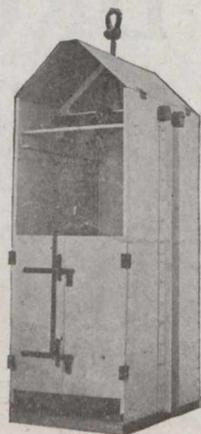


CANADIAN MINING JOURNAL

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February 26th, 1919

No. 8

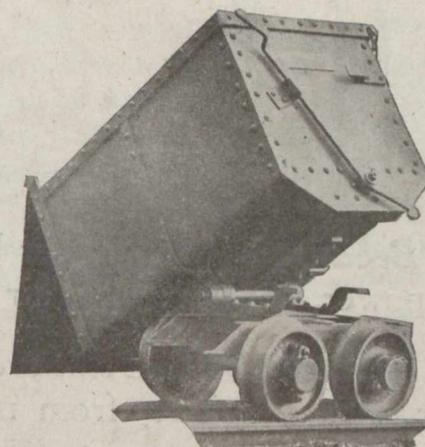


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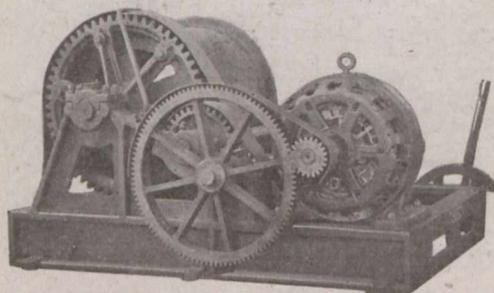
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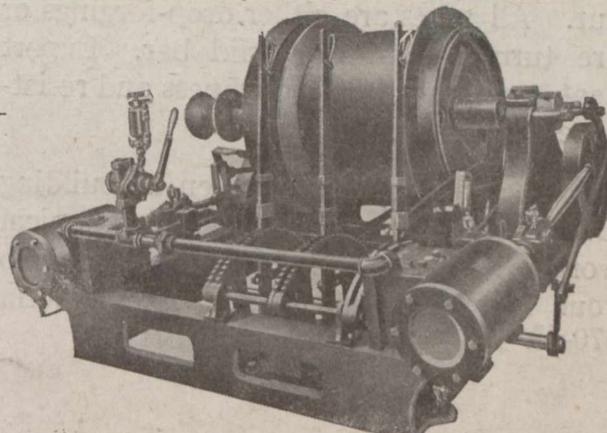
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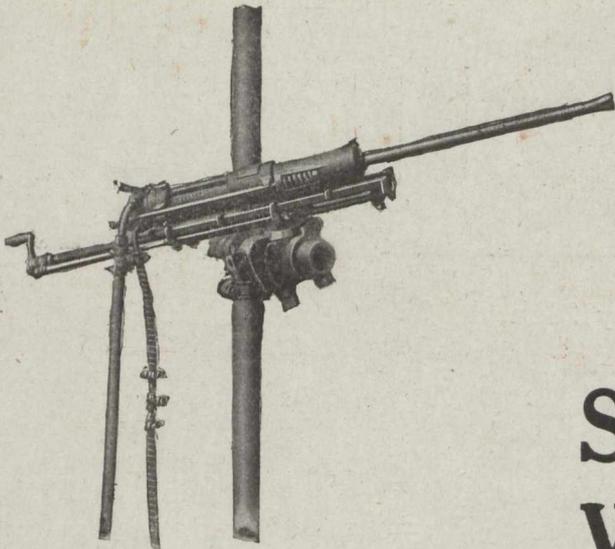
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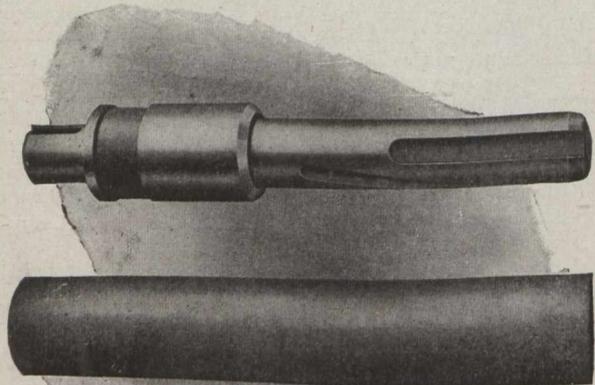
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Ontario in 1917 produced 46 per cent. of the total mineral output of Canada. Returns made to the Ontario Bureau of Mines show the output of the mines and metallurgical works of the Province for the year 1917 to be worth \$72,093,832, of which the metallic production was \$56,831,857.

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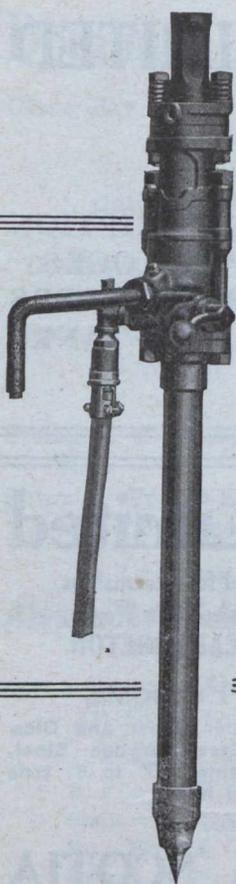
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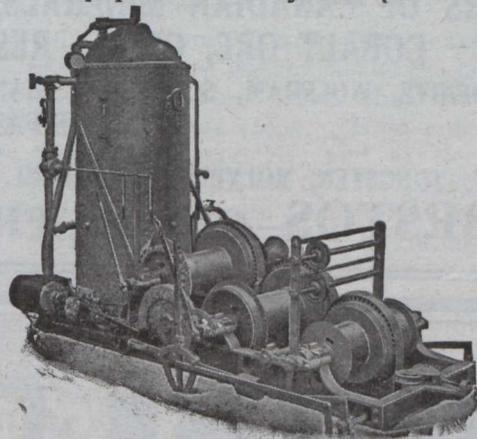
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The Canadian National Railways, recently constructed across Northern and Western Ontario, have opened up for prospecting a large territory. Easy access to many promising areas is now available. Geological maps of some of these areas can be obtained from the Geological Survey, Ottawa.

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On December 11, 1916, the SUPREME COURT OF THE UNITED STATES unanimously adjudged our basic patent for air-froth-flotation to be valid, holding that this patent covers any process of froth flotation wherein the results obtained are such results as are secured by the use of a fraction of one per cent., on the ore, of an oily frothing agent in an ore-pulp, with agitation. Three of the thirteen claims which specified the use of "a small quantity of oil" and which the Court held to be invalid have since, by proper disclaimer, been brought within the scope of the Supreme Court's decision.

On May 4, 1917, in the UNITED STATES DISTRICT COURT OF MONTANA, the opinion of Judge Bourquin was filed in the case of Minerals Separation Ltd., and others against Butte & Superior Mining Company, and was followed by a decree on September 17, 1917, wherein it was adjudicated that the three claims which had been limited by disclaimer were valid and infringed, and that the seven claims adjudged to be valid by the Supreme Court of the United States were infringed. The acts thereby adjudged to be infringement included the use of mixtures of petroleum oils and mineral-froth-forming oils in a total amount exceeding one per cent. on the ore, and also the use of Callow pneumatic cells.

On May 24, 1917, the UNITED STATES CIRCUIT COURT OF APPEALS at Philadelphia, in the case of Minerals Separation, Ltd., against Miami Copper Company, unanimously sustained the validity and broadly construed a second basic patent, owned by us, for the use of all "Soluble Frothing Agents." In the same opinion, the Court also validated a third patent for the use of cresols and phenols in the cold and without acid. The defendants, Miami Copper Company, endeavored to avoid infringement of these patents by using Callow pneumatic cells, but the Court held that the operations of the defendant company infringed all three patents.

On November 11, 1918, the SUPREME COURT OF THE UNITED STATES granted the petition of Minerals Separation, Ltd., and others for a Writ of Certiorari to review the decree of the United States Circuit Court of Appeals at San Francisco which had reversed so much of the decree of Judge Bourquin in the suit against Butte & Superior Mining Company as adjudged to be infringements those acts which employed oil of any kind or character used in excess of one-half of one per cent. on the ore.

Prospective users of our flotation processes are earnestly requested not to be influenced by the views disseminated by interested parties that any of these BASIC PROCESS PATENTS can be evaded by a mere variation of apparatus for agitating and aerating the pulp, or by the simple addition of oils or other materials in excess of a fraction of one per cent. on the weight of the ore treated.

Minerals Separation North American Corporation

Head Office:
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Engineering Office:
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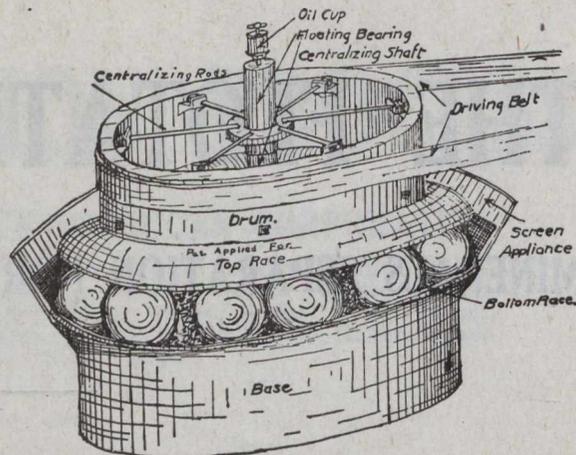
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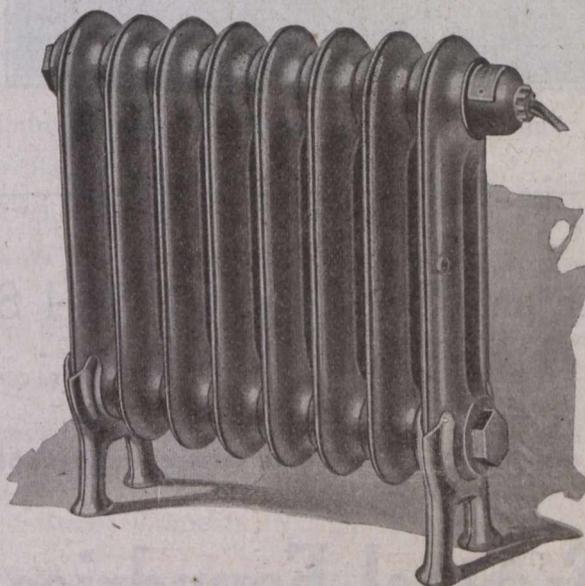
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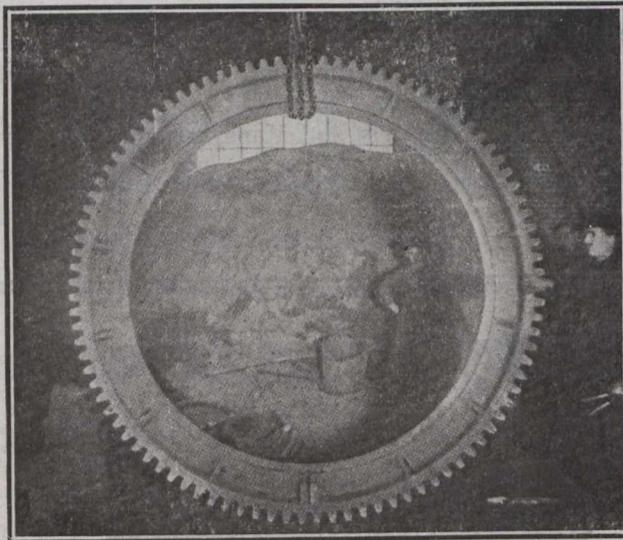
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EDITORIAL

AERIAL TRANSPORT IN MINING DISTRICTS.

There has naturally resulted from the great developments of recent years in aircraft many suggestions as to the utilization of the air for transportation. In Canada we are particularly interested, for this country has produced a very large number of capable flyers. Toronto is regarded as the greatest aircraft and flying centre on the continent. The Royal Air Force owes much of its success to the young Canadians who learned to fly in this country. We look to some of these men to become adventurers in the far north. Some will doubtless become leaders in transportation, furnishing facilities to mining men for reaching new districts that are at present difficult of access.

