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THE CANADIAN MINER

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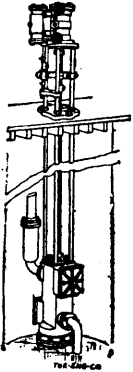
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The Canadian Miner.

VOL. I.

TORONTO FEBRUARY 20, 1897.

No. 6.

THE NEW CARIBOO.

HYDRAULIC MINING CARRIED OUT ON IMMENSE SCALE.

THE output of Cariboo from the simple methods of placer mining during the British Columbia gold fever in the early sixties was in the tens of millions of dollars, but the miners found further work from panning slow and comparatively unprofitable. The fever ceased, and the miners betook themselves to fields more inviting. The New Cariboo in which great hydraulic engines dash immense spouts of water against the banks of golden clay and gravel, is described in an article by a writer in the *San Francisco Chronicle*, from which we make extracts. The writer, after telling the history of the old-time mining, says:

As the common saying prevailed in the Roman era that all roads lead to Rome, so the various valleys which the pioneers of Cariboo adopted to enter the Blue Mountains all lead to one common point, or rather peak—a cone-like, bald topped mountain situated in the very heart of the range and rising between 6,000 and 7,000 feet above sea level. From this bald mountain, now known under the name of Mount Agnes, almost every gold-bearing stream in the Cariboo district takes its rise, and a dozen or more of them whose names have been familiarly associated with the province for thirty-five years radiate from this hub of a wheel.

THE NEW ERA.

The new era of mining development in Cariboo is manifesting itself on all sides around the base of "Old Baldy." It was started five years ago under the direction of Sir William Van Horne, president of the Canadian Pacific Railway, with the view of developing mining properties that would serve as valuable feeders to the railroad, besides paying a fair interest on whatever capital might be invested, opening up new territory for capital and industry and thereby furnishing freight and passenger traffic for the road. The services of J. B. Hobson, a mining engineer of long experience in this state, having been associated with deep gravel mining in the vicinity of Gold Run and Dutch Flat, were enlisted, and as a result extensive purchases and locations have been made, more particularly on the forks of the Quesnelle River and its tributaries.

The later development made in Cariboo indicates strongly the presence there of the same kind of auriferous dead rivers as mark the flanks of the Sierra in this state and extend into Southern Oregon, and to which have been applied the name of the Blue lead. The properties which Hobson secured on the Horse Fly and the South Fork of the Quesnelle for the syndicate he represented, composed largely of Canadian Pacific Railway officials, bear all the characteristics of the Blue lead of California, so far as the operations already conducted show. Under Hobson's management something like \$600,-

000 has been spent in the development and equipment of the Horse Fly hydraulic mine and the Cariboo hydraulic mine, the former being situated on Horse Fly Creek, four miles north of the discovery claim of James Moore and his associates in 1859, and the latter four miles east of the town of Quesnelle Forks. The operations in both properties have been on a gigantic scale, establishing without doubt the theory that possessed everyone of the early prospectors in Cariboo that only with the use of unlimited capital was it possible to develop the wealth of the district.

Two thousand miners' inches of water was brought from Mussel Creek to the Horse Fly hydraulic mine, through 12 miles of ditch, 6 feet wide at the bottom, 11 feet at the top, and 2½ feet deep, and 2¼ miles of 30-inch steel pipe. The pipe line is laid on the plan of an inverted siphon and carries this large body of water over 3 deep depressions.

The giant has been introduced into these latter day hydraulic operations in the Cariboo district, and volumes of water quite as large as any used in California in the best days of hydraulic mining here are being handled during the "open season." There is no antidebris law in that province to interfere with mining operations, nor are there any farming lands in danger of being flooded by the overflow of the rivers. The Fraser and all its tributaries flow in deep beds between high banks or benches where the level or prairie country is traversed, and in narrow rocky gorges where the mountain range is traversed. The navigable waters of the Fraser are too remote from the scene of mining operations to be affected by them, and the fierce floods of spring and summer scour the river channels and keep them at their normal depth. Hydraulic mining is, therefore, possible of the highest and most perfect development in the Cariboo district, with nothing to hinder or to interrupt it except the long and severe winters.

NATURE OF THE PAY DIRT.

Almost all of the pay dirt in the placer deposits of Cariboo resembles the material contained in the Blue leads of California. It is a sticky, compact conglomeration of highly washed gravel, sand and clay, with which every placer miner is familiar, and from which, when found, he always hopes to reap that rich reward for which he is in search. In the Horse Fly hydraulic mine the dirt hitherto worked has been a free washing gravel, but during last season it changed to a hard, compacted, cemented gravel, that must be crushed before washing to win from it all the gold it contains. Since this change presented itself in the face of the pit only a small portion of the gold contained in the gravel piped off has been recovered, chunks of the cemented gravel being found at the foot of the sluices. A ten-stamp mill with a capacity to crush from 100 to 120 tons per 24 hours, will be installed on the premises. Mr. Hobson estimates it will cost from \$1.50 to \$1.75 per ton to mine and mill the cement, which working tests show contains from \$4.82 to \$5.56 per cubic yard of gold. The mill will be operated during summer with water power and during winter

with steam, as drifting can be carried on winter and summer alike.

The vastness of the deep gravel deposits of the Cariboo district is shown in the pit of the Cariboo hydraulic mine. The company controls about three miles of the ancient river channel, which is a thousand feet wide between the rims, and the bank of auriferous gravel rises from 350 to 400 feet above the head of the sluices, while it is estimated that from 80 to 100 feet more pay dirt lies between the present workings and the bed-rock. The latter cannot be touched until the upper stratum is worked off. This is the mine that yielded during the last season \$128,000 worth of gold at a total cost of \$85,000. An early setting in of winter is said to have deprived them of the means of taking out from \$50,000 to \$70,000 additional. There were four giants in operation last summer. Two more giants will be put in operation this year.

BIG COMPANIES NOW THE RULE.

How puny the efforts of the hydraulic miners of Cariboo of the sixties were, when they worked with canvas hose and one-inch nozzle pipes compared with the operations now going on in the district, is shown by the fact that the canal and reservoir capacity of this mining company amounts to 10,000 miners' inches of water delivered from the big nozzles of the largest giants manufactured, and there is nothing superior to its system of pipes, canals and reservoirs on the coast.

Everything has drifted into big companies in the way of mining in that district now. The Miocene Gravel Mining Company, of which R. H. Campbell is manager and whose claims cover four miles of the Horse Fly is conducting operations on an immense scale.

The Harper claim on the same creek is owned by a San Francisco syndicate, and is to be worked by a hydraulic elevator. About \$50,000 has already been spent there in the construction of a ditch and pipe line.

Seven miles south-east of the town of Quesnelle Forks is carried on one of the most gigantic placer mining operations ever attempted on the coast. It is at a point where the great Quesnelle Lake empties its overflow waters into the south fork of the Quesnelle. There the Golden River Quesnelle Company (limited) of London is employing now about 400 white men and 100 Chinese in excavating for an immense waste weir that is intended to divert the waters from their natural outlet. When this waste weir and the necessary gates are completed, the construction of the dam to hold back the waters of the great Quesnelle lake, which is 100 miles long and from one to five miles wide, will be commenced. The overflow waters which it is intended to divert cover a space 300 feet wide and are now—at the lowest stage of the river—flowing eight to ten feet deep. As the water in the lake rises six or eight feet each season, it can easily be seen what a gigantic piece of work the company has undertaken.

It is estimated that the dam will cost \$228,000, and probably \$350,000 or more will be expended before the company completes the work and gets ready to clean

up the gold from the bottom of the South Fork river, eight miles of which it controls. It is expected that all of this will be worked out before the lake overflows the dam erected to hold it back.

But the attack on the auriferous deposits of Horse Fly and Quesnelle Forks represents only one side of the base of "Old Baldy," the supposed source of Cariboo's golden wealth. On all the creeks taking their rise in it—Keithley, Snowshoe, Cunningham, Harvey, Willow, William, Grouse, Antler, Goose, Lightning and other water courses equally familiar to old-timers—new efforts on a correspondingly large scale to those named are being instituted. The Cariboo Gold Fields and Exploration Company, organized in London, with a capital of £1,000,000, have purchased nearly all the old claims on the famous William Creek at Barkerville, in the Cariboo district, and have expended several hundred thousand dollars in bringing up a bedrock drain tunnel to relieve the deep gravel claims of the water that caused the former owners to quit work. The old channel of Antler Creek, for which unremitting search has been made for over 35 years, is claimed to have been discovered at a remote point from the present stream, and extensive operations for working the dead river channel are being made. A Canadian company with a capital of \$2,000,000, has taken up 20 miles or more of Lightning Creek from its junction with Cottonwood, intending to hydraulic it.

A Seattle and New York company has been organized by Colonel Fishback, in which the Goulds are said to be represented, with a capital of \$5,000,000, to work 20 miles of the bed of the Quesnelle River. A French syndicate and a Montreal syndicate, the latter with a capital of \$2,500,000, \$500,000 of which is to go at once into reservoir and ditch construction, are also operating at Quesnelle River. These are only a few of the big companies with large capital that have recently entered this old-time and supposed "petered out" mining district. Even the beds of the Fraser and the Quesnelle, which cannot be reached by pick, shovel or hydraulic monitor, are being attacked by dredges in hopes of winning the golden contents of their sands. The Cariboo miner of 30 years ago looks on and marvels.

JAPANESE SECRET ALLOYS.

THE following is the composition, according to the *Iron Industry Gazette*, of a number of Japanese alloys, hitherto kept a close secret, and now revealed by workmen engaged in making them:—The "shadko" is an alloy of copper and from one to ten per cent. of gold. The objects are placed in a mordant of sulphate of copper alum and verdigris until they have assumed the coppered or blue-black hue of sword sheathe and decorative articles. Gui-shi-bu-ichi is a copper alloy with 30 or 50 per cent. of silver of the well-known gray color. "Makume" is a compound of several alloys. About 30 plates or foils of gold, "shadko," copper, silver and the last-mentioned alloy are soldered together, holes are made, the plate hammered out and put in the mordant.

The finest Japanese brass, "sinchu," consists of 10 parts copper and 5 of zinc. Bell metals, "karakane," are made of 10 parts of copper, 4 tin, $\frac{1}{2}$ iron, $1\frac{1}{2}$ zinc, the copper being melted first, and the other metals added in the above order.

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

METRIC CONVERSION TABLE.

