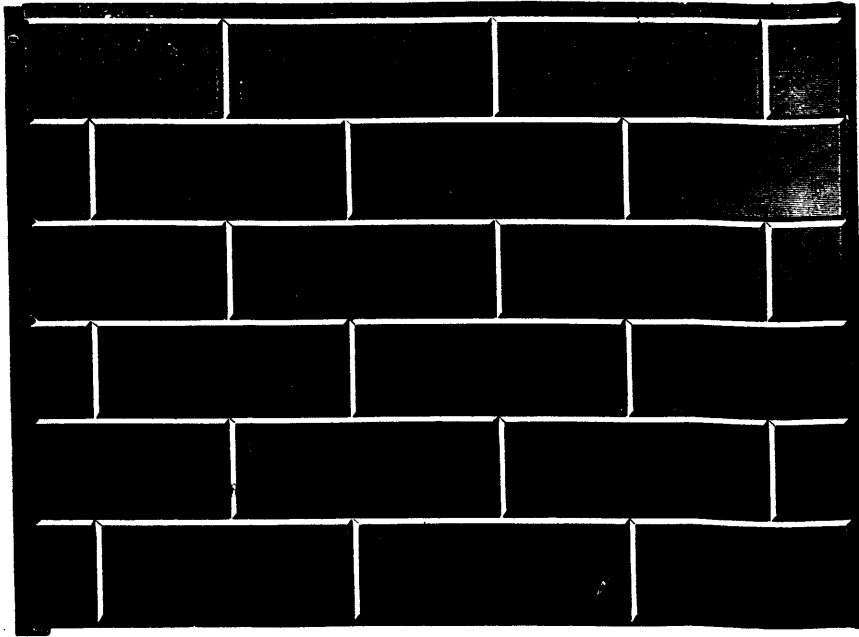
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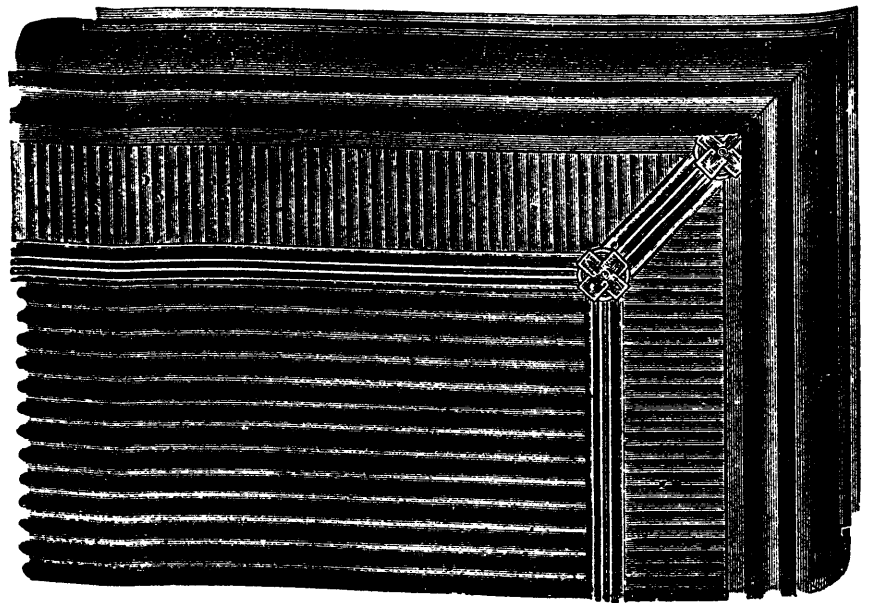
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**TORONTO.**

# THE CANADIAN MINER.

## THE CANADIAN MINER'S AUTHORIZED STOCK BULLETIN.

NAME OF STOCK.		NAME OF STOCK.	
Alberta	\$0 15	Jumbo	\$0 65
Bondholder	0 17	Kootenay London	0 12½
Bannockburn	0 20	Kelly Creek	0 15
British Canadian Gold Fields	0 20	Lily May	0 20
Big Three	0 15	Lake Harold	0 15
Butte	0 05	Le Roi	8 00
Colorado Gold Mining and Dev. Co.	0 30	Ledyard	2 50
Columbia and Ontario	0 10	Lloyd Gold Mining and Dev. Co.	0 06
Caledonia Consolidated	0 10	Miller Group (Slocan)	0 7½
Colonna	0 27	May Flower	0 17½
Cracker Jack	0 10	Monte Christo	0 18
Commander	0 25	Morning Star	0 12½
Crown Point	0 57	Monarch	0 10
Cariboo M. M. C.	0 53	Minnehaha	0 13
California	0 15	Mabel	0 15
Delhi	0 15	Novelty	0 10
Deer Park	0 23	Norway	0 10
Eldon	0 10	Ottawa and Ivanhoe Silver Mines	0 12½
Elise	0 05	Orphan Boy	0 14
Evening Star	0 13½	O. K.	0 30
Empress	0 23	Old Ironsides	0 15
Ethel Group	0 10	Phoenix	0 15
Eastern Mining Syndicate	0 16	Pug	0 17
Eureka Consolidated	0 10	Princess	0 25
Exchequer	0 10	Poor Man	0 10
Enterprise	0 20	Queen Victoria	0 10
Germania Gold Mining Company	0 10	R. E. Lee and Maid of Erin	0 11
Great Western	0 17	Rossland Red Mountain	0 25
Gertrude	0 15	Red Eagle	0 10
Gold Quartz	0 10	Santa Marie (Slocan)	0 06
Gold Hills Exploration and Dev. Co.	0 15	St. Elmo	0 12
Gold and Silver Mines Dev. Co.	0 20	Saw Bill	2 90
Good Hope	0 10	St. Paul	0 12½
Homestake	0 17	Spokane-Kaslo Mining and Milling Company	0 10
Hansard Gold and Copper Mining Company	0 10	Silverine	0 12½
Heather Bell	0 20	Silver Bell	0 7½
High Ore	0 07	Two Friends	0 35
Iron Mask	0 55	Victory-Triumph	0 15
Ibex	0 06	Virginia	0 19
Iron Colt	0 20	West Le Roi and Josie	0 27
Iron Queen	0 04	War Eagle (Con)	1 10
Josie	0 57	Washington	0 25
Josie Mac	0 12½	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