We venture to predict that it will not be many years before our great hinterland will be dotted with service stations for the accommodation of flyers who will carry men and supplies to out of the way places. Those who undertake the pioneer work in such an enterprise will encounter many difficulties, but like our older pioneers they will push on until success is won. That exploration will be much more rapid when air transportation is available is obvious. At present the explorer spends most of his time getting to and from the areas he wishes to explore. The flyer will take him there quickly and will come back later with supplies or to bring him home. Already something has been done in South America in this connection. In a paper presented at the New York meeting of the American Institute of Mining Engineers last week, Mr. George M. Dyott, of London, said:

"There are many who may consider a paper on aerial transport and its possibilities in connection with mining operations somewhat premature. Nevertheless, as there is considerable interest manifested in the subject at the present time and the amount of information available is both scanty and misleading, the result of investigations in some of the remote mining districts of Peru will not only be of interest, but will help crystallize, in the minds of many, a more correct conception of just what an airplane is capable of doing.

"By way of introduction, I will deal briefly with the types and varieties of airplanes now in use, and the developments of the past few years, pointing out how the war has encouraged machines of startling performance rather than those of commercial utility. I will then take up aerial transport in general, showing how airplanes may be employed to advantage and the particular kind of work for which they are best suited. This will cover a preliminary discussion on cost, which

is one of the most important phases of the subject. In passing on from a general survey of the situation, I will deal with actual observations and investigations made in Peru. This part of the paper will be divided into two sections: the first, covering the mountainous districts of the Andes (Tamboras, Pataz, Soledad, etc.); the second, the alluvial deposits in the rivers, Chinchipe, Santiago, and Napo. In each case the question of atmospheric conditions, altitude, landing grounds, motors, cost, etc., will be discussed. While it is my intention to deal chiefly with mining in the sections mentioned, the same line of argument will be applicable to any other districts in the world. In conclusion, I will touch on the possibilities of using lighter-than-air craft of the Zeppelin type, followed by a summary of the most salient points brought out in the paper.

"In a general way the points emphasized will be:

1. That freight can be carried by means of airplanes.
2. That certain kinds of freight are more suitable for aerial transport than others.
3. That aerial transport will not compete with existing methods of transport, but will extend their sphere of usefulness.
4. That airplanes will prove a valuable adjunct to many mining operations.
5. That certain mines, which it is now impossible to open, can be put on sound lines of development by the intelligent use of air craft.
6. That many gold-dredging operations can benefit by the employment of flying boats or hydro-airplanes."

MINING LAW.

One of the most interesting discussions at the meeting of the American Institute of Mining Engineers in New York last week was that on mining law. The speakers did not stay very close to the text, "a uniform mining law for North America," but they presented many views and told of conditions in many mining districts. This information will make a good introduction for the discussion which is to take place at the meeting of the Canadian Mining Institute in Montreal next week.

It was made clear by the speakers that the great variety in mining laws is unfortunate, but likely to continue. By many the mining laws with which they were most familiar were considered fairly satisfactory, the chief objection of some to the differences seems to be the necessity of learning new laws for each district. Some prefer freehold to leasehold. Some prefer leasehold. Some regard freehold and leasehold as distinctly different and would estimate the freehold title to a mining property to be of much greater value than a

leasehold. Others contend that the leases as granted in Canada are in effect the same as freehold, being for twenty-one years and renewable.

The inclusion of the provision for discovery of "valuable mineral in place," in the requirements for staking of claims, received some attention. It was pointed out that in some cases it is impossible to make such discovery at the surface and that a very large expenditure for exploratory work is sometimes necessary. In such cases the prospector has no protection from others who might wish to unfairly take advantage of his work.

As pointed out by Mr. Gibson and Mr. Godson, the requirement that "valuable mineral in place" must be discovered before a claim is recorded, is a feature of the Ontario mining act that is not taken seriously. In the early days of the Cobalt silver boom it was found advisable to insist on such discovery. It was in an endeavor to do so that inspectors of mining claims were appointed. These men visited the claims and if they reported "no discovery," the claim was refused. There is naturally considerable difference of opinion concerning the possibilities of any mineral deposit and the system of inspection soon fell into disfavor. Inspection is not now carried on in Ontario, but the law remains unchanged.

In the discussion at the New York meeting there seemed to be general approval of the suggestion that the prospector should be allowed to judge for himself whether his claim was worth doing work on or not. It was admitted that the discovery of "valuable mineral" should be required; but that there should be no undue haste or confidence in concluding that any mineral discovery was not valuable. "Give the prospector the benefit of the doubt," says Mr. Winchell. No man can with the certainty that he is right say that a deposit should not receive attention. He may properly advise against expenditure of time and labor when the chances seem very slim; but, on the other hand, he should not be put in a position where he would prevent the willing prospector from working when he wants to do so.

The mineral rights in the public domain in the United States are controlled by the Federal Government. The States have little to do with mining law so far as alienation of property is concerned. In Canada, however, most of the provinces have control of their own natural resources and there are almost as many varieties of mining laws as there are mineral producing provinces. The differences are, however, not so great but that they might be removed. It would certainly be an advantage to prospectors to have a uniform law. It will not be easy, however, to determine what laws are most suitable. If the Canadian Mining Institute can do something with this problem it will help the industry by helping the prospectors.

CANADIAN DAY AT THE A. I. M. MEETING.

Tuesday, February 18, was Canadian Mining Institute day at the New York meeting of the American Institute of Mining Engineers. At all the annual meetings there have been present members from Canada, but for this meeting all members of the Canadian Mining Institute were invited. The Directors of the American Institute of Mining and Metallurgical Engineers, as it is now known, entertained the officers of the Canadian Mining Institute at luncheon. The day was spent in discussions on topics of mutual interest, several Canadians taking a leading part. At the meeting in Montreal next week the Americans will be the guests of the Canadian Mining Institute. The discussions started in New York will be continued at Montreal. Incidentally Americans and Canadians will become better acquainted. We are pleased with this new expression of the good feeling between the mining men of the two countries.

THE SILVER MINES.

With bi-metalism once more being seriously discussed by leading metal authorities, and with apparently at least fair prospects of some such development taking place before very long, the mines of Cobalt find themselves occupying a position of perhaps greater advantage than any other silver producing mines in the world. Some of the heaviest producers of silver in the United States are operated chiefly for the copper they contain, the white metal being but a by-product, whereas the mines in Cobalt are operated entirely for the high grade deposits of native silver which they contain. It is an interesting fact that many low grade silver mines in other countries were compelled to close down during the war, while in Cobalt great prosperity has been experienced during the period of greatest strain. The high grade nature of the deposits made this possible. According to local opinion, it is small wonder, therefore, that metal authorities in other countries are becoming alarmed over the great decline in silver production from their low grade mines, and small wonder that the mines of Cobalt should be operated unremittingly and at the fullest possible capacity. In view of this favorable state of affairs as far as Northern Ontario is concerned it seems reasonable to anticipate increasing activity in the Gowganda field also, as well as in the Elk Lake and the South Lorrain areas, and in the vicinity of the Casey Cobalt mine in the township of Casey.

The moving of the recording office from The Pas to Dauphin, Manitoba, has not yet been satisfactorily explained. To us it seems absurd. The Minister of the Interior will do well to reconsider the matter, or to at least give his reasons for making the change.

President Timmins' Report to Hollinger Shareholders

In the report to the shareholders of Hollinger Consolidated Gold Mines, Limited, for the year ending Dec. 31, 1918, President Timmins says:

The balance carried forward is \$2,071,287. The tonnage milled was 578,755, from which \$5,752,370 was recovered. Other income makes a grand total of \$5,908,327. Working expenses absorbed \$2,857,510, and depreciation, taxes and donations \$462,254, leaving a net profit of \$2,588,563, out of which dividends amounting to \$1,230,000 were paid and \$1,358,563 added to the surplus. The company's cash position has been greatly improved by the purchase of \$1,575,000 of Victory Bonds, thus making our total holding of high grade Government and Municipal securities \$1,687,717. I am confident the shareholders will approve of the policy of building up such a strong reserve as will be commensurate with the great destiny of the mine and the magnitude of its future operations.

The labor situation already shows signs of improvement, and we dare to express the hope that with the return from overseas of a number of our old employees, and as the country changes more and more from a war to a peace basis, we will be able to speedily secure our full share of skilled and stable men with whom we will earnestly endeavor to establish relations of co-operation and mutual good will. The mine is in such shape that we are able to employ a large number of additional men at good wages, which also brings up the problem of increased housing accommodation, plans for which are now under consideration.

The resumption of the payment of dividends during the year was a matter of special gratification to the directors, and we expect, in the absence of any unforeseen or unexpected contingency, to be able to continue the dividends at the same rate until the general mining situation and the financial position of the company warrant an increase. It is, however, impossible to be more definite in regard to the question of dividends as so much depends upon conditions beyond our control. Shareholders will be kept informed of the position of the company by interim reports which will be mailed to them from time to time.

A matter worthy of mention is the fact that we have completed arrangements to send our bullion to the Mint at Ottawa to be refined. Heretofore bullion shipments have been made to the United States Assay Office, New York City, the company receiving payment in New York funds, thus enabling it to make a very substantial profit by the sale of exchange. However, recent improvements at the Ottawa Mint make it possible for it to treat all our gold bullion, so that, in order to do our part in building up the gold reserves of Canada, and acting in co-operation with the Minister of Finance, we have decided to send our bullion to Ottawa, receiving payment in New York exchange.

During the year certain necessary extensions and additions to the plant, which have been deferred owing to war conditions, will be proceeded with. This will involve the completion of the mill, the installation of an extra compressor, the erection of a refinery and other buildings.

As is already known to our shareholders, Mr. P. A. Robbins, who has been our General Manager since the year 1911, retired from office some months ago. Mr. Robbins had long contemplated taking an active part in the war, and when the United States, his native country, entered the struggle, the call for service became so insistent that he decided to give up the position with this company which he had so long and ably filled, and volunteer for service overseas. Our new General Manager, Mr. A. F. Brigham, came to us from South Africa, where he was Manager of the great Jagersfontein Diamond Mines. The company is to be congratulated upon having been able to secure the services as General Manager of such an eminent mining engineer and experienced company manager.

The directors sincerely regret to record the death on the 12th of April last of their friend and colleague, Mr. John McMartin, M.P., Vice-President of the company since its inception. His broad interest in all the affairs of the company and his sound judgment have been greatly missed at our councils. The vacancy on the Board created by Mr. McMartin's death was filled by the election of Dr. Wilfred L. McDougald, of Montreal, Mr. D. A. Dunlap becoming Vice-President.

We have a devoted and competent staff who have carried out their duties with conspicuous ability during another difficult and trying year.

UNEXPECTED LACK OF DEMAND FOR POTASH.

The present is a critical time for the potash industry recently established in the United States, according to H. S. Gale, of the U. S. Geological Survey, Department of the Interior. Prior to the war this country used more than a million tons (gross weight) of potash salts each year, and it has been supposed that the cutting off of a large part of this supply was a keen deprivation, particularly to the farmer, by whom it was used for fertilizer. This foreign supply has not been available during the war, and with much energy and enthusiasm a domestic production equivalent to about one-fourth the former importation has been built up. Now, however, it is unexpectedly disclosed that there is little or no market for potash either at the high prices that have prevailed or even at a considerably lower price. No satisfactory explanation of this situation seems to be offered.

Approximately 100,000 tons (gross weight) of potash salts, produced in Nebraska in 1918, are reported as lying in storage warehouses, distributed throughout the southeastern States, which is in the region where potash is principally consumed. This is of the same quality that was used in 1917, and is immediately available to the fertilizer manufacturer or the farmer. Potash of other sorts from various sources is also reported unsold, though in smaller quantities. As this surplus represents approximately half the relatively small domestic production, and as potash from foreign sources has not been available during the year, it is difficult to explain this apparent lack of interest in the present small domestic supply.

California capitalists are said to have taken an option on the Silver Nugget Group of Claims, situated near Silverton, B.C. The property carries high silver values.

Mining Convention in Vancouver March 17-19.

Vancouver, Feb. 19.

Vancouver is the logical centre for the mining industry of British Columbia and that is one of the things that the committee in charge of the International Mining Convention to be held in the Terminal City on March 17, 18 and 19, is aiming at. By many, Spokane has been looked upon as the headquarters of many of the mining properties in B. C. The Chamber of Mines holds that this condition of affairs is not as it should be, that Vancouver geographically has a prior claim to that position and at the convention steps will be taken to see to it that the commercial capital of British Columbia is accorded the honor to which it is entitled from every point of view.