THE following metric conversion table, which has been compiled by C. W. Hunt, could be with advantage pasted by engineers in their note books:

Millimeters multiplied by .03937 equals inches.	Milligrams multiplied by .03937 equals inches.
Millimeters divided by 25.4 equals inches.	Centimeters multiplied by .3937 equals inches.
Centimeters divided by 2.54 equals inches.	Meters equals 39.37 inches. (Act of U.S. Congress.)
Meters multiplied by 3.281 equals feet.	Meters multiplied by 1.094 equals yards.
Kilometers multiplied by .621 equals miles.	Kilometers divided by 1.0093 equals miles.
Kilometers multiplied by 3280.7 equals feet.	Square millimeters multiplied by .0155 equals square inches.
Square millimeters divided by 645.1 equals square inches.	Square centimeters multiplied by .155 equals square inches.
Square centimeters divided by 6.451 equals square inches.	Square meters multiplied by 10.764 equals square feet.
Square kilometers multiplied by 247.1 equals acres.	Hectares multiplied by 2.471 equals acres.
Cubic centimeters divided by 16.383 equals cubic inches.	Cubic centimeters divided by 3.69 equals fluid drachms (U.S.P.).
Cubic centimeters divided by 29.57 equals fluid ounces (U.S.P.).	Cubic meters multiplied by 35.315 equals cubic feet.
Cubic meters multiplied by 1.308 equals cubic yards.	Cubic meters multiplied by 264.2 equals gallons (231 cubic inches).
Liters multiplied by 61.022 equals cubic inches. (Act of U.S. Congress.)	Liters multiplied by 33.84 equals fluid ounces (U.S.P.).
Liters multiplied by .2642 equals gallons (231 cubic inches).	Liters divided by 3.78 equals gallons (231 cubic inches).
Liters divided by 28.316 equals cubic feet.	Hectoliters multiplied by 3.531 equals cubic feet.
Hectoliters multiplied by 2.84 equals bushels (2150.42 cubic inches).	Hectoliters multiplied by .131 equals cubic yards.
Hectoliters divided by 20.42 equals gallons (231 cubic inches).	Grammes multiplied by 15.432 equals grains. (Act of U.S. Congress.)
Grammes multiplied by 981 equals dynes.	Grammes (water) divided by 29.57 equals fluid ounces.
Grammes divided by 28.35 equals ounces avoirdupois.	Grammes per cubic cent. divided by 27.7 equals pounds per cubic inch.
Joule multiplied by .7373 equals foot pounds.	Kilograms multiplied by 2.2046 equals pounds.
Kilograms multiplied by 35.3 equals ounces avoirdupois.	Kilograms divided by 1102.3 equals tons (2000 pounds).
Kilograms per square cent. multiplied by 14.223 equals pounds per square inch.	Kilogram-meters multiplied by 7.233 equals foot pounds.
Kilograms per meter multiplied by .672 equals pounds per square foot.	

Kilograms per cubic meter multiplied by .026 equals per cubic foot.

Kilograms per cheval vapeur multiplied by 2.235 equals pounds per horse power.

Kilo-watts multiplied by 1.34 equals horse power.

Watts divided by 746 equals horse power.

Watts divided by .7373 equals foot pounds per second.

Calorie multiplied by 3.968 equals B.T.U. Cheval vapeur multiplied by .9863 equals horse power.

(Centigrade multiplied by 1.8) plus 32 equals degrees Fahrenheit.

Francs multiplied by .193 equals dollars.

Gravity, Paris, equals 980.94 cent. per second.

TESTS FOR MINERALS.

THE *Mining and Electric News* gives some tests for lead, silver, gold, copper and iron ores:

Lead and Silver.—Take a piece of the ore to be examined, powder it and pass it through a fine sieve. Take 25 grains, or thereabouts, of the powdered ore, place it on an iron spoon and roast until no smell of sulphur arises. Place the sample in an evaporating dish and add twice the quantity of nitric acid, diluted with a little water. Heat over a lamp until citrous acid fumes subside, dilute with a little more boiled rain, snow, ice or distilled water, and allow it to settle. If cloudy, the solution must be filtered. If clear, carefully pour off the solution from the sediment into a glass of test tube. Divide it into three portions in three different glasses. Add to one portion a few drops of common salt solution or muriatic acid. This will precipitate lead and silver, if any; as a white chloride; add the salt solution until the precipitation ceases. Pour off the solution and wash the precipitate with boiling water; this will dissolve it, if lead, leaving the silver in the residue, pour off the solution from the precipitate and add ammonia to the precipitate, which will dissolve it, if silver. The chloride of silver, if exposed to the sunlight, turns to a darker shade of color than the chloride of lead, and in that case will not dissolve in ammonia. It should, therefore, be done quickly and under cover.

Gold.—To the original and undissolved ore add (aqua regia) one part nitric to two parts hydrochloric (muriatic) acid, to cover the ore. Digest for half an hour gently over a lamp, add water until cool, and place it in a glass or test tube. Now add a few drops of chloride of tin solution; if gold, a purple color will be shown—"The Purple of Cassius." This, on shaking, if too much of the chloride has not been added, will disappear. Add a little sulphate of iron solution, and it will form a brown precipitate, which will not disappear on shaking.

Copper.—Add ammonia to a portion of the first solution, and, if copper is present, it will give a blue color.

Iron.—Add to another portion of the first solution a little of the ferro cyanide of potassium solution (yellow prussiate of potash). If iron is present, a deep blue color will be shown (Prussian blue).

FOR the benefit of people who have work to do about mines, we give the following item:—Fourpenny nails are $1\frac{1}{2}$ inches long and 300 to the pound. Sixpenny fence nails are 2 inches and 80 to the pound. Fine threepenny nails are $1\frac{1}{4}$ inches and 760 to the pound. Twentypenny nails are 4 inches and 24 to the pound. Fiftypennies are $5\frac{1}{2}$ inches and 12 weigh a pound.

THE PROSPECTOR SHOULD HAVE WHAT HE FINDS.

BY W. HAMILTON MERRITT, F.G.S.

THE following passages in the recent work "The Story of the Mine," by Charles Howard Shinn, cannot fail to strike the attention, as typical not only of the far West, but of the west and north of the Province of Ontario, where sturdy prospectors are now amidst hardships and privations engaged in hewing out the future of a great country. They are justly entitled to be considered historic characters:

"Some fellow, I don't know who," the silver freighter continued, "has got to stand right out from the ruck some of these days to represent all the pioneering that has been done by hundreds and thousands of us for generations on this continent. It might be a fellow with buck-skins and Kentucky rifle, or another with a slouch hat and mule whip, or Doc. Galley's 'Big Jack Small' the bull-puncher.

"As I was saying it might turn out to be a plain freighter. But the freighter is simply packing around some one else's ore. The miner is behind him, working even harder. Out yonder, 50 miles in the desert, there's a man and his wife hammering the drill, blasting rock, opening their mine. Been there all by themselves for five or six years. Maybe their mine will peter out; maybe they'll die there, and some ore-freighter will put them under the sand.

"Yes, and behind the miner there's another fellow of the same sort, only more primitive. Sometimes I think he stands up taller than all of us put together. He is looking for ore, and he keeps on looking till he dies. When every mine has been found, named, and worked, when the whole is settled and has been fenced off into acre-lots and forties for ten thousand years, what kind of stories do you suppose men will be telling their children about the Nineteenth-Century Prospector?"

The goddess of myths has not chosen among the founders of the American colonies, splendid though their victories were; nor has she taken the buckskin-clad Boones and Crocketts, for even these, though unique, lack something of the universal. It will not be trapper, or hunter, or mountain guide, or Remington's virile horsemen, noble and eloquent types though all these certainly are.

But what is more likely, when one considers the settlement of the far West, than that a myth of the miner shall grow, unseen, and find ultimate expression in art, song and literature? The hills will some day be empty of gold. The waters will reclaim the deserts. New and strange conditions of life will prevail over all the lands between Atlantic and Pacific. But the great myth story of the West will have to do with some Titan of Sierras or Rockies, leaning upon his mighty pick, as Thor upon his Mjolnir. Strong and lonely as a grizzly, the prospector will "stand right out" in the words of the silver freighter, "to represent all the pioneers."

When the prospector goes out into the wilds the very least that the mining law of the country should give him is the right to have what he finds unoccupied and unworked, and that, as in all old and experienced mining countries, he can stake the same and hold it against the world so long as he does development work upon it, up to the usual period of five years in vogue in older mining communities.

Work alone is of value to the country at large, and the payment of rental dues and a

severe preliminary and unnecessary surveying tax is a hardship and retarder that should be removed from the path of the much enduring prospector.

The land-grabber sniffs about false sentiment for the prospector. I know from personal experience that the present law in Ontario is bad, but it is much better than it used to be, and much better than the shameful apology for a mining law existing in Minnesota, with which it is sometimes contrasted. Excellent suggestions have been made from Sudbury, and it is prayed that the British Columbia law should be our model.

To this prayer all prospectors will say "Amen."

HYDRO-CARBON SMELTER PROCESS.

MR. H. U. WOODIN of this city, says the *Washington Mining Journal* of Seattle, recently visited Lake View, Pierce county, where the 50-ton smelter, erected on the plans furnished by the inventor, S. M. Trapp, is located. Mr. Woodin was pleased with what he saw, and said:

It is a well known fact among mining men that large bodies of low grade refractory ore exist throughout the great northwest, therefore any way of reducing this class of ore that would leave even a small profit per ton would be the means of developing numberless properties that are to-day idle and worthless and that will so remain under all the old processes of treatment.

The logical result of such a new process would mean wonderful development in the State of Washington and the entire northwest for the reason that the prospector would be able to realize on some of his dreams, employment would be furnished to thousands of idle men and these now worthless bodies of ore be transformed into money-making properties. That the S. M. Trapp process owned by the Hydro Smelting and Refining Company of Tacoma will meet all expectations of its inventors and of the energetic men who are pushing it to the front there can be no further doubt, for several public demonstrations have been given, at each of which from 20 to 50 men have witnessed the greatest heat that can be produced and can testify that the heat is at all times under perfect control of the operator.

By this process the slag from the rolling mills at Lake View, Washington, has been compelled to yield 45 per cent. iron; different kinds of ore have been reduced in 40 minutes to iron and steel and fine samples of iron have been produced in from 16 to 20 minutes from the black sand obtained on the beach at Gray's Harbor, Washington. All kinds of ore have been treated.

The new smelter is constructed mostly of brick. A set of air and gas chambers is located on opposite sides of the hearth or real furnace. In order to start the furnace, a fire is made with wood or coal in the furnace and maintained until the gas generating chambers are well heated: the process then begins by introducing crude petroleum oil into one of these apartments by allowing it to drip from conductors above on to the hot brick, forming carbon gas; steam is introduced into a second apartment and forms hydrogen gas, while air passing through the third chamber furnishes all the draft or blast required and supplies the oxygen necessary, each of the gases then being conveyed to the furnace where they commingle and where combustion takes place, producing as high as 6,500 degrees of heat. The heat is then driven across the furnace or hearth by the natural draft and comes in direct contact

with the other gas chambers, thereby preparing them for the generation of gas.

The heat is reversed from side to side through the furnace every 20 minutes or half hour by shutting off the oil, steam and air from one set of chambers and immediately admitting them into the other chambers by convenient cocks and shutoffs.

The advantages of this process are that it will treat all kinds of ore without fluxing or roasting, that the gasses thus scientifically blended destroy all impurities in the ore treated, that the molten metals are separated by gravity and that only the poisonous gases escape to the smoke stack.

The fact that one man can handle any single part of one of these new smelters, except a small boiler, also recommends the new process, for it makes it possible to erect a plant in the most remote mining districts and at a cost within the reach of any prospector or miner who can make a good showing to any business man who has a little money to invest, for the reason that a plant that will handle 100 tons of ore per day can be erected for \$5,000 and the ore reduced at a cost of less than \$1 per ton.

It is the opinion of many practical furnace men and mining men who have seen the new process working and have seen the results that it will revolutionize the mining industry of the world and turn waste into wealth.

EXTRACTING ORE BY MAGNETISM.

DAILY press accounts of the Edison process of extracting iron ore by magnetism, as in operation at the plant in New Jersey, give the following:

There are three sets of the magnets—74 in the first set, 320 in the second, and 320 more in the third set. The magnets are about 4 feet long, and the ore, on its journeyings, has to pass a mile of faces of magnets. Right here is presented what to the layman is a most remarkable feature of the process. The magnets are arranged in tiers of 5 in a tier. The top one is weak, but they increase in strength as they go down, until the bottom one is very powerful.

The ground rock passes through the screen and starts downward in front of the magnets. The magnets jerk the particles of iron oxide from the mass as they descend, but the iron does not adhere to the magnets. And right here is a most surprising sight. The ore, in passing the first magnet, inclines toward it. As it rushes down, the ore swings in more toward the magnets, until, as it reaches the last one, it curves inward and under it in a half-circle, without any particle of ore adhering to the magnet.

In the first passage past the magnets, small quantities of stone stick to the ore. The ore is carried upward and started down before the second lot of magnets, after passing through a mill, which grinds off the particles of stone. The first set of magnets extract 62 per cent. of oxide of iron. When the mass has passed the second set of magnets, there is in it 75 per cent. of oxide of iron. Then it is ground again and passes the third and most powerful set of magnets, which takes the phosphates out and makes Bessemer of it.

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.

The Canadian Miner.

ISSUED ONCE A WEEK

AND

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MR. LAURIER SEES THE POINT.

It is hopeful for a country when its responsible head has a true appreciation of the most pressing needs of that country. The discussions that hang around "Free Trade" and "Protection" are comparatively insignificant when we get to bottom facts, not of theory but of the actual circumstances of the Dominion. It is gratifying to find that Mr. Laurier realizes our chief needs and our great opportunity. Asked by a correspondent of the *London Mail* "what interests the Dominion and its people more than anything else at the present moment?" his answer was:

"Immigration. We want more people. Canada is a rich and fertile country, with exceptional advantages. Her credit stands higher than the credit of any other Imperial colony. The masses of our people are industrious, and her producing power is steadily on the increase. But even with manifold advantages we have lacked a magnet—a "boom," which would send people hither as they were sent to Australia or South Africa. And now I think we have found that magnet. The magnet I refer to is gold. It is the most powerful factor in immigration. It brings farmers as well as miners, artisans and professors; and one has only to travel through the North-West to feel that the future settlement of that part of Canada is assured. Towns and villages are springing up in a night, and there is plenty of good land and to spare."

This is wholesomely refreshing. We can only hope that the less enlightened, permanently unacute, discernment of some of our brilliant premier's colleagues will not hinder the practical measures that would naturally, if unhampered, be Mr. Laurier's policy. We have suffered enough in the past from narrow views (however honestly they may have been held) both under Liberal and Liberal Conservative rule. We have still the echoes of what some people consider a noble, but which after all seems an ignoble strife, ringing in our ears. In the new mineral development peace and good

will ought to reign; for, at least in regard to our precious metals, the element of competition, of making our man suffer that another may gain is removed.

With the eyes of the world more and more fixed upon Canada, and a tide of capital and immigration more and more pouring in upon us, a firm hand and a firm enlightened policy, equal in hopefulness and boldness to the occasion that has arisen and will be more important as time rolls by, will be appreciated and supported by the people at large. It only wants courage to ignore the selfishness of cities that want to absorb everything, of capitalists who think a dollar is worth more than a man, and of labor demagogues who are jealous of the immigration of the able-bodied and skilled men needed to develop this country. Our cities are not always the best seats of manufacture, and the people who work in factories have generally a happier and more wholesome life when these factories are scattered through our towns wherever natural facilities are present as economic factors. As to labor, whatever be the cause of the modern tendency to flock into cities, the tendency is to be regretted. Half and more of the grievances of labor are due to it. A clear-out to new centres of new industries, and to the opportunities in farming, artisan employment and trade which these new centres will afford, is something greatly to be desired, even if city property holders should have to let the value of their property remain stationary or recede until the natural development of the country makes the cities increasing commercial—not manufacturing—centres. We can safely, in the interests of the country, stand smelters and furnaces and other lines of manufacture which require cheap water-freights in abundance; but with the cheap water powers of Muskoka and a hundred other accessible districts going to waste, there are many industries that—from a national point of view—our bigger cities could do without.

We may have to look to Washington, but it will mainly be for the sake of countermining hostile legislation. We have enough in ourselves to make a market for nineteen-twentieths of our agricultural productions, and the rest should go not to a country which produces the same things in abundance and exports the surplus, but to the crowded parts of the world where that surplus is needed, or to countries unable to produce our products. We can do the middleman function for ourselves.

A vigorous mining policy, a good railway and brilliant waterway policy are the supreme material needs of Canada to-day. Immigration will accompany them from their inception and, as their outcome, in the early future, flow in a mighty stream.

THEY say that in some parts of the north and north-west of Ontario the snow covering this winter is very light, and ledges lie exposed. At any rate, notwithstanding the presence of winter, the number of prospectors' applications for locations filed at the Crown Lands Department in January was in the hundreds and there is no abatement yet in the demand for claims.

NOTES AND COMMENTS.

THERE will be a rush of thousands to the north and especially to the north-west of Ontario this spring. But our advice to would-be prospectors is: Don't go if you have not a good deal of pluck, a little money and an outfit. And if you go, have a companion.

IN our School of Practical Science, and in our mining schools, many are training themselves for practical work in the gold fields next summer. And besides there are others fitting themselves for it under private tuition. It is well that is so. A little education in these matters is very useful; it will smoothe the way of the prospector and actual miner.

WE have doubts that the gold mining stock companies that sell unassessable stock at so many cents on the dollar, instead of selling at par, whether in ten cent or dollar shares, will commend themselves to the quieter European investors. At any rate these investors must become acquainted with the system before prejudice in favor of the old style is overcome.

As each month rolls by, the richness of the 1,000 mile long gold field of Ontario is becoming more and more apparent. And the gold nearly everywhere is free-milling. The veins are often larger and longer than anything the world has yet seen, and there are tens of thousands of them. The richness of many of the strikes is remarkable. In fact the conditions are such that a cold-blooded relation of them would seem to most old-country mining investors as either the invention of a "booster" or the delirious ravings of gold fever. The best way for possible investors in Europe is to send out competent experts to investigate. Come and see for yourselves; you will conclude that the half has not been told.

CAPITALISTS who invest in Canadian mines, might with advantage to themselves reside in Canada. We have a large variety of climate, we have the loveliest of scenery, the brightest of skies, and all the variations in surroundings that a cultured or a merely wealthy man or a combination of the two, could desire. We range in climate in Ontario alone, from the heat of cotton-growing Pelee, the warmth and mildness of Southern Ontario with its nine thousand square miles where the peach can grow; its twenty-five thousand square miles where vineyards may flourish, to the bracing north shore of Lake Superior, where amid labyrinths of lake and stream, snaps of the Arctic descend in winter for a few days at a time under a latitude the same as that of Paris, and suns as bright as any in France. Come on and stay with us.

ENCOURAGEMENT by way of financial aid to stamp-mills for our free-milling gold ores, and smelters as supply the needs of pocket nickel deposits as those of the Sudbury country, should not be neglected in the shaping of the future policy of either Provincial or Dominion Governments. The bigger mines, or rather real mines, generally find it most convenient and profitable to erect stamp-mills of their own. But where these cannot be used by others, or where a sufficiently large group of developmental properties are found, turning out paying-ore, as most of our developments in Ontario do, from the start, a government-aided stamp-mill would be a great aid in the rapid development and settling of our Ontario north and north-west.

It is not always best to apply too rigidly the idea of people depending upon themselves—not if the country is to grow. If necessary, better reduce the bonus to railways, and give the reduction to mills and smelters that will furnish freight to the railways, and so help to make these railways pay.

This the Jubilee year of the British Empire—marking the completion of sixty years of the reign of Queen Victoria—we may hope, in view of present developments in the country, will mark the beginning of a period equally long of decidedly increased prosperity of the country. Let people and Government unite in boldly judicious enterprises, in pushing the building of railways, electric and steam, wherever needed; in constructing common roads and bridges, to open up the back country; in encouraging the prospector by affording him every facility to secure mining locations; and in improving the waterways and sinking natural channels so that both agriculture and mining may be benefitted. A too cautious policy will make us repeat in the future the mistake of stagnant periods in our past. A bold, vigorous, hopeful policy will lead to rapid increase of wealth and population. Such a policy builds up patriotism, and patriotism in its turn makes the policy the more successful.

THE necessity of the Government taking particular care that names of mining companies should not too closely resemble one another, is pointed out by the history of recent companies formed to work around Saw-Bill Lake, in the Seine River country. Since the formation of the Saw-Bill Lake Gold Mining Company, of Hamilton, notice of application has been given for the incorporation of three companies under the Saw-Bill name: "The" Ground Floor Saw-Bill Gold Mining Company; the West Saw-Bill Gold Mining Company, and Toronto Saw-Bill Gold Mining Company. Of course, the Government cannot always protect people against being imposed upon. But it is within their sphere to see that "pre-empted" designations should not be entrenched upon, either by deliberate intention to trade upon established reputation, or unintentionally, as very often is the case. This should not delay seriously the incorporation of a company which makes a mistake in the choice of a name.