The mining men throughout the province are keen in support of that claim. Already communications have been received from them notifying the Chamber of Mines—whose name by the way has been altered to the British Columbia Chamber of Mines—that no stone will be left unturned to make the convention an unqualified success. Already a number of delegations have been appointed. The East Kootenay mines and business men will send a big representation to Vancouver. Prince George is taking an interest and the Hazelton district does not intend to be left behind. Kamloops, Vernon, Qeslo, Princeton, Prince Rupert and in fact every important centre in British Columbia expected to be represented.

The change of name of the Chamber was brought about a few days ago and is subject to confirmation. The idea is to make the Chamber more representative not only in name but also in membership. With the last named and in view of the arrangements for the sending of someone into the interior to get together a thoroughly representative committee to take charge of the local delegations are well forward. The committee are aiming at expansion and development along lines that have hitherto not been attempted before and while this will not be in the proper sense a membership campaign, that factor will not be overlooked.

Everything in connection with the convention is proceeding satisfactorily. There is no doubt that it will be a premier gathering in point of importance and attendance not to mention the questions that will be considered. The mining of gold, silver, copper, iron, platinum and coal; the smelting of ores; taxation of companies and many other matters will be brought forward for discussion. It is a big meeting that mining men have been advocating for many years and if the efforts of Mr. J. D. Kearns, the general manager of the convention and those associated with him are to be taken as a criterion, the convention is already an assured success.

In the sixty-five years that there has been mining activity in British Columbia, over half a billion dollars have been taken out of the earth and yet the province has only been scratched. To-day there are greater indications of activity than ever before. The demand for the various metals which are indigenous to British Columbia in the form of ores, is more insistent than at any time in the history of British Columbia, and for that reason if for no other, it is up to the business men of the province and to those

whose interest in the industry is comparatively small or nothing at all, to take every step that will eventually assist in putting British Columbia on the map as the premier wealth-producing district of North America.

The convention next month is a means towards that desired end. Strong co-operation and a pull altogether by every section of the province and the result will exceed the greatest expectations of the promoters. This district is being asked to do its share of the work in helping to make the convention a record-breaker and the convention committee have every hope that it will be so.

The exhibition of ores and machinery is to be held in the basement of the Vancouver block and the convention will take place in the Hotel Vancouver where the headquarters will be.

INDUSTRIAL GAS MASKS.

The U. S. Bureau of Mines announces that it is making a preliminary investigation of gas masks with a view to establishing a list of approved devices for use in the mining and allied industries. After the preliminary investigation the Bureau will issue a schedule of tests which apparatus must meet in order to gain the approval of the Bureau of Mines. These investigations will be conducted at the Bureau's Pittsburgh Station by men who have had intimate connection with the development of mine rescue apparatus and gas masks used in warfare.

ASKING FOR BOUNTY ON IRON ORE.

Sir Thomas White, Acting Premier of Canada, was asked by a delegation representative of the Port Arthur, Sudbury, and North Bay Districts of Ontario, which waited upon the Dominion Government early in February, to grant a bounty of at least 50 cents a ton on all iron ore "mined and smelted in Canada," during the next fifteen years. The Acting Prime Minister assured the delegates that the representations made would have the consideration of the Government before the annual financial budget is presented to Parliament, when fiscal changes will be announced. He expressed the appreciation of the Government of the value of the large deposits of iron ore in New Ontario, and the good that would result to the country from their proper development. That the Canadian West is behind this movement for Federal support to the iron and steel industry is indicated by a wire forwarded by Hon. Wm. Sloan, Minister of Mines for British Columbia, to the Board of Trade of Port Arthur, Ont., giving it its hearty endorsement on behalf of the Provincial Government.

During the month of January the Nipissing Mine produced \$227,936. A short interruption occurred during the early days of the month, at which time the annual clean-up was being made, as well as certain necessary alterations to the equipment.

Mining interests of the Kirkland Lake district are making an appeal to the Ontario government with a view toward having a branch line of the T. & N. O. Ry., constructed from Swastika to the heart of the camp, a distance of about six miles.

Campbell & Deyell Discontinue Ore Sampling

The firm of Campbell & Deyell, which has this week announced its intention to discontinue its ore sampling business in Cobalt, has been doing business there since June, 1909. During the ten years of operation the firm's plant has always constituted an adequate and independent system of ore sampling. Ore containing approximately 61,000,000 ounces of silver represents the actual amount upon which the firm has been entrusted to place valuation.

To illustrate the responsibility devolving upon such an enterprise, and the position of trust in which it must of necessity be placed, it would perhaps be well to point out that all Canadian smelters and certain of the smelters in the United States accept the valuation of the ore made here, as a basis of purchase. The business of the firm has been primarily that of ore-sampling and assaying, and with its present equipment it has been able to deal with the following varieties of work:—

(1)—The sampling, grading and valuation of ore shipments in transit between mine and smelter; the result of the sampling, or sampling and valuation, serving as a basis of settlement between smelter and mine.

(2)—The sampling and assaying of large or small lots of ore to ascertain the value of its contents in gold, silver or other elements.

(3)—The assaying of samples from mines and concentrators. Also of samples sent in by engineers, prospectors and general mining interests.

(4)—Umpire Analyses—A considerable portion of this and other work is received from a distance; samples being sent in by mail and express from all parts of the country.

General regret is expressed in the north over the intention of the firm to discontinue its ore sampling business. Not a few mines will suffer inconvenience thereby. It will make it impossible to personally supervise the sampling of ore locally, and necessitate frequent journeys to down-country smelters by representatives of a large percentage of the mines. Heretofore it has been possible to have the sampling of ore done subject to inspection at all times; and following the completion of the sampling, a valuation placed on the ore, such valuation being acceptable to the smelters, and the producer knowing exactly the value of his shipment long before such has been treated.

In making any bargain it is necessary for the parties thereto to know two things, in order that the transaction may be carried on efficiently; the exact nature of the articles to be sold, and the exact requirements of the prospective purchaser. Primarily it is required of a mining company to know definitely the nature of the ore which it has to market. Secondly it must know the requirements of the various smelters in order that each grade of product may be marketed to the best advantage. This, of course, necessitates a careful sampling of each shipment before it is marketed and a business-like handling of each lot of ore according to results obtained.

It has been the aim of the firm of Campbell and Deyell to fill the requirements annotated above. The figures which show a valuation placed on ore sampled at 61,000,000 ounces, in addition to the fact that

silver metallies melted and cast into ingots in the firm's bullion department amounts to approximately 1,200,000, testifies to the measure of success which the firm has attained in its endeavor to fill the requirements above mentioned.

B. C. COAL PRODUCTION.

The total amount of coal produced by the collieries of Vancouver Island for the month of January, 1919, was 158,327 tons. This is 18,040 tons more than was produced during December, 1918, and 55,632 tons more than was produced during December, 1917, and 55,632 tons more than the production of November, 1918. The total of 158,327 tons only lacks 2,831 tons of being equal to what was produced by all the coal mines of the Province in November, 1918, and is 10,000 tons in excess of the largest production in the history of the Vancouver Island Collieries.

The tonnage produced by the various collieries are as follows:

	Tons.
Canadian Western Fuel Co., Nanaimo Colliery	64,404
Canadian Collieries (D) Ltd., Cumberland Colliery	51,666
Canadian Collieries (D) Ltd., Extension Colliery	21,217
Canadian Collieries (D) Ltd., South Wellington Colliery	7,813
Pacific Coast Coal Mines, Ltd., Morden Colliery	4,541
British Columbia Coal Mining Company, East Wellington Colliery	3,543
Nanoose Collieries, Limited, Grant Colliery	2,697
Granby Consolidated M. S. & P. Company, Granby No. 1 Colliery	2,446
	158,327

The Canadian Collieries (D) Ltd., leads in production with a total of 80,696 tons from their different collieries, with the Canadian Western Fuel Company second with a production of 64,404 tons from their Nanaimo Colliery.

The new No. 5 Mine opened by the Canadian Collieries (D) Ltd., at South Wellington, has an output of 7,813 tons for January. The Granby Company's new mine at Cassidy, V.I., produced 2,446. Both of these mines should now rapidly increase their production.

The Canadian Western Fuel Company's new Wakesiah Mine is now nearing the time when it will become an active producer which should augment that company's tonnage in the near future. Both shafts are now down to coal and connected, and arrangements are under way laying out the shaft bottom arrangements.

These three new mines should give a good account of themselves during 1919, and considerably increase the tonnage produced from the Vancouver Island Mines.

It is stated that returns from the recent shipment of ore from the Foster Mine which is being operated under lease, shows a production of about \$80,000 from the high grade ore shoot opened up during the closing months of 1918.

Lower Prices Necessitate Lower Wages to Copper Miners

Production of copper is the most important phase of the British Columbia mining industry. It is so both in respect of the value of output and the number of men employed. The present uncertain conditions in regard to market has led in this Province, as elsewhere, to an unsettled state of affairs as to the immediate future of the industry. But the prospects are not as gloomy as the bare statement of the condition would imply. The managements of the several large mining corporations most affected are facing the problem before them courageously. They have adopted the policy of taking the men into their confidence, clearly stating to them that refusal to accept lower wages means cessation of operations, at least until the re-establishment of a more normal market, and placing on their shoulders to some extent the responsibility of decision.

Reference was made recently to the action of the management of the Consolidated Mining & Smelting Co. of Canada in calling in representatives of their employees, of the explanations that followed as to outlook in regard to the metal trade, and to the statement of the former that, with co-operation from the men, it was the company's confident belief that it would be possible to "carry on" until the market became steady. The condition at Trail, B.C., as a result, is reported to be satisfactory. The strength of the smeltery staff is being maintained with little fluctuation and new work, planned to place the company in a position to handle the business looked for with the commencement of re-construction, is making good progress.

In these days of social unrest, with the virus of so-called Bolshevism rampant, it is refreshing to find that the same spirit of co-operation is evident among the employees of the Granby Consolidated Mining & Smelting Company at Grand Forks, where the men working at the smelter have agreed to continue at a wage based on the Butte scale. This means that their pay will be governed by the price of copper when a market is available. At Anyox, B.C., the chief industrial centre of the Granby Company, the attitude of the men is not yet definitely known. It is thought, however, that they are likely to adopt the same reasonable view as their fellows of Grand Forks. If this proves so the operations of the company may not be seriously affected. The interruption to an important industry, with its attendant loss of time and money both to employer and employee, may be avoided. At any rate the company has given expression to its desire to do its utmost to keep the wheels moving, and should a sympathetic response be forthcoming from the workers, British Columbia will not suffer as are some of the large copper producing sections of the United States.

The Britannia Mining & Smelting Company, another very large producer, is meeting the situation by rather a different method: but by one which, in the last analysis, works out about the same. Men are being discharged, and no doubt the company's operations will be curtailed in a considerable degree. However, when the men are laid off they are given the option of returning to their jobs at a reduced scale. Many are accepting the proposition. Thus there is no reason for a competent man to be idle.

There is work, useful and profitable work to be done, and those with a proper appreciation of the world condition as to metals, and particularly as to copper, are continuing that work.

There is no doubt that the relationship between manager and worker is changing, and very radically, too. It is evident in what has been said as to the position in this Province. Those companies which have treated the representatives of the men as intelligent persons, which have taken the trouble to point out that with no income it is impossible to pay high wages and to explain how it happens that there is no income at present, for the most part find their men standing behind them. And it may well prove that the recognition of the wisdom of such a policy by the companies will lead to the maintenance, notwithstanding existing difficulties, of an industry that means much to the welfare of British Columbia.

THE DOLLY VARDEN AND WOLF PROPERTIES PURCHASED BY TEMISKAMING MINING COMPANY.

Mine operators and prospectors interested in the Alice Arm District, British Columbia, as well as the Provincial Mining Fraternity generally evince keen interest and much gratification in reading a recent Toronto, Ont., press despatch regarding ownership of the Dolly Varden Mine, which reads as follows:

"The shareholders of the Temiskaming Mining Company at their annual meeting yesterday (February 4), consented to the proposal of the directors to extend the operations of the company by taking over the Dolly Varden and Wolf Silver Mines in British Columbia. These mines have been handicapped for some time owing to lack of finances, and the Temiskaming Company has entered into an agreement whereby operations will be resumed. The purchase price of the properties is \$900,000, but the obligation to the former holders of the mines is only \$450,000 because of the liabilities the Temiskaming Company has to assume."