At this dull season of the year, when business has lost the briskness of ante-Christmas times, and has not taken on the activity of spring, and where as in Toronto and much of Southern Ontario the skies are often dark, and rain or snow or slush or dust vary the days, it is pleasing to see some sparkle here and there. Especially so since the real estate boom here is over and the general depression in trade aggravates the local re-action from that peculiar period. People who have occasion to visit the Queen's, the Walker or the Palmer, find activity in any of them. Many are the guests registered every day from the mining centres of both Eastern and Western Canada, men who have come here, as to a natural centre, to do business with the manufacturers and others who are prepared to furnish machinery or supplies, and men also in large numbers seeking to find investors in their mines and who meet from day to day directors and leading shareholders in the many mining companies that have sprung up in the city and throughout the province. The scene is animating on many occasions when the corridors and sitting rooms are crowded. These mining men the hotels find the most pro-

fitable kind of guests that visit the city. Toronto has taken the lead in mining matters and hopes to keep it.

Nor alone Rat Portage, the gateway to the Lake of the Woods gold-field, Rossland and the growing towns of the Columbia and Kootenay rivers, in the far west, are crowded so that houses or even rooms are not to be had. The same report comes from Kamloops, where a mining excitement has sprung up and where development work has begun with good promise. Probably all the towns and villages of the mineral country of the far west are about in same position. The *Inland Sentinel* of Kamloops urges immediate action in view of the great influx of people to take place in the spring from Eastern Canada and Britain and more especially from the States. They have been pouring in from the gold and silver districts of California and the Rocky region, and according to advices received, there will be a large inrush from eastern cities and notably from Chicago. The demand for carpenters and plasterers especially will be large. But, as has always been the case, where there is congestion and more or less depression in trade elsewhere, the relief given by the sudden rise of a new mining industry is but temporary. Men comfortable here should hesitate before taking their chances. Just at present the best camps have too large a population for the development already in progress.

A CORRESPONDENT asks "what shares would you advise one to purchase that would likely pay in the near future?" We would not like to advise amongst the shares of a number of companies that are operating good properties. There are several Slocan and Trail Creek properties paying or likely to pay in the near future. The same is true of quite as many mines in the Lake of the Woods and Seine River districts in Ontario. Perhaps Ontario mines will return the earliest dividends. The ore is free-milling and costs little in the extraction of gold, and the veins are richer as a rule. But a number of the Ontario mines and prospects have passed into British hands and the stock is not for sale. We can only advise to learn as much as possible about the mines. A safe rule in deciding on investments is to see that sufficient development work has been done, that the proportion of stock allotted to development is large and the directors men of trustworthy character. A reader who follows the information given from time to time in the CANADIAN MINER will learn how to best invest his money. There are very many companies advertised, which, however good their properties may be, are organized in a way that does not preclude exploitation for the benefit of a few. Most of the companies have done very little development work. Their properties are practically untested. Assays while valuable, do not count nearly so much as tests of large quantities of ore by milling or smelting.

WHOLESOME sentiment in regard to the relations which ought to exist between the United States and Great Britain is not absent amongst the large class in the Republic which has been educated beyond the wretched "history" taught in the public schools of the U.S., and has no demagogic interest to serve. Our esteemed contemporary the *Engineering and Mining Journal*, of New York, voices this extended wholesomeness of tone when it says: "Some of our more or less illustrious senators, and a few of the ill-tempered jingo newspapers seem to think that a treaty of arbitration with England would be a very good thing,

provided the Alaska boundary dispute, the Monroe Doctrine, the Nicaragua Canal, and anything else we may think best, should be excluded from its operation. In fact while the arbitration treaty should, of course, be binding on Great Britain, it should not be binding on the United States, except when we so wished. The jingo New York *Sun* claims that we should not bind ourselves to arbitrate our difficulties with England, but should wait until that hateful country gets into war with other European nations, as this luminous exponent of barbarism expects and hopes she will do within a few years, and then we can take advantage of her difficulties and make her pay liberally for peace with us.

"According to these enlightened authorities arbitration is all right when it is strictly stipulated that it is 'heads I win, tails you lose.' This might be expected of a benighted barbarian of South Africa, but is wholly unworthy of and insulting to a civilized people, which we Americans claim to be. The United States should set a better example to the civilized world. What is an arbitration treaty good for unless it covers all subjects of dispute?"

THE *Engineering and Mining Journal*, of New York, ascribes the fact that the Colar gold field of India has made as steady progress, probably, as any of the minor gold fields of the world, largely to this:—"The field has been worked in a quiet business-like way; there was no booming, but steady development and prospecting." The total production last year reached a value of \$5,821,600, and in six years has shown a gain of 147 per cent. The gain in 1896 was twenty-nine per cent. over 1895, chiefly because two or three new companies were added to the list of those in operation. Operations in the district have been chiefly in the hands of four companies whose mines and mills have furnished ninety-five per cent. of the entire production. These four have for several years paid good dividends steadily. Three other companies, the Balaghat-Mysore, the Gold Fields of Mysore, and the Mysore West and Wynaad, have operated with less success, owing to faults in location and management. In 1896 a new company, the Coromandel, made its appearance as a producer and the property promises to pay well. Amongst the four leading companies, the Mysore, the Champion Reef, the Nundydroog and the Ooregum, the Mysore led with an average return of \$30.38, while the Ooregum averaged \$18.63. The largest mill in operation is that of the Champion Reef, which has 140 stamps, or forty more than in the previous year. The average return 1.22 oz. per ton was smaller than before, probably because, in the haste to supply the additional stamps, less care was taken in the sorting. Nearly all the ore is free milling and till lately all the gold was obtained by amalgamation. The cyanide process has met with some success, though the proportion of gold obtained in this way is not so great as in the Transvaal and in some other gold districts. The largest mine worked 70,972 tons of ore.

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

PERSONAL.

MR. W. H. BLEASDELL's new quarters at 50 Yonge Street are amongst the most cheerful and attractive of the mining brokerage offices in the city.

Of the well known restaurants which have in some way become rallying centres for the mining men of the city, Harry Morgan's on Jordan Street has decidedly taken the lead. At lunch hours little is talked of but mining, and several deals have been known to have been put through in the secluded smoking room of this cafe.

MR. JAMES DICKENSON, editor of the North Bay Dispatch is in the city. He is one of the veteran mining men of North Western Ontario. He says that he knows of no case of claim jumping, and thinks a prospector, who under the safeguards of the present law, allows himself to be cheated out of a claim is much lacking in common sense.

RAT PORTAGE is a natural point of supply for as large a district as Peninsular Ontario west of Toronto. It will more and more attract to it the trade of the rapidly growing Rainy River, Rainy Lake and the Seine districts as well as the Lake of the Woods, and minor districts near at hand. The Rat Portage Hardware Company, appreciates the fact, and looks for a harvest from prospectors and miners to say nothing of agriculturists. Likewise does the firm A. Gibson & Co., already installed in the meat and general provisions trade. They both know that Eastern men going up are apt to be puzzled what to do about these necessities. They need not be puzzled longer if they read this journal.

ONTARIO NEWS.

Lake of the Woods.

(Special Correspondence from Rat Portage.)

On location McA. 51, owned by Mr. R. H. Ahn, the development work done to date has exposed a large body of good pay ore. The two veins are 3 feet and 15 feet wide respectively; shafts have sunk to a depth of over 20 feet; the values of the ore are \$17.50 and \$10.00 a ton respectively, this being the average of several assays. It is proposed to ship a large quantity of this ore to the Reduction Works in the spring, as the tests already made show that this can be done at a good profit.

The work at Gold Hill is progressing favorably; there are two shafts on this property, one on the Black Jack over 100 feet, the other on the Pebble vein, Gold Hill property, over 120 feet. The Pebble vein is widening rapidly and showing a body of strong, clean quartz. The gangue is about 4½ feet from wall to wall. It is the intention of the company to cross-cut at a depth of 150 feet to the large and rich vein lying about 60 feet to the west. There are comfortable camps on the property and a 10 stamp mill. It is about 17 miles from Rat Portage.

Mr. E. F. Kendall has had a contract crew at work for some weeks past on his location known as Mineral Point, on the north shore of Echo Bay, about twenty miles from the town. An adit has been run into the face of the ridge from the water's edge; one vein has already been struck at a distance of about 50 feet, giving evidence of a large body of good quartz. The tunnel will be continued to 80 feet and he expects to strike the other vein. This is a very promising property, the surface croppings of the veins showing a good deal of free gold and giving evidence of a rich deposit. Mr. Kendall is also opening up his property on Kendall's Inlet where a gang of Swedes have been engaged for some time in sinking three shafts on

two different veins; he reports good clean walls on both veins and ore which assays \$40.00. We shall probably hear more of these properties in the near future.

The Colcleugh Mining Co. are pushing work vigorously on La Mascotte, an extremely rich property owned by them on Girard Lake. Girard Lake lies about one mile from the extremity of Witch Bay on the Lake of the Woods, about 40 miles from town. The shaft has exposed a very considerable width of vein from which the pannings are something phenomenal. It is, I believe, the intention of the Company to ship a large quantity of their ore to be milled at the reduction works at Rat Portage as soon as navigation opens. If this mill run should carry the value which is being given up to date by the numerous assays, it will put the company in a position to do a considerable amount of work without further expense.

I am informed that the Dominion Gold Mining and Reduction Company contemplate enlarging their plant so as to be able to do custom work by the latest and most approved methods. This will include chlorination, the cyanide process and electrical precipitation. The company are making a point of doing all custom work under the direction of those immediately interested if so desired, so that parties wishing test runs made of their ore may send their own experts or managers to superintend the process from beginning to end. This mill is now in first-rate condition and when the new additions have been made, for which plans are now being prepared, it will be the most perfectly equipped establishment of its kind in Canada.

A WOLF STORY.

A young prospector on Eagle Lake, a short distance east of Rat Portage, had a claim he was anxious to sell to a Rat Portage company. Their representative instructed him to put in a shot and expose his find, and shortly afterwards went down to inspect the location. He was met at the station by the young prospector and asked him what showing he had in his vein. It turned out that he had started for his property, but, seeing a multitude of wolf tracks, had turned back thinking discretion the better part of valor. "Blamed if I am going to chase them out of the drift every morning," he remarked—and the deal was declared off.—L.

The people of Rat Portage, realizing the extra demands that there will be for accommodation next spring, are making extensive preparations for the same. Both the Russel House and the Hilliard House contemplate putting on extra wings, as even now they are taxed to their utmost to accommodate the daily arrivals of visitors.

Mr. A. Carmichael has already commenced operations on two stores which he is erecting next to R. H. Ahn's office on Main street. There is also, in the course of erection, a wholesale grocery house and a large warehouse, both of which are nearing completion. Mr. R. H. Ahn, manager of the Reduction Works, is also erecting a boarding-house, next to the works, for the accommodation of his men.

Mr. Fraser, the government engineer, has been in town for the last two weeks, looking after arrangements for dredging Rainy River. His party already have their camp in place, and as soon as possible will begin work. This will open up navigation for boats of all sizes between here and Rainy Lake. A petition to the Dominion Government to erect a lock and dam at Ash Rapids has been circulating around town, with a great many signatures attached, for nearly everyone, and especially those connected with mining, realize the great advantage to be derived therefrom. The way

things are now, all boats going into Shoal Lake, at nearly all seasons, have to tranship before doing so, on account of the shallow entrance, while, with the lock there, holding back the water, boats will be able to effect an entrance at all seasons.

A. G. P.

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Capt. Williams is off examining properties in the Manitou country.

At Black Sturgeon mine two crews are at work and operations are active.

Mr. Dunbar, C.E., M.E., from Mexico, has located himself at Rat Portage.

R. H. Ahn's new diamond drill outfit has arrived, and will shortly be put in operation.

At Bigston bay Mr. Thos. Nichol has a gang of men at work stripping a very promising vein.

Mr. Wm. Caldwell says location H.P. 301, Manitou district, has been sold to an English company.

Camps are going up on Darlington Bay, west of Rat Portage, and preparations are being made for sinking.

The two shafts on the Trojan mine are now down about 30 feet. It is said a careful assay of the property went slightly over \$60 per ton.

At the Master Jack mine on the east side of the lake, the shaft is down nearly 100 feet. At a depth of, say, 60 feet, drifting has been done both ways to the extent of 75 feet. Another drift is also being carried on at a lower level. All the drifts reveal large bodies of ore. The hanging wall is very defined.

Anent the stories of claim-jumping told in a Toronto daily paper, the Rat Portage News says it "has failed to find one instance where injustice has knowingly been done any applicant for mining lands by the Crown Lands Department. There is much wild talk, but facts showing injustice to any individual are not forthcoming."

Mr. C. B. Palmer, son of Mr. J. C. Palmer, of the Palmer House, Toronto, has taken an option on the Helen May mine, a promising property in the Shoal Lake, near the Mikado mine. Considerable development has been done. One shaft is down 27 feet, and another 25 feet. In both instances the vein is fully 28 feet wide, and is said to be traceable for a mile or over.

"On Friday," says a Rat Portage correspondent of the Globe, "I ran up against a prospector who had just reached town from the neighborhood of Shoal Lake.

"Say," he said, "I have an item for you. Do you know that during this trip I came upon three squaws who had been out prospecting? They had samples of rock with them, and gave me to understand that their good man kept them pretty well employed prospecting during the whole of the time. They also informed me that they were never permitted to wander outside a circle of five miles from home."

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

Prospectors, says the Rat Portage News, are crowding into the War Eagle lake district, equipped with snowshoes, picks, etc. Numbers of them may be seen any morning wending their way to this new Eldorado. A large

number of locations have been taken up on both sides of the track, some within a very short distance of Keewatin (a village near Rat Portage). It is rumored that rich finds have been made, principally by Keewatinites. Some well-known mining speculators of Rat Portage are also casting their eyes in this direction, and incidentally their nets. Several of these properties are being developed with exceedingly good results, and without doubt, will give great encouragement to owners in the vicinity to go and do likewise.

A special to the *Globe* from Rat Portage says:—"Dr. Selwyn's expression of opinion relative to the probable extent and value of Canada's mineral resources caused a ripple of mild amusement to traverse the waters of the Lake of the Woods, or probably would have done so, if the said waters had not been comfortably stowed away under two or three feet of ice, a covering in every way typical of the state of mind which the average western Algomian offers to the eminent geologists of the east, when they venture forth to discuss the mining possibilities of the district. There was a time when we used to take the excellent professor's learned disquisitions very seriously indeed, and the prompt and emphatic manner in which he sat upon our budding aspirations to be regarded as a mining country caused us no end of pain and considerable embarrassment. That time has passed forever, however, and to-day our mining men appear to delight in discovering gold under the exact conditions in which the geologists declare it never should appear. I was glad to observe that Mr. Hamilton Merritt, who has always been a friend of our district and a believer in its capacities as a gold-producer, spoke up in our behalf, and, inasmuch as Mr. Merritt has seen most of the mines in present operation in the district, while Dr. Selwyn has never seen one of them, it will be easily understood, we are satisfied, that both gentlemen should express themselves as they did. If anyone doubts our right to be regarded as a mining country, he can easily satisfy himself on that head by taking a short trip through the district."

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Sudbury.

The pretty town of Sudbury, away far north, where dust and mud do not annoy citizens so much as in Toronto, is in a sort of half-repose, for the country round about is covered with a deep mantle of snow. But there is a dreamy activity going on all the same. The sun sets and rises in a cheerful glow of gold, and McCharles and D. O'Connor, and many others get out of bed early and stand in the frosty air to behold it at dawn, and do not hurry to supper, lest they might miss the golden glory of eventide. In the daytime gold and silver streak the landscape against the hornblende outlines of the winter woods. At night anthraxolitic blackness in distant objects soothes the brow of care of each shareholder in the Sudbury Coal Mining Company, and is sweetly suggestive, and induces quiet sleep and pleasant dreams. When the moon is sailing high, it and the fleecy clouds above, and the pyritic sparkling snow beneath call forth sad if hopeful thoughts of nickel, and a vague sense of silver somewhere around.

But soon will come the spring; and everything—the solar orb, the people and vegetation—is getting ready for the time when the brooks shall ripple, the lakes lie sparkling in the sun, the violets and rhubarbs peep up in the gardens, the pines take on a richer green, and the catkins droop on the willows, and when, too,

"The bold prospectors cover
All the land and water over."

But just at present there is little of fresh mining news. The *Sudbury Journal* gives the following items:—

Mr. Wm. Peters, superintendent of the Em-

press mine at Jackfish Bay, went west on Monday night with 12 men whom he had engaged at Negaunee, Mich., including a blacksmith, carpenter, machine men and helpers. Mr. Peters informed us that he was unable to procure competent machine men in this country, which seems to us somewhat strange. The probability is that equally good men will be discharged to make room for these imported aliens. The Americans should get a dose of their own medicine, and we trust the Dominion Government at its next session will pass an alien law excluding American workmen from this country.

Mr. Jas. Dobie, of Thessalon, reports that prospecting in that vicinity is very brisk.

The *Sundridge Echo* says there is good evidence to show that Burk's Falls is in the centre of a territory rich in mineral of different kinds, and considerable prospecting will be done early in the spring.

It is reported that President Quibell of the Gold Mining Company of Sudbury has purchased the McVittie coal mine in Fairbank township for \$75,000, the original owners accepting stock in the new company in part payment.

The discovery of several deposits of mica in the western portion of Nipissing is likely to prove important. The mica is found in the "contact" between the Laurentian and Huronian formations, in strikes of granite or gneiss, with large quantities of felspar associated. The quality is said to be equal to the best North Carolina brand. It turns out in large, clear, white crystals, and has, when trimmed, a market value of from \$4,000 per ton up.

The *Sudbury News* says: "An extraordinary advance has taken place in the stock of the French Nickel Company within the past few weeks. In December last the stock was quoted at 125 francs a share, and in the first week in January at 165, and the second week at 310. The reason given for this sudden and great advance in the price of the stock is that large contracts for guns are to be given out soon by both France and Germany, and that enormous quantities of nickel-steel will be required for this purpose for several years to come."

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Seine River.

About 15 teams are engaged in the transportation of machinery and supplies to the Saw-Bill Lake mine, and between 45 and 50 men.

The Folber-Hammond dyke adjoining the Saw-bill Lake mine, is a very large body of ore and is said to give a high average assay. Seven pits have been sunk upon it, varying in depth from 6 to 22 feet, and all are said to be very promising.

The directors of the Hawk Bay Gold Mining Co., at Hamilton on the 16th inst, elected F. C. Bruce, president; H. C. Beckett, vice-president; H. A. Wiley, managing-director and H. W. Kittson, sec.-treas. Certificates will be mailed to shareholders as early as possible. The managing-director reported satisfactorily on the progress of the work at the mine, the shaft being down over 70 feet, and the vein about four feet in width, and showing a much richer grade of ore as depth is attained.

The Olive Mine, says the *Algoma Courier*, is now at a depth of 54 feet in the shaft and has widened out one foot in sinking the last three. They are now sinking three shafts, and all show free gold, the last assay yielding \$424 per ton. At the Foley mine the crusher is in operation and everything indicates a big season, with 20,000 people in the district next summer. The mail service is said, however, to be simply outrageous; the mail due from Rat Portage January 23rd had not arrived at noon January

28th, resulting in all the miners and business men sending their mail matter by private courier to Hardin, Crane Lake, Minn.

Latest advices from the Foley mines state that the 20 stamp mill started on Monday, February 15th, and if sufficient miners can be got will be kept going straight along unless stopped by very severe weather when it will be too cold in the mill for amalgamating. Ten first class single hand miners, who will take contracts to stope ore on veins from 12 to 15 inches wide at \$4.00 per ton; on veins from 2 to 3 feet wide at \$1.50 per ton and on the Jumbo, 5½ feet wide, at \$1.00 per ton, are wanted immediately. They will be expected to pay their own cost of powder, caps, etc. The cross-cut at the 160 foot level reached the Jumbo vein at a distance of 109 feet. The vein when squared off measured 5 feet 7 inches in width, was well mineralized and panned gold, and is expected to run higher in assays than the surface, which according to Mr. Chewett assayed \$11 per ton. It is expected that this particular vein can be mined and milled for about \$3 per ton, and the Manager estimates as ore practically in sight, from the result of the strike, 30,000 tons. The out-crop on the surface was about 1,000 feet long, averaging about 5 feet in width.

SAW-BILL AND HAWK BAY GOLD MINES.

These companies have now between 15 and 20 teams engaged in the transportation of supplies and machinery between Bonheur Station and the mines.

There will be over 20 carloads of machinery and supplies for these two companies, which will have to be teamed between now and the opening of navigation.