The railroad from the beach at Alice Arm to the Dolly Varden mine was practically rebuilt and nearing completion when the construction company went into liquidation with the result that most of the mining properties and prospects of the district were tied up. Hopes were entertained, however, that an early adjustment of the railroad difficulties would be arranged and negotiations to that end were entered into.

The Dolly Varden Mines Company owns the Dolly Varden property, which is situated about eighteen miles from tidewater on the west bank of the Kitsault River, and the Wolf property, two miles farther on the east bank of the Kitsault. The Dolly Varden has been extensively opened up by underground development, and is therefore in condition to start shipping at any time. The orebodies have been proven by thousands of feet of diamond drilling.

On the Wolf property a tunnel thirty-five feet long has been driven in on the ore body, from the face of which a cross-cut to the north fifty feet and to the south ten feet proves the ore body for a width of sixty feet, with neither wall in sight. Several thousand feet of diamond drilling has been done proving the orebody and showing it to be of good milling grade.

The Sullivan Mine

One of the few really big metalliferous mines of British Columbia is the Sullivan, owned by the Consolidated Mining & Smelting Company of British Columbia. Part of the programme of the company's work for 1919 is the extensive development of this property. It has been turning out a large proportion of the silver-lead-zinc ores handled at the Trail Smeltery for some years, but it is proposed, evidently, that its resources shall be exploited to a greater extent and the plans referred to are to be carried out with that end in view. The economic wisdom of this has been emphasized by the reported recent establishment of a feasible metallurgical method of so treating the rather refractory ores of the Sullivan as to secure a fuller return of their content, particular as to lead and zinc.

The importance of the Sullivan mine to the mining industry of British Columbia has long been recognized by the mining men of the Province; but it is doubtful whether its possibilities have been properly appreciated outside that circle. When Mr. Wm. Fleet Robertson, Provincial Mineralogist, first examined the property, then a prospect, he pronounced it the greatest ore deposit he had had the pleasure of inspecting in British Columbia up to that date. He ventured the opinion that, in the hands of men or a corporation with ample capital, it would prove a value asset. Time has fully justified the position he took, but it is questionable whether he, or those who afterwards undertook its development, expected that it would do as well as now promises.

The foregoing has been prompted to an extent by the reading of an article which has been published in the Fernie (B. C.) District Ledge describing the present work at the Sullivan mine and giving some figures relative to its ore reserves. While the latter are large and are uttered a trifle too glibly, it being questionable whether any authority would, at the present stage, care to attempt to say just how many million tons of ore are available, the observations as to general conditions may be accepted and those of a statistical nature may prove, in the course of time, to be justified.

The article reads:

"From all appearances the town of Kimberley, situated eighteen miles north of Cranbrook (B. C.), is due for a boom of great importance. The Consolidated Mining & Smelting Co. of Canada has just completed work on the main tunnel at the Sullivan mine. This tunnel is over two miles long, and will accommodate two standard tracks. It is said to be the longest and best built of any in the world. The cost of this undertaking alone approximates four million dollars. The latest electrical mining machinery was used on the tunnel with a modern equipment of a overhead dump system. The Sullivan group of mines is the richest silver-lead proposition in the world to-day. It is estimated that taking out three hundred tons a day the company has enough ore in sight to last it for one thousand years. At present the company has about 400 men in its employ.

"Contracts will be let at once, it is said, for one hundred modern cottages, which will be erected on the hillside.

"Preparations also are under way for the erection of new buildings to treat the increased output of ore which will be developed as soon as the 800 ft. raise

is completed. About twenty cars a day are anticipated.

"By next spring the company expects to employ in the neighborhood of one thousand men, it is stated.

"The Kimberley Miners' Union, it is rumored, has in contemplation the erection of a modern building, which will be utilized both for a place of meeting and recreation purposes. Billiard and pool rooms will be included in the equipment.

"The establishment of a motion picture house, with modern equipment, will also be a part of the Kimberley Progressive Movement.

"The only drawback at the present time is the lack of sufficient water power. There is an abundance of water in St. Mary's River, but sufficient drop cannot be had to enable the generating of power. It is very probable that the Bull River Power Company, in which enterprise the mining company is interested, and on which a large sum of money already has been spent, will be rushed to completion and put into operation at once. With this the rumor of the electrification of the Crow's Nest Pass Railway, and the supplying of power to towns along the Crow, including Fernie and Cranbrook, again is revived."

Dolly Varden Railway.

Victoria, B.C.—The British Columbia Legislature has before it a petition relative to the eighteen mile railway which has been constructed from Alice Arm, B.C., practically to the Dolly Varden mine, which is of special interest in view of the recent announcement that the Temiskaming Mining Company has secured possession of the Dolly Varden and Wolf Silver mines. The petition sets out that the Taylor Engineering Company spent \$425,000 on the railway, almost completing it, without being repaid by the owners of the Dolly Varden. It is detailed that the Dolly Varden company was incorporated in 1917 by private bill and that subsequently arrangements were made with the Taylor Engineering Company for its construction. The latter, it is said, received nothing more substantial than promises to pay. Negotiations having been entered into by the Dolly Varden Corporation for the sale both of mines and railway, the contracting company, which since has gone into liquidation, although assured that its interests would be protected, began to manifest some concern, it being alleged that there appeared to be a disposition to attempt to evade responsibility. The petition is an effort to obtain legislative protection for the assets of the railroad builders as represented by the road to which they were unable to give the finishing touches.

Silver Creek Mines, Ltd.

D. Woolsey, managing director of the Silver Creek Mines, Ltd., owners of the Woolsey group of mines near Revelstoke, B. C., was in the Province recently and is confident that the work now in progress will result in the blocking out of a large tonnage of good ore. With good trails for transportation and all necessary equipment present operations will be continued all winter and in the spring it is the intention to complete the construction of a road which was commenced last year. A tunnel has been driven eight feet under the vein and a cross cut is to be started immediately.

Special Correspondence

NORTHERN ONTARIO.

Another New Vein at Crown Reserve.

A second vein which gives promise of being of considerable importance has been cut recently at the 200-ft. level of the Crown Reserve property, at Cobalt. As yet, insufficient work has been performed on this new discovery to definitely gauge its value. A shipment of high grade ore is almost ready to go forward from the vein discovered at this level in the eastern section of the property during the closing month of the last year. Considerable talk is prevalent regarding the likelihood of an early dividend being paid by Crown Reserve, but the officials of the company are reticent regarding the matter.

Deeping Shaft of Reliance Property.

The shaft on the Reliance property in the southern section of the Cobalt camp has been continued from the 50-ft. level to the 100-ft., and a substantial quantity of ore is being mined. The property is under lease to John Shaw, formerly manager of the Hargraves, and Edward Dean. A force of about ten men are engaged. During the past month the operation has resulted in considerable profit to the leaseholders.

Diamond Drilling Property in Casey Township.

English interests are engaged in diamond drilling a property situated in the immediate vicinity of the Casey-Cobalt mine, in the township of Casey, about nine miles northeast of New Liskeard. Rock formation, which is covered with a heavy overburden, is said to closely resemble that occurring on the Casey-Cobalt, and considerable interest attaches to the undertaking, owing to the long and favorable career of production at the Casey.

Matachewan.

The advent of spring is expected to be accompanied with renewed activity in the Fort Matachewan district. Considerable work is being planned by property owners. Concerning the plans of the Matachewan Gold Mines, which is the leading operation of the district to date, nothing definite has been heard for some time. Late in the fall a four million dollar company was organized for the operation of this property, after a large amount of diamond drilling had been done, which was said to have given satisfactory encouragement for the installation of equipment to mine the property to a considerable depth. A large amount of assessment work falls due in the district during the spring and summer months.

Nickel from Alexo Mine.

During the first week in February the Alexo Mine at Porquis Junction shipped four cars containing approximately 400,000 pounds of nickel ore. The output for the first week of the current month was the highest for some time, and compares with three cars containing 320,000 lbs. during the last week of January. The ore from this mine is shipped direct to the smelter at Coniston.

Miller-Independence will be big Producer.

The announcement of the intention to sink the main shaft of the Miller-Independence mine at Boston Creek to a depth of 500-ft. with lateral work at each one hundred foot level, puts the leading operation of the Boston Creek area in a new light. A substantial tonnage of ore in the neighborhood of \$1,000 per ton in value is now in sight, with the in-

dication that these values will prove consistent. In addition to this extremely rich ore, a large quantity of ore which has been generally termed as "high grade" has been opened up. Plans are being made for the installation of a mill and roasting plant of a capacity of 100-tons daily at the property, and it is estimated that an average mill head of between forty and fifty dollars per ton can be maintained at the mine without drawing too extensively on the richest of the ore. It is thus anticipated that the average daily output will be in the neighborhood of \$5,000. This would bring the monthly production in the neighborhood of \$150,000, or about \$1,800,000 yearly. It is calculated the costs of treatment and mining will run about twelve dollars per ton, thus leaving a net profit of not far under \$1,400,000 annually, which is equal to about 200 per cent on the company's issued capital of 700,000 shares.

The annual meeting of the company was held at Dayton, Ohio, on February 6th, when the following directors were elected: George J. Miller, John C. Schaeffer, G. W. Ozias, Ed. Rettich, Judge Brown and Frank Groch. The only change in the directorate was the election of the last named gentleman to fill the vacancy caused by the resignation of Mr. Kirkpatrick.

Drilling Cotter Property.

At a depth of about 600-ft. on the Cotter property in the Boston Creek Gold area, the eastern continuation of the rich vein of the Miller-Independence Mines has been cut by diamond drilling. The core of the drill shows splashes of gold, and the assays are high. It is therefore expected that other large operations will soon be under way in the district, as the potential value of any property over which this rich gold deposit passes would appear to be great. The encountering of the vein with high gold values obtaining at this depth of the Cotter property, proves the consistency of the deposit, and adds greatly to the future prospects of the district in general. A large amount of new work has been planned for other properties in the Boston Creek district, and the coming spring and summer gives promise of being the most active for the area since the discovery of gold there. It's easy access to the railway, which passes through the township, coupled with available electric energy, gives promise of rapid expansion, and it is expected the gold production of the province will be materially added to during the current year by the results of production from this comparatively new field.

Patricia.

Arrangements are being made for a resumption of operations at the Patricia property early in March. The Patricia was closed down last fall due to difficulty in securing sufficient fuel with which to provide energy for the steam plant which has been installed, including a small mill. The future plans of operation are said to include the sinking of the shaft to deeper levels with stations at each succeeding 100-ft. The orebody on the property has already been proved to a depth of two hundred feet.

On the adjoining property (the O'Donald) a diamond drilling campaign is being carried out. Favorable developments met with on the various properties in the immediate vicinity will at the same time enlarge the possibilities of the Patricia, as the general strike of the veins is such that those encountered

on the O'Donald will probably be found to continue on to the Patricia.

With the low lying ground solidly frozen it should now be possible to secure ample wood for the requirements of the steam plant which the company intend using until early in the summer, when electrical driven machinery will be installed.

Lake Shore.

With earnings exceeding dividend requirements at the Lake Shore property in Kirkland Lake, it is expected in well informed circles that another dividend will be forthcoming in the very near future. During 1918 the company paid two dividends of 2½ per cent each, amounting to a total of \$100,000. The next dividend is expected to be for a like amount and will call for the distribution of \$50,000. With the output exceeding the dividend requirements, rumors are current that a 3 per cent quarterly dividend will be paid from this time forward. However, the conservative attitude of the directors leads to the belief that the present rate of dividends are likely to continue, with the possibility of a bonus being paid at intervals when convenient.

The Hollinger Report.

The eighth annual report of the Hollinger-Consolidated Mines, Limited, of Porcupine, gives many interesting facts concerning operations at this big gold mine during the past year. While the report states that very little development work has been done, in the ordinary course of mining during the year, nearly five miles of underground work was done, consisting of sinking, drifting, crosscutting and raising. Almost two miles of diamond drilling was also done at the property. Another extremely important fact is that some forty veins known to occur on the surface, ranging in width from 3ft. to 25ft., and containing average gold values of \$9.86 per ton, have not as yet been developed underground, and remain to swell the already huge ore reserves of the mine, which are now estimated at upwards of forty-one million dollars. The following is a concise summary of the performance of the company for the past year:

Total tons treated	578,755
Total recovery	\$5,752,370.87
Other income	\$ 155,957.00
Total income	\$5,908,327.87
Average recovery per ton... \$	9.94
Costs of operation	\$2,857,510.22
Depreciation, taxes, dona- tions	\$ 462,354.54
Total cost	\$3,319,764.86
Operating cost per ton	\$ 4.94
Cost per ton including de- preciation	\$ 5.73

Another important fact is that the average gold content in the ore reserves of 4,489,080 tons is \$9.15 per ton, as compared with an average of \$8.95 per ton in the \$4,494,510 tons, estimated at the end of 1917. This increase of 20 cents per ton in the grade of ore adds \$897,816.00 to the value of the tonnage estimated, and makes possible the addition to the value of the ore reserves of \$848,570, which otherwise would have shown a decline of 5,430 tons.

The report of the company is highly satisfactory and demonstrates the strong physical as well as financial condition of the company.

With reference to the existing conditions of labor during the past year the report says: "The disabilities under which the gold mining industry has been

carried on owing to the transitory habits and shortage of miners, obtained its maximum when, in November, the number of men engaged underground reached the low figure of 482, as compared with 849, the highest. We had for competitors the silver, nickel, copper and gold mines, which could advance wages easily as the price of their product increased. We, on the other hand, soon got to our limit, as the price of gold did not move. Now, however, with peace assured, all are thankfully and hopefully looking to the future for a return to more normal conditions when the slow process of readjustment is completed."

Dome Lake.

The annual report of the Dome Lake Mining and Milling Company of Porcupine, soon to be mailed to the shareholders, covering operations of the company during the year 1918, will show a total production of upwards of \$115,000. In the neighborhood of 12,000 tons of ore was treated, an average of \$9.65 per ton being recovered. Costs of production are said to have been \$8.27 per ton, which leaves a profit of about \$1.38 per ton, or a total profit of between \$16,000 and \$17,000 for the year. The installation of the cyanide system of ore treatment, which was completed in March last, has resulted in better recovery, the average being about 90 per cent. The outlook for the future is said to show a decided improvement, a better grade of ore being developed at depth. Late reports from the Porcupine district are to the effect that operations at the property are being speeded up considerably, the working forces being added to. It is also reported that an important ore body has been encountered in a raise from the 500-ft. to the 300-ft. level of the property.

Dome to Resume.

Reports just received from Porcupine state that arrangements are being made for the re-opening of the Dome Mines Mill early in the spring. In the meantime additional mine workers are being taken on and underground work is being speeded up daily. It is stated General Manager Keading, who is now in California, plans to return to the mine about the first week in April, and will proceed with immediate preparations for the re-opening of the mill. The enormous amount of underground work done during the past year or so, together with the large tonnage of ore broken in the mine waiting to be conveyed to the mill, assures ample tonnage for the operation of the milling plant at capacity, which is about forty thousand tons per month. Mining and hoisting facilities have been brought up to a high degree of perfection, all of which is expected to help in re-establishing the low operating cost of around \$2.60 per ton, for which the Dome was noted before the strain of war was felt. By next mid-summer production should be up to normal and before fall the output might reasonably be expected to exceed all past records. A large ore crusher has been installed at the 800-ft. level, which it is expected will greatly facilitate the handling of the ore. According to the last annual statement of the company ore reserves, which were all estimated above the 700-foot level of the property were close to \$10,000,000. With ample labor promised in the near future, the outlook for the Dome exceeding its past enviable record during the current year appears bright.

Tough-Oakes.

At the special and annual meetings of the Tough-Oakes Mines in Toronto on Wednesday of last week, by-laws were authorized for the transfer of the head office of the company from Haileybury to Toronto, and also for the sale of treasury stock at a discount of not more than 55 per cent. This means the stock is not to sell at less than \$2.25 per share. Some 78,500 shares of stock remains in the treasury. In reply to questions regarding the affairs of the former directorate and management of the mine, Mr. Harry Oakes, president of the company, said the present directors were not in a position to make any statement as to the present condition of the mine. Members of the former directorate of the company were conspicuous by their absence, none being on hand to explain any of the affairs of the company. The following directors were elected for the current year: Harry Oakes, Dr. R. J. Robins, J. B. Holden, J. Y. Murdock and A. Burt. The official information in the foregoing statements appears to indicate that the Foster control of the Tough-Oakes Mines has ended. It is expected a thorough examination of the mine will follow in the near future, which will provide the new control with the necessary information to intelligently undertake the task of placing the mine once more on a producing basis. Funds for the immediate commencement of this work are understood to be available, and these will be further augmented by the sale of treasury stock as indicated at the recent meeting.

Lake Shore.

For the first month of the company's new fiscal year (December), the Lake Shore Mines of Kirkland Lake produced \$45,101 in gold, which slightly exceeds any previous month's output in the history of the mine. The tonnage for the month was slightly lower than the average for the past three months. The average value of the ore treated was \$25.04 per ton. The mill ran 95 per cent. of the possible running time. The development work of the month consisted of the following:

200-ft. level.—Drift on No. 2 vein east advanced from 194 to 281 feet, producing milling ore of a good grade for the entire distance.

400-ft. level.—The north drift on the No. 2 vein east advanced from 405 ft. to 429 ft., the south drift advanced from 405 to 425 feet.

On the No. 1 vein, west, the north drift was advanced from 332 ft. to 399 ft.

Milling.—The mill ran 95 per cent. of the possible running time, producing \$45,101.34 from the treatment of 1,801 tons of ore.

Annual Report of Lake Shore Co.

The annual report of the Lake Shore Mining Company, Limited, for the fiscal year ending Nov. 31st, 1918, has been issued. During the eight months and twenty-four days that the mill was operated 14,984 tons of ore was treated, from which a recovery of \$24.76 per ton was made, the total production amounting to \$370,128. The total cost of operations for the year amounted to \$185,461, including \$22,285 for depreciation of buildings and equipment and \$5,000 for administration. From this is deducted \$46,365 incurred during the first quarter before the completion of the mill, thus leaving a total cost of but \$139,095, as against the total income of \$374,073. The cost of production therefore average \$9.30 per ton, including the amount allowed for depreciation. A profit of

\$234,978 is therefore shown. A commendable feature of the policy of the company is the making of "Provision for Exhaustion," for which the sum of \$90,000 was put aside. Since the commencement of milling operations on March 8th last, two dividends have been paid, amounting to \$100,000. Each dividend amounted to 2½ per cent., and called for the disbursement of \$50,000.

15,175 tons of ore has been hoisted from the four levels of the mine, the 100, 200, 300 and 400 ft. levels. Approximately 80 per cent. of all drifting has been done on ore of milling grade. A large amount of construction work was completed during the year, including: Assay office, refinery chateau, ice house, teamster's cottage, stable and two bungalows. A mine office and storeroom are now under construction. During the summer months exploration work was conducted on other properties in the Kirkland Lake district with a view to benefiting the company and the camp in general.

Owing to the scarcity of labor the work was confined mainly to drifting on the veins, and only raises necessary to secure ventilation were put through, no work having been performed that would actually block out ore, consequently no attempt has been made to figure out ore reserves. The favorable financial situation of the company and physical condition of the property exceeds general expectations. Two new directors were added to the board at the annual meeting. The names of the present directors are: Harry Oakes, A. G. Slaght, W. P. St. Charles, C. E. Wettlaufer, and Albert Wende. The new directors added to the board are Louis Oakes and W. H. Wright.

Elliott-Kirkland.

Several hundred feet north from the main workings of the Elliott-Kirkland property, a large break has been cut in a contact between the conglomerate and porphyry formations by diamond drilling. Most important, perhaps, is the fact that a belt of conglomerate some 400-ft. in width has been pierced. On the north side of this conglomerate where it comes in contact with the porphyry is where the break occurs. It is understood that the drill passed through a mud seam about two feet in width from which water flowed quite freely. Such mud-seams have been associated with some of the richest deposits in the Kirkland Lake camp, which lends to the discovery more than ordinary interest. It is understood the company contemplates the early development of the contact zone north of the present main workings.

May Re-open Lucky Cross Mine.

Negotiations are said to be under way for the re-opening of the Lucky Cross mine at Swastika, which is the jumping-off place on the T. & N. O. railway for the Kirkland Lake camp. The plans are said to call for the organization of a new company. The previous operation and development of the property was conducted prior to the opening up of the Kirkland Lake field. With this camp firmly established and on the threshold of becoming a large gold producer, it may reasonably be expected that such properties as the Lucky Cross, which is equipped with a good plant and milling equipment, will come in for further attention. Although previous development work was on a limited scale, a number of veins containing visible gold were found, and the property as so far developed has considerable merit.

Important Developments at Crown Reserve Properties.

Development work at the Crown Reserve mine at Cobalt is proving a series of veins in the eastern section of the property where the recent important vein was encountered. Since the original discovery was made a number of other promising veins have been encountered and are now being developed. Arrangements have been made for the shipment of the first carload of ore from the first vein discovered in this section of the property. As the ore shoot has contained average values of around 2,500 ounces to the ton, for upwards of 150-ft. in length, it is expected the first car of ore will be exceptionally high grade, and should compare well with the shipments from the property in the early days of the mine. Considerable ore is coming from the old workings of the property. In addition to the revenue of the Cobalt property, the Crown Reserve owns a controlling interest in the Porcupine Crown Mines. This latter property has resumed operations and should add considerably to the revenue of the company in the near future. Ore has been developed on the Porcupine Crown mine to a depth of 1,100 ft.

Testing Adanac Ore.

A trial run of Adanac ore consisting of fifty tons was put through the Temiskaming mill at Cobalt this week. The ore was taken from the drift along the high grade vein recently opened up at the 310 ft. level of the property and is understood to consist of "Mine Run" ore, no attempt having been made to sort the material. No official announcement of the grade of the ore has yet been given out.

Nipissing Will Develop Ophir Property.

The shareholders of the Ophir Mining Company unanimously ratified the deal whereby Nipissing mining company of Cobalt purchased a two-third interest in the Ophir property for \$150,000. The Nipissing mining company has been in possession of the property since January 19th. The new owners of the property propose to prosecute development work energetically on the contact, which is found at a depth of 580 ft. on the Ophir. The north line of the property is 1,200 ft. south of the Adanac, and for this reason, coupled the fact that there are a number of large and strong veins on the property, the prospects are considered bright.

Temiskaming.

An announcement of more than ordinary interest has been made to shareholders of the Temiskaming mining company that the company had acquired the property of the Dolly Varden Mines, and Wolfe Silver Mines, situated in British Columbia, on the Kitsalt river about fifteen miles from what is called Alice Arm. This property on previous development has given encouraging results. Mining carried out to date consists of several hundred feet of underground work, as well as several thousand feet of diamond drilling. The purchase price of the property is \$900,000. Obligation to former holders of the mine is \$450,000 because of the liabilities that the Temiskaming has to assume. A narrow gauge railway has been constructed from the point on the coast known as Alice Arm to the Dolly Varden property. However, some couple of miles of steel have still to be laid and the road

is in the hands of a receiver. This financial condition will be remedied and the road completed by the Temiskaming mining company. The terms of the deal are said to enable the Temiskaming to recoup itself for these expenditures out of the mine before paying any portion of the purchase price to the vendors. The properties were examined by Mr. C. D. Keading, manager of the Dome Mines of Porcupine, for the Temiskaming and it is said upwards of two million ounces of silver is in sight. Both the Dolly Varden and Wolfe camps are reported to hold considerable possibilities both as regards extent and richness, and lie within nine miles of each other. It is said that the railway may eventually be extended several miles further to the glacier foot, where rich copper deposits are said to exist. The undertaking is an expensive one, and results will be watched with the keenest of interest by Eastern Canadian mining men.

Allied Gold Mines Will Develop Property at Boston Creek.

Beginning with the early spring an extensive exploration and development program will be carried out on the properties of the Allied Gold Mines, Limited, at Boston Creek. Even at the present time a good deal of work is being done, including extensive diamond drilling to determine the width and value of the veins opened up on the surface of the property. The company was organized late in 1918, for the purpose of acquiring a large acreage of gold mining lands in the Boston Creek area, following the successful developments at the Miller-Independence Mines. The first group of claims secured were the Cullen-Renaud, which adjoin the Miller-Independence on the north, and which has a continuation of part of the rich vein system opened up on the latter property to a depth of 200 ft. It is on this vein that the Allied Gold Mines is driving a shaft to a depth of 100 ft. by using hand steel. It is the intention of the company to instal an electric mining plant early in the spring to facilitate this work. The second group of claims taken over by the company was the O'Donald, comprising some five in number, situated between the properties of the Patricia Syndicate and R. A. P. Syndicate and Boston Creek Gold Mines, Limited. With the completion of the diamond drilling campaign on the O'Donald group it is expected a mining plant will also be installed here for the further development of the property. The capitalization of the Allied Gold Mines is \$2,000,000 in shares of the par value of \$1 each.