The stamp mill for Saw-Bill will reach Bonheur Station this week. The engines and boilers from the Waterous Engine Company of Brantford were shipped Saturday. The compressor plant for Hawk Bay is to be shipped this week.

A government road from Bonheur to the Seine River that could be used both winter and summer, would open up that district, and be of incalculable benefit in affording opportunities for the development of the upper Seine. No heavy supplies can be taken in now in the summer, and this practically means that the development is retarded at least six months in twelve every year until this road is completed.

Mr. H. A. Wiley, the vice-president of the Saw-Bill Lake Gold Mining Company, visited Hawk Bay last week and reports that the shaft there is down nearly 70 feet, and the vein has a width of about four feet, and the ore is richly mineralized. The steam hoist is being erected, and as soon as this is in operation much more rapid progress will be made. A large force of surface men are at work preparing for the summer.

Mr. Wiley also visited the Saw-Bill Mine and writes as follows:—"The vein is, if anything, richer than ever. I was astonished at the showing, notwithstanding that I knew it was improving daily. I brought in some few samples literally full of large nuggets of free gold. I cannot say how much I consider the ore will go, but if the estimated value originally put on the ore were doubled it would be well within the mark. All that is needed now to make the camp a success is to have our machinery rushed through, set up, and get the stamps to work pounding out the gold, because it is here and in no limited quantities."

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The Madoc Region.

Besides the big English syndicate now operating at Deloro, a second one is contem-

plating establishing reduction works in Hastings county.

The well-known Ledyard gold mine is again alive, and about twenty-five men are employed getting out rock.

Mr. Ed. Cowain is working a mine south of Stirling village, looking for coal, and reports finding a fine show of gold.

Besides abounding in deposits of free and arsenical gold ores, iron and other minerals, the region is thought to contain oil, and boring has been begun on Green's farm in the Oak hills twelve miles north of Belleville,

Mining in this locality is still on the boom, says the Marmora correspondent of the *Stirling News-Argus*. We understand from good authority that a syndicate are now buying up properties in this section and in Lake Township. It is stated that they intend buying up six miles square in one block if possible. Lake Township has some mineral as well as Marmora. Several fine specimens have been shown to the writer, which were got in the 4th, 5th and 6th Concessions of the Township of Lake, directly north of Marmora.

In a letter to Mayor Johnson of Belleville, from Mr. A. F. Wood of Madoc, the statement is made that a very rich strike has been made at the Craig gold mine near Bannockburn. The mine is located about seven miles west of Bannockburn, and is the property of City Clerk Robertson and Col. Jas. Brown of Belleville, Mr. Peter Vancleek of Madoc and Mr. James Maitland of Bannockburn. Several years ago an expert went over the property and pronounced it to be a good lead. He at that time offered \$15,000 for it but was refused.

At an enthusiastic public meeting in Belleville the other day it was decided to take measures to attract British and Canadian capital to the mining region lying north of that city, and the following were appointed a committee to arrange a plan of campaign, and meet the Ontario Government in regard to the matter: Sir Mackenzie Bowell, Mayor Johnson, Aldermen Hungerford, Brown and Falkiner, Messrs. J. M. Hurley, M. P., H. Corby, M. P., W. B. Northrup, U. E. Thompson, D. B. Burdett, D. R. Leavens, T. S. Carman, Joseph James, J. McFee, F. Landenberger and A. M. Chisholm.

Wahnapiatae.

The Crystal mine at the north-east end of Wahnapiatae Lake, which is now a fully developed property, will soon be producing gold bricks, as all the machinery for the mill is being hauled in and will in all probability be in full blast by the end of May.

Mr. John Galt, C. E. and M. E., who has just returned from the Gold Cliff property near Wahnapiatae Lake, reports rapid and satisfactory progress being made with the tunnel which is being driven into the cliff. Although only a month's work has been spent, the tunnel is already in about 50 feet, and by the end of next month Mr. Galt expects to reach the ore body. This property is said to promise very well, and already has camp buildings, consisting of men's sleeping compartment, dining-room and kitchen, with store house and cellar, and also an office building, stable and blacksmith shop.

A Rival to Sudbury Coal.

Mr. Martin Millar, a well-known citizen of Pettewawa, writes us that he has discovered coal within fifteen miles of that place. He says it appears to be anthracite of good quality and he can furnish samples that should satisfy any one interested. The mine has the advantage of being easy to reach. Ordinarily we should

be inclined to treat Mr. Millar's statement and discovery with a pshaw of incredulity, but after the discovery in the same line at Sudbury last year one's faith in even old and well established geological dicta is necessarily become too weakened to permit of the matter being dismissed so summarily and cavalierly. We can only hope that Mr. Millar has found a veritable coal mine and that he will reap the reward such a discovery merits.—*Observer*.

Chips.

Belleville and Deseronto are both trying to secure a smelter to treat the ores of Hastings county.

The third vein at the Empress, Jack Fish Bay, is ten feet wide, all milling rock. It was only two feet on the surface.

The estimates brought down this week in the Ontario Legislature, include \$29,100 for mining development, against \$16,050 last year, and an item of \$35,600 for mining roads. In the increases under the first heading are included, \$2,250 for an office at Rat Portage; \$1,500 for an Inspector of Mines west; \$1,000 for exploration by a geologist and mineralogist; \$500 for geological exploration of base lines; \$1,000 for summer mining schools; \$800 for experimental treatment of ores at Toronto and Kingston; and \$5,000 for special services. The mining roads' expenditure includes 33 miles of wagon road, from English River or Bonheur on the C.P.R., to Saw-Bill Lake, \$12,000; Jackfish Bay and Long Lake road, \$600; Empress mine, 133 miles of wagon road, \$1,000; Moss township, \$600; Rat Portage and Rainy Lake mining road, \$300; Rossland mining road, \$600; Turtle Lake, \$2,000; Wabigoon, Manitou and Rainy Lake, \$8,000; other roads, \$10,000.

BRITISH COLUMBIA.

Rossland.

Hon. G. E. Foster is in Rossland.

Assays of ore taken from the ledge of Queen Victoria on Saturday show \$36 of gold per ton.

J. F. McLaughlin, formerly of Toronto, has been elected president of the newly-formed Board of Trade, and D. D. Boyle vice-president.

The Le Roi deal for \$4,500,000 is off. The squatters are to be ejected. The Gold King property has been sold. Four feet of solid ore was struck this week in the Heather Bell west drift, and the ore is still widening.

A meeting was held on Monday night to petition the Provincial Government to amend the Incorporation Act so as to permit American citizens to vote in civic elections. The meeting proved a farce and gave itself a six months' hoist.

Shipments from the Rossland mines from Jan. 1st to Feb. 7th aggregated 5,085 tons. For week ending Feb. 14th, the shipments were: Le Roi, 720 tons; War Eagle, 250; Iron Mask, 90; Kootenay and Columbia, 65; Josie, 84.

A special to the *Mail* says it is reported that an option has been given to an English syndicate on the Jumbo at a price approximating \$250,000. Ore taken from the winze in this mine shows \$104 gold. A strike has been made on Annie E., Deer Park mountain, of a two-foot vein 40 feet down the shaft.

Rossland is likely to be incorporated as a city before the end of March. It will have a mayor and nine aldermen. Candidates for these positions must have property qualification and must have resided at least three months in Rossland. Voters, of course, must be naturalized. The corporation is to be empowered to

borrow \$50,000 for speedy local improvements such as fire protection and a much needed sewerage system.

The Le Roi mine employs 160 men, and in January paid out \$14,000 for salaries and wages, and \$20,000 for fuel supplies, etc. One hundred and fifty tons of ore are now hoisted and shipped daily, and of this 50 tons go to the Trail smelter, and the remainder to Everett, Tacoma and East Helena. The new machinery being put in has cost \$70,000. It will be in operation in less than three weeks. When completed the outfit will permit of operating 40 drills, and the new hoist will have a capacity of 500 tons a day.

Slocan.

J. F. Ritchie of Rossland has bought the Slocan Chief and the Echo properties for \$5,000.

It is said that the Argo, near Sandon, which has had 300 feet of work done on it, has been bonded for \$25,000.

Said a recent visitor to Kaslo, B.C., the other day:—"Kaslo is a lively town of 1,200 to 1,500 people, and its merchants are doing well. I went out the first morning after arriving there about 8.30 o'clock to have a shave, but none of the barber shops were open. I then learned that business there does not begin until about 10 o'clock in the forenoon. The people are fond of social intercourse, and enjoy themselves until 1 or 2 o'clock in the morning, and are in no hurry to begin business in the morning."

Cariboo.

THE Macene Gravel Mining Co., Cariboo, are receiving a lot of supplies and machinery.

Messrs. E. M. Du Marius and Emille Embert of Paris, France, the former a mining engineer, arrived here on the 19th ult.

A Barkerville correspondent of the *Inland Sentinel* says:—"Active development work is prosecuted on the following quartz ledges: The B.C. (this property was formerly owned by the B.C. Milling and Mining Co. of Victoria), the Consolidated Empire Group, Black Jack Summit, the Pride Group, Group on Grouse Creek, all of which are now under bond to Messrs. Thompson and Marsh.

The Government Reduction Works, which is under lease to the same gentlemen, has just received a second thorough overhauling; another stamp will be added doubling its capacity. A plant has been added for practically testing by every process applicable to the ores of this country. It is the intention to thoroughly prospect and develop these claims and also to make practical mill tests on several hundred tons of these ores, with a view of determining not only the value of the ores, but the best methods of reduction, and also to obtain data for the erection of a large plant should the value be sufficient to justify it. All this work is being done immediately under the management of S. J. Marsh, a mining engineer, who has spent 2½ years in this district, devoting his whole attention to the quartz resources of Cariboo. Very little idea can be formed at present of the importance to this district of this work, being started as it is on so large and practicable a basis. Many attempts have been made in past years to mine and reduce the ores of Cariboo, but they have failed on account of limited capital and lack of facilities. Much attention has been paid by Mr. Marsh to these ores, and scores of tests have been made by him by the cyanide and chlorination processes as well as practicable mill tests on several hundred tons of ore, and although the results have not been made public, it would seem from appa-

ances that he must have some encouragement to proceed with this expensive work. There are now about 30 men employed on this work, and the force will be more than doubled as soon as hoisting machinery can be fitted up and camps got ready. It is also reported that work will be started on six other large groups as soon as the snow will permit.

Kamloops.

Work has commenced on the Kamloops Bonanza.

The Glen Iron Mining Company, have a further contract for 300 tons of ore.