Connell Property Sold.

Dayton, Ohio, interests are said to have purchased outright a three-quarter interest in the Connell property in the Boston Creek district, adjacent to the Miller-Independence property on the east. The owners retained a one-quarter interest in the property. It is understood the full purchase price of the three-quarters interest was paid.

Developing Bourke's Property.

A winze is being sunk at the 200 ft. level of the Bourke's Mines at Bourke's Siding. The vein is said to continue strong in the working and to yield encouraging quantities of high grade gold ore. A drift has been run for a considerable distance at the 200 ft. level and encouraging quantities of good grade ore have been revealed.

Alexo Nickel Ore Shipments.

During the last week in January three car-loads of nickel ore were shipped from the Alexo Mine at Porquis Junction to the Mont Nickel Company at Sudbury for refining. The three cars of ore aggregate approximately 320,000 pounds of ore, the shipment being much above the average for a similar period. The Alexo is the only base metal mine producing in this part of Northern Ontario, and its growth since the outbreak of the war has been comparatively rapid due to the big demand for nickel.

Elliot-Kirkland.

Opening up of the fractured zone recently encountered at depth on the Elliot-Kirkland is being gone ahead with on the surface of the property. The break is in the porphyry formation close to the contact of the porphyry and conglomerate. Up to the present time it has been opened up at two points a distance of about 400 ft. apart, where it has been found to be about twelve ft. in width and to carry low gold values. It has a general strike towards the shaft of the Kirkland Lake Gold Mines, Limited, and is thought to be a branch of the orebody occurring on the latter. There appears to be some likelihood of this northerly branch being the cause of the occurrence of more or less patchy ore on the break further south where sinking was carried to a depth of 600 ft. on the Elliot-Kirkland.

Sinking Shaft on Kirkland-Townsite.

The shaft on the Kirkland-Townsite property has been sunk to a depth of over forty feet. The vein is well mineralized at this depth, with considerable graphite occurring in the seams and along the walls. The shaft will be sunk to a depth of 100 ft., where lateral work will be undertaken.

Tough-Oakes.

The plan for the amalgamation of the Tough-Oakes Gold Mines with the Sylvanite and Burnside properties, the latter controlled by the Aladdin Mining Company of Cobalt, appears to be looked upon with much favor by some of the leading interests involved, and the possibility of bringing about the proposed merger is considered very promising. If the merger is successfully completed it should prove of much benefit to the three properties mentioned. The Tough-Oakes is equipped with a powerful mining plant and a milling plant with a capacity of 140-tons per day which would be immediately available for the development and production of ore from all three properties. It would be possible to develop all three properties from the one central shaft on the Tough-Oakes. This is particularly to be desired where the orebodies are in some cases extensions of veins running from one property onto the other. The three properties each have a large acreage and the deposition of ore on each is related, either by being the lateral continuation of veins or the downward continuation of orebodies dipping from one property into another. The new directorate of the Tough-Oakes, headed by Harry Oakes, is making a change in the management of the property and a new manager is being sought. Similar changes are being made in other departments.

Kirkland Lake Mine Nearing Producing Stage.

With the new shaft of the Kirkland Lake Gold Mines, Limited, nearing the 500 ft. level of the property and being connected up at each level with the old workings of the property, which were carried to a depth of 700 ft., and with considerable lateral work on each level, facilities for hoisting ore to the new 150-ton mill will be provided. Everything should be in readiness for the commencement of production within the next two weeks. However, it is not considered likely that actual milling will commence until some time in March, when it is thought a considerable improvement will have taken place in the supply of labor available, and the difficulties attendant upon cold weather will not have to be contended with.

A good deal of the ore on the dumps is from development work and will carry gold values of around \$8 per ton, but the ore developed underground is said to carry value in the neighborhood of \$15 per ton. Allowing for the mill running at two-thirds capacity on this latter grade of ore the output of the company would approximate about \$45,000 per month. After the first few months of operation and with the mill working at capacity this production should be increased by about fifty per cent. The future outlook of the Kirkland Lake Gold Mines is considered to be bright. The controlling interest in this company is held by the Beaver Consolidated Mining Company of Cobalt.

Resumption of Work at Schumacher Mine Expected.

The Schumacher Gold Mines, Limited, of Porcupine is expected to be the next important gold mine in this district that will resume operation. Previous to closing down in point of production the Schumacher was next in importance to the Porcupine-Crown Mines. However, with the proposed additions to the mill completed, it is expected to be second only to the McIntyre-Porcupine Mines. During the fiscal year ended March 31st, 1918, the company spent about \$51,000 on additions to the milling and mining plant, the capacity of the mill being increased from 110 to about 180 tons per day. The mining plant was enlarged for the operation of 25 machines instead of 14 as were formerly employed in development and supplying ore for the mill. With the addition of another Hardinge ball mill and another tube mill, it is officially announced the capacity of the mill could be brought up to 300-tons per day. With this addition to the plant installed it is evident the production of the property would be in the neighborhood of \$60,000 per month, as the average grade of ore is stated to be between \$6 and \$7 per ton. The future plans of underground development call for the sinking of the main shaft to a depth of 1,000 ft., at which point lateral work will be carried forward, with the object of encountering the downward continuation of the present known orebodies. This plan is considered to be important and full of promising prospects, owing to the fact that excellent ore was developed at depth on the McIntyre-Porcupine and Hollinger properties which adjoin. Especially is this true of the McIntyre, where it was not until a depth of 1,000 ft. had been attained that the property had definitely established itself as a mine of big proportions. With similar geological conditions prevailing on the Schumacher, it is considered highly probable by prominent mining men that similar conditions may be encountered on this property. The mine closed down July 15th, 1918, at which time a surplus of

\$81,901 was shown. Since that time the shareholders have authorized the sale of 100,000 shares of treasury stock at not less than 45 cents per share. Thus, sufficient funds should be available for the carrying out of the extensive program outlined, and the placing of the property on an earning basis sound enough to warrant the payment of dividends. The authorized capitalization of the company is \$2,000,000 divided into 2,000,000 shares of the par value of \$1 each. Of this number of shares some 1,850,000 shares have been issued. With the additional one hundred thousand shares authorized to be sold the treasury will still have fifty thousand remaining. The current year should be an important one in the affairs of the Schumacher.

BRITISH COLUMBIA.

May Operate Ladysmith Smelter.

If the assurances given by those interested are implemented by action there is a prospect that the Ladysmith smelter, of Ladysmith, B.C., will be in operation again before long. Mr. W. J. Watson, who is in charge of the plant, has just returned from a conference with Mr. Seiberling, of Akron, Ohio, and associates. He states that it is Mr. Seiberling's intention to commence, without delay, the development of several good North Pacific mining properties. One of these is situated on Latoache Island, and is adjacent to the well-known Alaska-Gatineau Copper mine which is a regular shipper to the Tacoma smelter. Other first-class prospects have been secured, and will be opened up with as little loss of time as possible. The intention is to open the Ladysmith smelter again, and this time permanently, when there is enough ore in sight to secure a sufficient supply to keep the furnaces of the smelter in continuous operation.

Mining Convention at Nelson.

Mr. Fred A. Starkey, President of the Associated Boards of Trade of Eastern British Columbia, has announced that the Northwest International Mining Convention will be held at Nelson, B.C., this year. While the dates had not been definitely fixed they would be placed either in the latter part of the month of June or early in July. It was explained by Mr. Starkey that the Spokane Convention was to take place at that city in March. He will attend and proposes inviting the delegates to Nelson and to ask them to arrange a time that will meet with the convenience of the majority. It is understood to be the wish of most of the American mining men that the International Convention should be assembled at Nelson and Mr. Starkey is asking his fellow citizens to give the visitors just a little better time than on the last occasion, which in point of instruction and entertainment stands out as almost the ne plus ultra.

Copper Miners' Wages Reduced Owing to Lower Prices for Copper.

Notice has been posted at the Grand Forks (B.C.), Smelter of the Granby Consolidated Mining & Smelting Company to the effect that the company proposes reducing the wages of its employees according to schedule affected by the drop in the price of copper. No statement is yet made as to the price at which the metal will be placed.

Molly Gibson Employees Victims of "Flu."

Operation of the Molly Gibson mine, near Nelson, B.C., has been seriously interfered with recently by

the ravages of the Spanish influenza. The plague struck the camp without warning. Ronald Stonier, the superintendent, and one of the miners were dead before anything was known of the trouble outside the immediate district. Of the eleven men working at the mine seven fell ill and, when the news was received, a relief party consisting of twelve men, among whom was a physician and one of the engineers of the Consolidated Mining & Smelting Company, started out in order to take the five reported to be still alive to the Nelson Hospital. Subsequently two of the latter succumbed and another miner was killed by a slide shortly after setting out for the city. Thus there were five deaths within a short period and it has been suggested that the series of fatalities will result in the closing down of the property for the winter. This, however, has not been confirmed.

With reference to the "Flu" and the difficulties which some mining operators have experienced because of it, an interesting account is given of the method adopted by a mining man with extensive interests around Sandon and Silverton, B.C. He has an understanding with his men that during the epidemic none of his men are to leave his employ, nor to come down from the mines for a "lay-off." On his part he undertakes to send no new men to work. The particular properties that he has in charge are thus rigidly quarantined and he himself, according to the arrangement, cannot go up to them, even on a trip of inspection. Consequently he is forced to direct operations by telephone. While this is awkward, it is thought better than to take the chance of the influenza gaining a foothold in any of the camps in question as, judging by other experience, once established at such centres it does not leave until the lives of many are seriously jeopardized and the work completely disrupted.

Thomas French Explains Difficulties.

Thomas French, manager of the French Complex Ore Reduction Company, the plant of which is situated at Fairview, B.C., a short distance from Nelson, B.C., complains that the action of the Provincial Government in deducting more than \$6,000 from a bond issue of \$25,000 guaranteed by the Government last year in order to pay back interest on previously issued bonds and delay experienced in obtaining the money, have seriously interfered with his programme for the demonstration of the French process for the treatment of complex zinc ores.

The position in which he finds himself is explained, from his standpoint, in a recent interview as follows:

"In 1916 the late government guaranteed a \$40,000 bond issue to enable the company to equip the Fairview plant for the purpose of demonstrating its process. This was \$10,000 less than Mr. French at the time estimated he would require, but although the price of machinery rose considerably before the money became available, he was able to keep within his estimate. The terms of the Act, however, prevented Mr. French from borrowing money from the bank to finance operations and to purchase ore. Delays, while overhead expenses continued—the Act compels the company to operate without ceasing—used up additional funds.

(Continued on page 130.)

Roseberry-Surprise Mill Closed Down.

Sandon, B.C. — The Roseberry-Surprise Mill has closed down and the ore milled at this plant in the past will be milled hereafter by the Roseberry Mill. To the community of Sandon this is a decided setback, as it constituted one of its chief industries and employed a large number of residents, mostly men of families, who will be without work.

Florence Silver Mining Co.

Ainsworth, B.C.—For ore shipped in the month of December the Florence Silver Mining Company, operating at Ainsworth, has received a preliminary settlement of \$27,200 net. The shipment amounted to 400 tons and the adjustment is at the rate of \$68 a ton on 90 per cent of the metallic content, leaving a final payment to be based on market conditions. January shipments amounted to 350 tons.

Rambler-Cariboo.

Slocan, B.C.—The Rambler-Cariboo Mines in the Slocan has declared a dividend of \$17,500 according to a recent announcement. This is at the rate of a cent a share on the issue of 1,750,000 shares. Payment will be made February 15 to stockholders on record February 5. The forthcoming disbursement will increase the total of dividend payments to \$560,000. An estimate places the company's surplus at \$55,000, which includes ore in transit and at the smelter, of which there are 60 tons of lead concentrates valued at \$7,500 net and 165 tons of zinc valued at \$20 a ton. Operations at the mill have been interrupted by a snowslide which halted the flow of water. The slide which came from Payne Mountain, covered the flume for 200 feet to a depth of 20 feet in places. The snow is being removed and the flow is expected to be restored soon. There is a difference of 1,200 feet in the elevation of the mine and the mill. Little exploration was done in 1918 owing to the high cost of supplies, transportation and labor.

Mining Convention at Vancouver.