Thirty-nine claims were recorded in the vicinity of Kamloops in the fortnight ending February 4th.

A. G. Thynne is examining a new find of copper ore, the property of the Devon Mining Company at Tranquille.

A further contract has been let for 20 feet to be sunk on the Canada. This claim shows a fine vein of gold-bearing quartz.

Work will be commenced at once on the "Gold from the Grass Roots" mineral claim, the property of the Devon Mining Company, near Jacko Lake.

The last payment has been made by A. G. Thynne, on behalf of Vancouver parties, on "Before the Dawn" mineral claim on Sugar Loaf Mountain.

The first British capital to enter the Kamloops Camp was received on February 3rd, by O. S. Batchelor to close an option held by A. H. Craven on behalf of some English capitalists.

A start has been made on the Bonnie Etta, a claim below the Iron Mask. This claim was staked on a hog back a couple of hundred feet long, and although no chute appeared on the surface the rock was everywhere impregnated with copper ore. At a depth of 3 feet a narrow streak of decomposed copper came in and in 4 feet depth this widened to almost 2 feet of mixed ore.

Midway and Beyond.

The ledge on the Victoria claim, (Rock Creek Gold Mines Co.), has been tapped by a tunnel run thus far 130 feet. Two tunnels are being worked in.

On the Mother Lode in Deadwood camp the tunnel has been driven 185 feet, and more or less mineral has been found since it left the 35 foot mark, but lately the ore suddenly became rich, and for the last 25 feet is said to be cutting through very fine copper gold.

The Fontenoy ledge, (Fontenoy and Ontario, Camp McKinney, claims), has been proved to run 3,000 feet. A series of open cross cuts have been run, all of which have broken into ore. On the Fontenoy a shaft has been sunk 100 feet, with vein large and strong.

Judging by the items in the Midway Advance there is great activity all around Midway in mining matters. Another stamp mill in Camp McKinney proposed; the Minnehaha prospect to be pushed; rich ore taken from No. 7 claim in Central camp; reorganization proposed of a company which formerly did placer mining on Rock creek, are amongst minor news.

Blackwater Creek.

A NEW camp and a marvellously rich one as far as surface indications go, has been established in Lillooet, about 75 miles from Vancouver and is known as the Blackwater camp. The camp is situated in a valley and is most picturesque. The town site, consisting of thousands of acres of perfectly level ground, has been chosen in proximity to the claims. A

stream called the Blackwater Creek runs through the camp into Blackwater Lake, and encircling the camp is a range of very high mountains. The peculiarity of the stream above mentioned is that it carries immense quantities of copper in solution proving a great body of this metal in the vicinity. By several assays it has been ascertained that every 300 gallons of water contains 40 pounds of copper. There are 100 claims in the camp, all of them but prospects as yet. The ones that are attracting most attention, says the *Inland Sentinel*, are a group of three known as the Golden Sceptre group and another trio of claims known as the Bi-Metallic group. In these claims the croppings assay from \$15 to \$17, and in averaging the assays at three or four feet, results were gotten from a few dollars to three or four hundred dollars per ton in gold and silver. The face of the surface rock on the main claims is about 75 feet and can be traced along the surface like a huge ribbon for 100 feet.

East Kootenay.

ITS RICHES IN GOLD, SILVER, LEAD, PETROLEUM AND COAL.

MR. E. A. ELTON of Fort Steele, East Kootenay, B.C., passed through Winnipeg recently and was interviewed by the *Winnipeg Free Press*. We make interesting extracts from his statements in regard to East Kootenay, especially the eastern portion of it. He says: Up a small stream called Parry Creek which enters the Columbia at Fort Steele, a prospector named Sherwood discovered several large ledges of free milling gold quartz ore. There are three separate leads which can be traced a distance of seven or eight miles, the principal ledge being five feet in width of free milling ore assaying from \$56 to \$200 in gold. We don't need a railway so much for our free milling ore as for our silver and refractory ores. These, which we possess in abundance, will have to be shipped; the other can be worked by the erection of stamp mills.

The strongest argument in favor of the Crow's Nest Pass Railway is that we have one of the richest mining countries in the world within 150 miles of the prairie and on the route leading to the West Kootenay mines, but there are others. Such a road would pay because it would pass for its whole length through rich country. Right in the Crow's Nest Pass itself we find really immense bodies of coal, comprising large seams of bituminous and anthracite. Riding along the Crow's Nest Trail, which follows the bottoms adjoining Elk River, the coal can be seen for miles as it crops out between alternate ledges of sandstone high up on the mountain side, some of the seams being over 30 feet in thickness. From Coal creek summit down to Michel creek, a distance of over 100 miles, coal can be seen in places all the way. South of the proposed route about 10 miles are found large quantities of petroleum, while at the entrance of the Kootenay valley numerous veins of high grade copper ore have been located.

Going north from Elk river, and still following the eastern side of the valley, a mineral belt is found which extends for a distance of about fifty miles. This comprises a number of very rich mines, among them: first, the Dibble Group situated 10 miles east of Fort Steele. It is bonded to Sprague & Chisholm Bros., of Montana. A tunnel has been run in 300 feet, allowing a depth of 400 feet. In doing this work four leads have been cut and a fifth one reached. The general average of numerous assays is 150 ounces silver, \$30 in gold and 12 per cent. copper. There is some ore in this mine which runs as high as 1,000 ounces in silver and \$200 in gold.

The North Star mine is the only one in actual

operation. They shipped 4,000 tons of ore by boat last year, and have now 10,000 tons ready. In this mine a solid block of galena ore 300x100x50, is surrounded by tunnels which pass through solid ore. This is not a mine, but a mountain of solid galena ore.

The Sullivan group adjoins the North Star. It is also very rich, the assays giving 59 ounces in silver and 80 per cent. lead to the ton.

Forty claims have been staked off on Parry creek in the free milling ore district, and a town, Johannesburg, has started up there. It has now an hotel, stores, blacksmith shop, etc.

Another rich district is the Moyie Group, of which Messrs. Finch and Connin are proprietors, They have a force of men at work and some 600 feet of tunnelling have been done. There are now connecting the two tunnels by a shaft, the whole hundred feet of which is through solid chutes of ore.

There is no doubt but that the late discoveries of free milling ore will help us out immensely, as transportation is not of so much consequence in connection with gold quartz as it is with silver lead propositions. Without the Crow's Nest railway, we can do very little, and once it does reach us, six months will see more improvement than there has been in the last thirty years.

There is a vast area of country still to be gone over. The prospectors so far, have been generally contented to confine themselves to chosen streams and their tributaries which are comparatively easy of access, leaving the more inaccessible places for some future occasion. There are large areas remaining practically unexplored, including all of the western slope of the Rockies, which forms the eastern side of the Kootenay valley. The present claim owners and prospectors are in a manner forced to confine their operations to the claims they have already staked off, doing their assessment work and waiting for a railroad.

Kootenay Exports.

JUST UNDER A MILLION IN FIVE WEEKS.

The following summary statement of the imports and exports and revenue collected at the port of Nelson during the month of January, is published by The *Nelson Tribune*:-

Port of Nelson.	Value of Imports.	Duty Collected.
Dutiable goods.....	\$111,456	\$31,971.47
Free goods.....	28,652	89.18
Total.....	\$140,108	\$32,062.65
	Value of Exports.	
The mines (3,402 tons of ore).....		\$258,779
Copper matte (1,141 tons).....		416,727
Animals and their produce.....		4,894
Manufactures.....		5,255
Total.....		\$685,655

To this total of \$675,506, which represents the value of the mineral exports of the port of Nelson, must be added the sum of \$94,943, the value of the ore shipped from the Slocan during January, and entered at the outport of Revelstoke, which brings Kootenay's mineral exports for January up to \$770,449. The customs returns for the month just closed are interesting, inasmuch as they show that the volume of Kootenay's export business for the month was greater than that of all the other ports in the Province combined. For the month of January, 1896, the mineral exports of Kootenay, entered at Nelson, were valued at \$146,759, as against \$675,506 for the first month of 1897.

During the first six days of February there were entered for export at the port of Nelson ore and matte from the mines and smelters of southern Kootenay to the value of \$172,843.

The figures for the shipments going out via Revelstoke were not obtainable.

Bullion and Matte.

	Pounds.	Tons.
Trail smelter.....	400,024	250
Hall mines smelter, Nelson, matte	125,560	139
<i>Ore.</i>		
Payne mine, Slocan		32
Kootenay Ore Company.....		17
Whitewater mine, Slocan		17
Rambler mine, Slocan		17
Last Chance mine, Slocan.....		17
Surprise		18
Reco mine, Slocan		15
Slocan Boy mine.....		
Total for week		768

Approximate value, \$172,843; total so far for 1897, 6,097 tons; approximate value, \$953,441.

Yale.

We condense the following Yale items from the *Inland Sentinel*, of Kamloops: Some machinery, etc., for the Queen mine on Yale Creek has arrived. The mine was located in 1888 and some work done then. Now the work of further development is to be resumed under Thomas Robbin of Yale.

Hydraulic work is doing on Hill Bars mine, under management of W. I. Wadleigh, of the Columbia Mining Co. A new substantial dam has been constructed in Hill Bars Creek in place of the one destroyed by the late freshet. The company now have command of 1,500 to 2,000 inches of water.

Pannings.

The following companies will be operating in Omineca country next season:

The Caledonia General Mining Association, Limited Liability, of Victoria.

The Forty-Third Milling and Mining Co., Limited Liability, of Ottawa.

The Omineca Consolidated Hydraulic Mining Co., Limited, of Victoria.

The North Star will be incorporated as soon as expert's report is received.

The Omineca Prospecting and Development Co., Limited Liability, of Victoria.

The May Flower, not incorporated. This is a partnership which was working last year.

The Orphan Boy mine at Big Bend is shortly to have a 20-stamp mill.

The B. C. Legislature has repealed the law requiring any person employed about a mine to take out a free miner's license.

The current number of the *B. C. Gazette* contains notices of 14 new gold mining companies with a capitalization of \$18,000,000.

A few prospectors wandered into East Kootenay in 1895. Up to Jan. 1st 166 mining claims had been filed. During last year 345 locations were made.

MARITIME PROVINCES.

Nova Scotia.