March 17, 18 and 19 are the dates selected for the international mining convention which is to be held at Vancouver, B. C., under the auspices of the Vancouver Chamber of Mines. Committees are to be formed in each mining centre of the province in order that every district will be represented not only by delegates, but by a representative display of its mineral products. Prominent mining men of all parts of America are to receive invitations and a special effort is to be made to secure the attendance of professors of mining and geology of the different universities of the continent. One of the features is to be a display of mining machinery which, if the officials in charge realize their ambition, will be the finest and largest of its kind ever attempted in Canada. The Convention has received the endorsement of Hon. William Sloan, Minister of Mines, and of other members of the Provincial Government.

Rich Samples From Proserpine Mt. Gold Properties.

Assays have been received of a number of samples taken from the Proserpine Mountain Gold prospects near Barkerville, B. C., which are promising. These were looked forward to with interest by the owners as they came from the sulphide, about 13 feet beneath any sign of surface oxidation. The returns follow:

No. 1: From south side of shaft, 9 feet 6 inches across ledge, \$18.10.

No. 2: Across 12 feet on north side of shaft, \$22.70.

No. 3: A continuation of No. 1 across three feet of schist outside of the vein, \$7.70.

No. 4: A selected sample of mineralized schist from a seam in ledge, \$9.70.

No. 5: A sample of galena, no sulphide visible, gold, 80 cents, silver \$25.70, lead 51%.

No. 6: Taken from bottom of shaft, about 95% of silica, carrying approximately 5% of steel-grey fine grained sulphide. Several miners who are familiar with this kind of ore have pronounced it telluride. This sample gave a return of \$184.80 in gold and \$3.20 in silver per ton.

No. 7: A sample of oxidized ore from near the surface, \$165.20.

The owners are not sure whether part of the values come from the silver or whether altogether from the sulphide. If the entire values were contained in the latter it would indicate a very rich sulphide, or a telluride ore. Interest is lent to this discovery by the fact that a number of years ago John Brodie, an old time Cripple Creek Miner, discovered several pieces of rich telluride float in the vicinity and spent several years prospecting for the mother lode, without success.

Considerable of this rich sulphide was noticed by these prospectors at the bottom of their shaft, especially in the rock fractures, but not knowing its value little attention was paid to it. If this proves to be telluride ore it will mean much to the owners as well as to the district generally.

The above samples average up well with those taken by a government engineer higher up the shaft. In order to avoid deceiving themselves the owners employed an outsider — an experienced prospector — to do the sampling.

May Close Merritt Collieries.

The immediate future of the coal industry at Merritt, B. C., is reported to be uncertain. For some time the Canadian Pacific Railway company has been taking a considerable proportion of the output of that field for steaming purposes, a use to which the coal is well adapted. Recently it has been necessary, according to the operators, to increase the selling price because of the demands of men for more wages and the generally high cost of production. The company, apparently, does not care to pay at the higher rate and has cancelled its contract. If some arrangement cannot be made to continue the former business relations it is predicted that the collieries affected either will be forced to close down or to materially curtail their output. The Hon. Wm. Sloan, Minister of Mines, has been asked to assist in the effort to reach an adjustment of the difficulty to which he has acquiesced, but whether the representations which have been made through him, as well as from other sources, will be effective is doubtful at the present moment.

"Bob" Griffith, a veteran Alaska "musher," with a heavy armed guard and two dog teams, arrived at Seward, Alaska, recently with \$400,000 worth of gold dust from the Iditarod for shipment to Seattle.

Hoisting Machinery

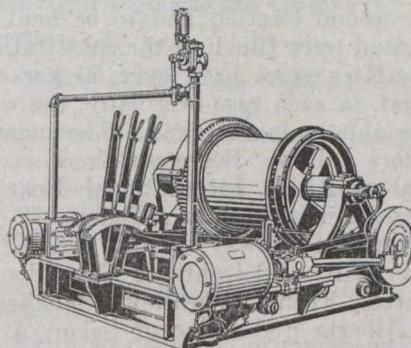
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We offer you *STEAM DRIVEN HOISTS, with Boiler, or without Boiler, ELECTRIC DRIVEN HOISTS, BELT DRIVEN HOISTS,*

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20 " " " "	5,500 "
25 " " " "	7,000 "
32 " " " "	8,000 "
40 " " " "	10,000 "
50 " " " "	12,500 "

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FOR SALE—TWO CLAIMS

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Would give Working Option to responsible parties

H. C. CROW, 184 Sunnyside Ave., TORONTO

Mr. A. I. Fisher, member of the British Columbia Legislative Assembly for Fernie District, delivered an address in the House recently deploring the waste existent in the Crowsnest Pass Coal Fields in the manufacture of coke. He declared that it was a pity that the by-products of the coal continued to be driven off into the air by the use of the obsolete bee-hive ovens. It was only a matter of chemistry, he declared, and the application of such measures as could be defined by experts which would permit British Columbia to profit by the manufacture of many commodities which, in pre-war days, were held as monopolies by other countries.

Electric Smelter for Seattle.

The announcement that the Smelters Steel Co. has decided to install electric furnaces for the smelting of British Columbia iron ores on the commercial waterway near Seattle, Wn., has been received with special interest in this province because of the efforts being made to interest capital in such an industry on the Canadian side. Whether the company will proceed with such an installation for the treatment of British Columbia ores in view of the provincial tax of 37½ cents per net ton of ore mined is considered doubtful. It will be recalled that the B. C. Government, in furtherance of its desire to see the industry initiated in the province, has offered a bounty of \$3.00 per net ton of pig iron manufactured from local ores and \$1.50 per net ton of pig iron produced from foreign ores. This, it is considered, is a satisfactory recompense, where the iron is made in British Columbia, the bounty being substantially above the tax. However, it is said that the Smelters Steel Company proposes installing four electric furnaces, with a total capacity of 30 tons of output in high grade gray iron per day. The furnaces are to be of the arc type with one electrode to each furnace. The company is reported to have abundance of the flux necessary for smelting purposes near its mines.

According to information received, the management of the Northport Smelter contemplate an indefinite closing of the plant.

P. M. CHRISTOPHER ELECTED PRESIDENT, DISTRICT 18, U.M.W.A.

Announcement has been made of the result of the election of officers to the Mineworkers' Union, District 18, U.M.W. of A., which include Eastern British Columbia and the Province of Alberta. P. M. Christopher, Blairmore, has defeated David Rees, of Vancouver, B.C., by a majority of 1486 for the presidency. Alexander McFegan, of Brule, Alberta, defeated William Dickenson, of Fernie, B.C., by 1,100 for the vice-presidency. G. Christie, Bellevue, was elected over William Potter, of Fernie, by 528 for the position of auditor. A second election had to be held before the offices indicated were filled, as the constitution requires that every officer must have over 50 per cent of the votes cast and, in each case originally, there were more than two candidates in the field. The names of other officer holders follow: Secretary-Treasurer, Edward Browne, Taber, Alta.; International Board Member, Robert Livett, Bellevue, Alta.; Tellers, W. Patterson, Blairmore; Patrick Conway, Brule; and William Hayson, Coleman, Alta.; Delegate to Dominion Trades & Labor Congress, Frank Wheatley, Bankhead, Alta.; Delegate to Alberta Federation of Labor, A. Cocchioni, Wayne, Alta.; District Executive Board, Frank Brindley, Fernie, B.C.; John Brooks, Bellevue, Alta.; Charles Peacock, Lethbridge, Alta.; Frank Wheatley, Bankhead, Alta.; John Kent, Wayne, Alta.; and David Fraser, Brule, Alta. The installation of these officers will take place on March 1, probably at the conclusion of the Annual District Convention. The newly elected officers will be charged with the conduct of negotiations for the renewal of the working agreement with the Western Coal Operators' Association, which agreement expires on March 31 next.

NEW HAZELTON GOLD-COBALT MINE.

The property of the New Hazelton Gold-Cobalt Mines, Limited, which is situated on the west side of the Rocher de Boule Mountain, and close to the line of the Grand Trunk Pacific Ry. Co., gives promise of developing into a producer of importance. Returns have been received on a carload of gold-cobalt-molybdenite ore which was shipped last August to the government ore testing plant at Ottawa. They show considerable values in the three minerals mentioned as well as some in nickel and arsenic, the gross values of the 26 tons, based on molybdenite at \$1 per lb., cobalt at the same, nickel at 50 cents, arsenic at 5 cents and gold at \$20 being placed at \$2,399.45. This company some months ago shipped 28 tons of its ore to the Anyox, B.C. smelter, which gave returns of \$1,090.00 in gold, or \$53 net to the ton in gold alone after payment of railway and smelter charges. As there is no means at Anyox for saving other values, no return was given on other content. The opening up of the property is proceeding, work now being under way on copper veins as well as on the rich gold-cobalt vein. Fifty sacks of the latter ore are said to be ready for shipment, which is being constantly added to with a view to its being forwarded for treatment in the spring.

B. C. Government Engineers May Examine Metalliferous Mine or Works.

Mining engineers in the employ of the Government of British Columbia, of whom there are six, each having charge of one of the mineral districts into which the Province has been divided, are to be given authority to make examination of any metalliferous mine, reduction works, or concentrating plant of the Province. Non-compliance entails a fine of from \$10 to \$500. It is not

INTERNATIONAL MINING CONVENTION

VANCOUVER, B. C.

March 17, 18 & 19

Under auspices of British Columbia Chamber of Mines, Leaders of Mining World in Canada and the United States will take active part in the proceedings.

Most comprehensive display of ores and up-to-date mining machinery ever seen in Canada.

Everyone interested in mining operations should arrange to visit Vancouver next month.

Write for full particulars to

JOHN D. KEARNS, Manager,
Rogers Building, Vancouver, B. C.

suggested that the engineers have received anything but the most courteous treatment from the mine and smelter operators, but Hon. Wm. Sloan, Minister of Mines, proposes that the engineers shall be provided for the fullest legislative authority in the carrying out of the responsible duties of their offices.

In the last month the Rossland mines have been adding quite a number of men to their working forces.

The estimated quantity of iron ore mined in the United States in 1918 amounted to 69,712,000 gross tons, compared with 75,288,851 tons in 1917, a decrease of 7.4 per cent. The estimated shipments of ore from the mines in 1918 were 72,192,000 gross tons, valued at \$246,043,000, compared with 75,573,207 tons, valued at \$238,260,444 in 1917, a decrease in quantity of 4.5 per cent but an increase in value of 3.3 per cent. The average selling value of the ore per gross ton at the mines for the whole United States in 1918 was \$3.41, compared with \$3.15 in 1917.

About 86 per cent of the iron ore mined and shipped in 1918 came from the Lake Superior district, in which about 60,092,000 gross tons were mined and about 62,285,000 tons were shipped in 1918, compared with 63,666,068 tons mined and 63,854,752 tons shipped in 1917, representing decreases of 5.6 per cent and 2.5 per cent, respectively, in 1918. The average selling price of iron ore at the mines in the Lake Superior district in 1918 was \$3.50 a ton compared with \$3.28 a ton in 1917. The quantity mined in the States in this district—Michigan, Minnesota, and Wisconsin—showed a decrease and the quantity shipped in Minnesota and Wisconsin showed a decrease, but the shipments from Michigan apparently increased slightly. The decrease in the quantity mined in the Lake Superior district, about 3,574,000 tons, was partly made up from stocks, which were evidently depleted to the extent of about 2,202,000 tons in 1918.



PROVINCE OF QUEBEC

MINES BRANCH

Department of Colonization, Mines and Fisheries

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The Mining Law gives absolute security of Title and is very favourable to the Prospector.

MINERS' CERTIFICATES. First of all, obtain a miner's certificate, from the Department in Quebec or from the nearest agent. The price of this certificate is \$10.00, and it is valid until the first of January following. This certificate gives the right to prospect on public lands and on private lands, on which the mineral rights belong to the Crown.

The holder of the certificate may stake mining claims to the extent of 200 acres.

WORKING CONDITIONS. During the first six months following the staking of the claim, work on it must be performed to the extent of at least twenty-five days of eight hours.

SIX MONTHS AFTER STAKING. At the expiration of six months from the date of the staking, the prospector, to retain his rights, must take out a mining license.

MINING LICENSE. The mining license may cover 40 to 200 acres in unsurveyed territory. The price of this license is **Fifty Cents an acre per year**, and a fee of \$10.00 on issue. It is valid for one year and is renewable on the same terms, on producing an affidavit that during the year work has been performed to the extent of at least twenty-five days labour on each forty acres.