HALF a million of dollars' worth of gold is the showing made, in round figures, by the gold mines of Nova Scotia during 1896. An interesting compilation of the quartz crushed and the gold yielded by 50 mines in that province is made by the *Industrial Advocate* in its February number. The total is 23,847 ounces, valued at \$453,093. Some mills have not yet reported, and the total yield was possibly over the half million. This is likely to be increased in 1897; the journal quoted thinks it would be easy to

double the output, and advises that there be "systematic and thorough work, together with honesty and straightforward methods in availing ourselves of the golden harvest." The names of the producing districts are: Sherbrooke, Caribou, Stormont, Uniacke, Waverley, Oldham, Lake Catcha, Brookfield, Whiteburn, 15-Mile Stream, Central Rawdon, Cow Bay, Renfrew, Montague, Malaga Barrens, Wine Harbor, Gold River, Killag, Tangier.

A LUCKY strike was recently made at the Elk mine, once known as the McDonald mine, at Caribou, Halifax county, N.S. About 20 years ago a very rich strike was made on this property, and it is estimated that in sinking a single shaft to a depth of 90 feet in ground considerably broken not less than \$70,000 in gold was taken out. At this stage the lead was lost and another shaft was started. Different people and companies have worked on this shaft from time to time with indifferent success. Recently the mine was sold for £6,000, including a 5-stamp mill and hoisting and pumping gear. Last week the present owners appear to have got on to the old strike of gold, and it is estimated that in two shots not less than \$3,000 in gold was taken out, the whole easily contained in two small barrels. It would thus appear that these lucky miners have 175 feet of this ore above them alone, to say nothing of what may be underneath. The vein is from six inches to two feet wide, and the quartz recently taken out contains from 10 to 50 per cent. by weight of gold.

AROUND THE CITY.

THERE is a very amusing incident connected with the Minnehaha stock. It happens that the prospector who located the claim was slightly defective in orthography, and in staking the property named it "Minnie Haha." It is so recorded in the Crown Lands office of British Columbia, and must so remain on the records. In the prospectus, when a reference is made to the claim, this spelling is given, while the name of the company is spelled correctly Minnehaha. A great many applicants for prospectuses and stock call attention to the bad spelling, and Messrs. Campbell, Currie & Co., have to make explanations accordingly.

THERE have been some rich finds of late in north-western Ontario. Some reported, and which we have good reason to believe are enormous veins and deposits, we hesitate to give the dimensions of; people would be incredulous. Veins miles in length with a width of hundreds of feet, and assays from surface pits ranging from the tens into the hundreds of dollars per ton, are reported by people who have made examination on the spot. One prospector remarked the other day, in that kind of enthusiasm where you find *in vino veritas*. "Why you can have no idea of it. That vein has 250 billion dollars worth of ore 'in sight,' enough to supply the human race with gold for a thousand years."

COMPANY NOTES.

At the meeting of the shareholders of the Dominion Gold and Silver Mines Development Co., held at the office of Messrs. Hunter & Hunter, barristers, Equity Chambers, on Saturday last, the following officers were elected:—President, Hon. N. Clarke Wallace, M.P.; Vice-Presidents, Hon. J. F. Woods, M.P., and C. A. Colquhoun, Mayor

of Hamilton; directors, Hon. Lieut.-Col. Tisdale, M.P., Dr. Sproule, M.P., W. H. Hunter, Toronto; F. J. Claxton, Chairman of the Committee on Mines, Victoria Board of Trade; J. N. Ker; G. A. Harper, Assistant Supreme Chief Ranger, I.O.F.; James Armstrong, Dr. Nattress, John Cook; Secretary-Treasurer, James Armstrong; Managing Director, J. N. Lee, Imperial Bank of Canada; Solicitors, Messrs. Hunter & Hunter. The temporary office is in the Equity Chambers, Toronto.

JUST one new mining company appears in the last week's issue of the *Ontario Gazette*. It is the Neepawa Gold Mining Co. of Ontario, Ltd., and has the usual capital stock of \$1,000,000 in \$1 shares. It is composed of D. H. Harrison, J. A. Davidson, B. R. Hamilton and J. H. Davidson of Neepawa, Manitoba, and Alexander Trotter of Brandon, Manitoba.

NOTICES.

The Metallic Roofing Co. of Canada provides one of the necessary safeguards against fire in our mining regions. Besides ornamental tiles, they manufacture galvanized steel plates for roofing, one kind plated on one side, and one on two sides. This roofing has amongst its advantages these: It can be put on without skilled labor; it is very portable and can be taken off, carried for miles and readily put up elsewhere; it is fitted to expand and contract with changes of temperature. As a complete covering of roof and sides of a building, it makes a wooden structure more fireproof than a brick one.

FUN FOR ENGLISH MINING SPORTS.

THE cougar, puma or panther, as he is variously known, ranges in North America from its southern limit to very far north. The last we know of killed in Ontario was near Strathroy in the early eighties. He was an eight foot tiger. The puma (*felis concolor*) was formerly destructive on the borders of settlement in New England, New York, Pennsylvania and Ontario, but is now probably unknown in the east except in the Adirondacks, Northern Maine and perhaps Gaspé peninsula and there only in the remotest parts, and though, perhaps, more formidable, when driven to bay, than the panther of India, is of a very retiring disposition, and hunters find it hard to get at him. In British Columbia he is not uncommon in parts, and one of the attractions of that province to British sportsmen inclined to mining may be that they may have a chance there of almost as exciting a sport as tiger hunting. At present the C.P.R. engine sometimes chases him along in the track through the Selkirks and Gold Range, and he has been known to strike terror into the heart of a railway man meeting him for the first time in the semi-darkness of a half deserted shed. The prospector, too, may sometimes hear his cry or even see him, but we know of no one who has yet lost life or limb by a personal encounter. It is as it was in Campbell's days when on Erie's banks "the tiger steals alone." The chief nuisance he proves to be is to the rancher and farmer. A Granite Creek correspondent of the *Kamloops Inland Sentinel*, says:—"Several cougars were killed lately in our district and possibly their presence may account for reported loss of young stock during the past summer months. The Government would do well to increase the bounty on these destructive animals. Stock raising is being too much hampered in the upper country without allowing them to increase."

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Engineering and Mining Journal, New York.
The Canadian Mining Review, Ottawa, and
The Mining Journal, London, England.
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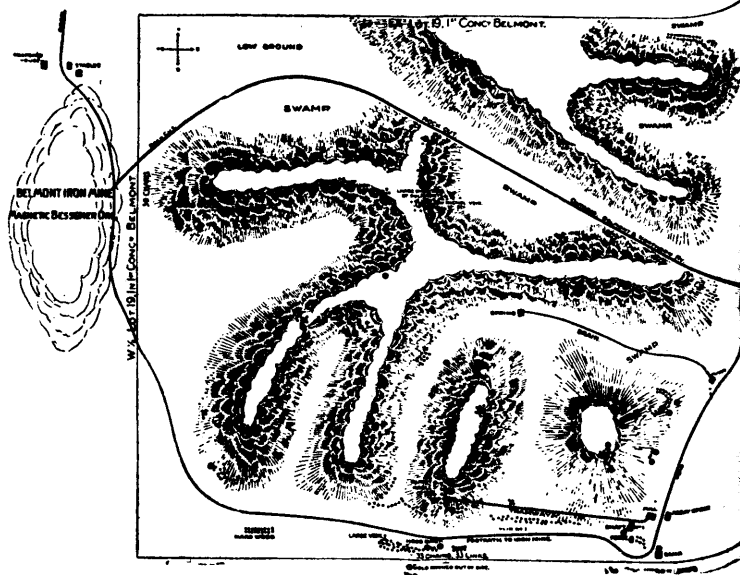
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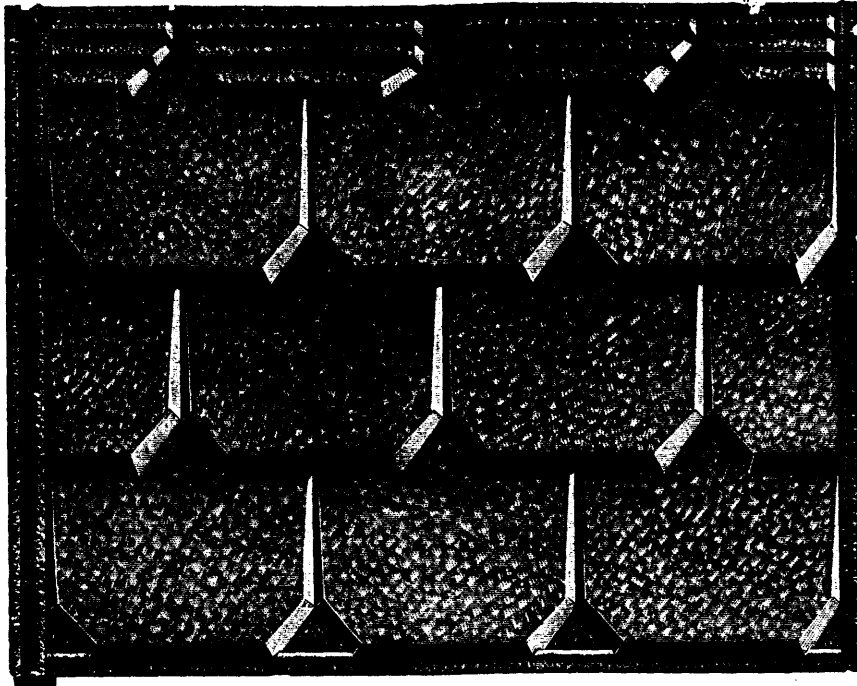
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Alberta	\$0 15	Josie Mac	\$0 12½
Bondholder	0 17	Jumbo	0 65
Bannockburn	0 20	Kootenay London	0 12½
British Canadian Gold Fields	0 20	Kelly Creek	0 15
Big Three	0 15	Lily May	0 20
Butte	0 05	Lake Harold	0 15
Colorado Gold Mining and Develop- ment Company	0 35	Le Roi	10 00
Columbia and Ontario	0 10	Ledyard	2 50
Caledonia Consolidated	0 10	Lloyd Gold Mining and Development Company	0 06
Colonna	0 26	May Flower	0 17½
Cracker Jack	0 10	Monte Christo	0 18
Commander	0 30	Morning Star	0 12½
Crown Point	0 57	Monarch	0 10
Cariboo M. M. C.	0 58	Minnehaha	0 10
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 15	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 Hills Exploration and Develop- ment Company	0 10	Santa Marie (Slocan)	0 05
Golden Queen	0 10	St. Elmo	0 12
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 10
High Ore	0 07	Two Friends	0 35
Iron Mask	0 60	Victoria Triumph	0 10
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 25
Josie	0 60	Washington	0 25
		Zilor	0 15

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Mikado	7 50
Gold Exploration Company of Canada (Seine River)	5 00