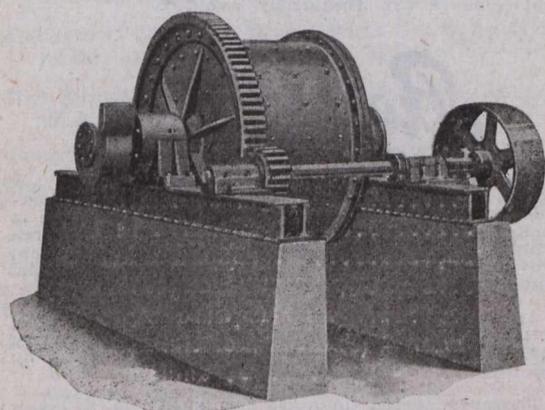
MINING CONCESSION. Notwithstanding the above, a mining concession may be acquired at any time at the rate of \$5 an acre for SUPERIOR METALS, and \$3 an acre for INFERIOR MINERALS

The attention of prospectors is specially called to the territory in the North-Western part of the Province of Quebec, north of the height of land, where important mineralized belts are known to exist.

PROVINCIAL LABORATORY. Special arrangements have been made with POLYTECHNIC SCHOOL of LAVAL UNIVERSITY, 228 ST. DENIS STREET, MONTREAL, for the determination, assays and analysis of minerals at very reduced rates for the benefit of miners and prospectors in the Province of Quebec. The well equipped laboratories of this institution and its trained chemists ensure results of undoubted integrity and reliability.

The Bureau of Mines at Quebec will give all the information desired in connection with the mines and mineral resources of the Province, on application addressed to

HONOURABLE HONORE MERCIER,
MINISTER OF COLONIZATION, MINES AND FISHERIES, QUEBEC.



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New Copper Wage Scale.

Boston—A new minimum basis of 18 cents a pound will be adopted by the copper industry as a basis for wages to be paid the mine workers. Word to this effect will be conveyed to the various copper camps as a result of conferences among producers, government officials and labor representatives.

The sliding scales of the several districts throughout the country will be resumed as a basis for paying the mine workers, but should the metal drop below 18 cents a pound the wages will not be affected. Any excess in price over that figure will produce a higher wage.

The 18-cent minimum will provide for payment in the larger camps as follows:

Camp	Day
Butte	\$4.75
Clifton	4.00
Globe	4.90
Miami	4.90
Jerome	4.90
Bisbee	5.00

The reduction from current wages will average \$1 per day should the immediate adoption of the minimum wage be found necessary.

No specified period will be covered by the mining companies in promulgating the notice of an 18-cent minimum.

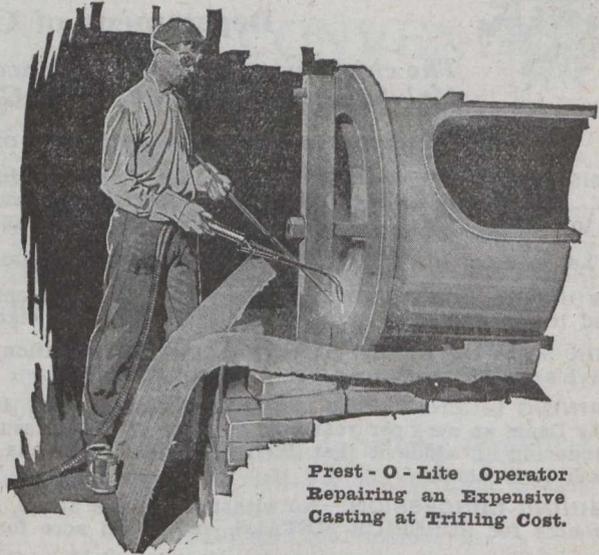
The January wages were all paid on the basis of war time conditions and 32-cent copper. The current month has witnessed small sales only on a downward tendency to 18½ cents a pound. Just what the February scale will be must depend on copper prices yet to be made.

(Continued from page 125.)

“Last season the French Company secured an additional bond guarantee of \$25,000. This sum, he estimated, if the company were granted an amendment to the Act which would enable him to finance the purchase of ore through a bank, would have enabled him to demonstrate the commercial possibilities of the process. It was his plan, he stated, to follow the usual smelting practice of borrowing money against metals on hand and awaiting sale in the market. In this way ore could be purchased and the plant operated directly it had got underway. The \$25,000 issue was guaranteed, but the amendment to enable borrowing against metal stock on hand was not made and Mr. French learned recently that the government had deducted an amount of \$6,131 from the \$25,000 and employed it to pay interest on the \$40,000 for three years to December 1st last. There was much delay in making the second issue available, which further increased expenses. None of the \$25,000 was received by the French Company until November 6. The original Act states that the province guaranteed the interest and agreed to pay it out of consolidated revenue fund. The intention was that the company should get the full amount of the bond issue. It did so in the case of the \$40,000 but has been credited with only between \$18,000 and \$19,000 of the issue guaranteed last year.

“Mr. French is now asking that the government rescind its action of deducting the \$6,131 from the \$25,000 issue. If that is done the amount still available for the use of the company, and which Mr. French believes will be sufficient to enable it to demonstrate its process, will be nearly \$11,000. Hence the company has actually spent only about \$14,000 of the \$25,000 bond issue guaranteed by the Province last year.”

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Apparatus consists of an equal pressure blow pipe, automatic regulators and gauges, and all necessary equipment. Adaptable for oxy-acetylene cutting by the addition of special cutting blow pipe.

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R. G. McCONNELL, *Deputy Minister*

MINES BRANCH

Recent Publications

Iron Ore Occurrences in Canada, Vol. II. Compiled by E. Lindeman, M.E., and L. L. Bolton, M.A., B.Sc. Introductory by A. H. A. Robinson, B.A.Sc.

The Copper Smelting Industry of Canada. Report on, by A. W. G. Wilson, Ph.D.

Building and Ornamental Stones of Canada (British Columbia). Vol. V., by W. A. Parks, Ph.D.

Peat, Lignite and Coal; their value as fuels for the production of gas and power in the by-product, recovery producer. Report on, by B. F. Haanel, B.Sc.

Annual Mineral Production Reports, by J. McLeish, B.A.

The Coal-fields and Coal Industry of Eastern Canada, by F. W. Gray.

Occurrences and Testing of Foundry Moulding Sands. Bulletin No. 21, by L. H. Cole, B.Sc.

Analyses of Canadian Fuels. Parts I to V, by E. Stansfield, M.Sc., and J. H. H. Nicolls, M.Sc.

Clay Resources of Southern Saskatchewan, by N. B. Davis, M.A., B.Sc.

Summary Report of the Mines Branch, 1917.

The Mineral Springs of Canada. Part II., by R. T. Elworthy, B.Sc.

The Mines Branch maintains the following laboratories in which investigations are made with a view to assisting in the development of the general mining industries of Canada:—

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Applications for reports and particulars relative to having investigations made in the several laboratories should be addressed to The Director, Mines Branch, Department of Mines, Ottawa.

GEOLOGICAL SURVEY

Recent Publications

Summary Report. The annual Summary Report of the Geological Survey is now printed in parts. Applicants should therefore, state what particular geologist's report is required, or what subjects they are interested in.

Memoir 95. Onaping Map-Area, by W. H. Collins.

Memoir 98. Magnesite Deposits of Grenville District, Argenteuil County, Quebec, by M. E. Wilson.

Memoir 101. Pleistocene and recent deposits in the vicinity of Ottawa, with a description of the soils, by W. A. Johnston.

Memoir 105. Amisk-Athapapuskow Lake district, by E. L. Bruce.

Memoir 106. Road materials in a portion of Vaudreuil county, Quebec, and along the St. Lawrence river from Quebec boundary to Cardinal, Ontario, by R. H. Picher.

Map 63A. Moncton Sheet, Westmoreland and Albert Counties, New Brunswick. Topography.

Map 132A. Southwestern portion of Rainy River district, Ontario. Soils.

Map 135A. Lower Churchill river, Manitoba. Geology.

Map 145A. Timiskaming county, Quebec. Geology.

Map 154A. Southwestern Yukon.

Map 157A. East Sooke, Vancouver Island, British Columbia. Topography.

Map 165A. Windermere, Kooteney district, B.C. Topography.

Map 174A. Blairmore, Alberta. Topography.

Map 179A. Onaping; Sudbury and Timiskaming districts, Ont. Geology.

Map 183A. Harricanaw-Turgeon basin; Abitibi, Timiskaming and Pontiac, Que. Geology.

Maps 1697 and 1698. Explored routes in a belt traversed by the Canadian Northern Ontario railway.—in two sheets: Sheet 1 Gogama to Missonga, Sudbury district; Sheet 2 Oatland to Penhurst, Algoma district, Ontario.

Map 1690. Whiteburn Gold District, N.S. Geology.

Map 1702. Klotassin, Yukon Territory. Geology.

Map 1710. Bothwell-Thamesville oil region, Kent county, Ontario.

Map 1712. Foothills of Southern Alberta, St. Mary river to Highwood river. Geology.

Map 1714. The Niagara peninsula, Ontario. Geology.

Map 1715. The Ontario peninsula. Geology.

Applicants for publications not listed above should mention the precise area concerning which information is desired.

Maps published within recent years may be had, printed on linen, at the nominal cost of ten cents each.

The Geological Survey will, under certain limitations, give information and advice upon subjects relating to general and economic geology. Mineral and rock specimens, when accompanied by definite statements of localities, will be examined and their nature reported upon.

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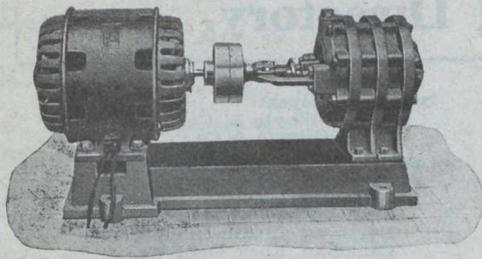
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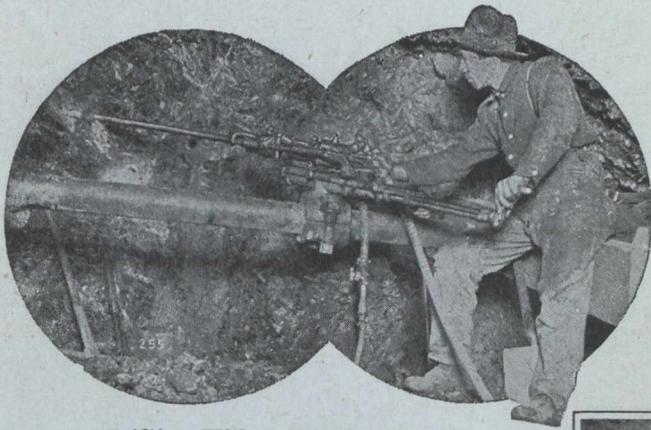
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Jones & Glassco.
- Prospecting Mills and Machinery:**
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Fraser & Chalmers Engineering Works.
Fraser & Chalmers of Canada, Ltd.
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- Pumps—Boiler Feed:**
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R. T. Gilman & Co.
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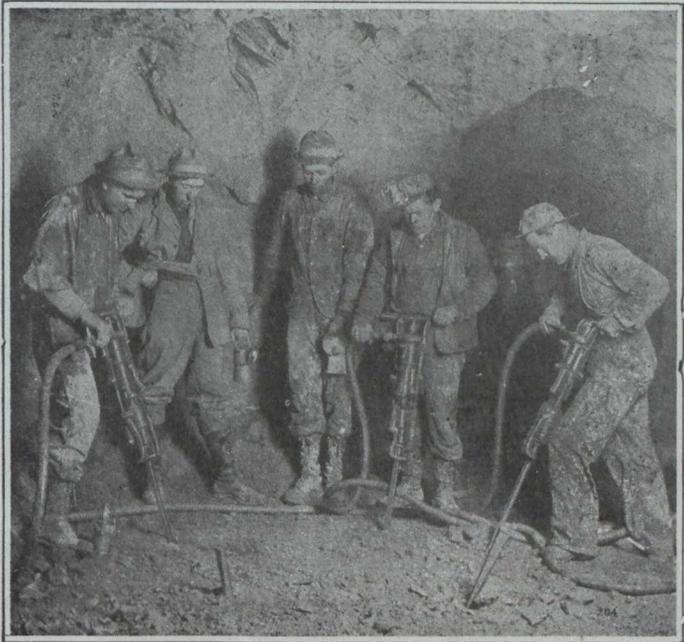
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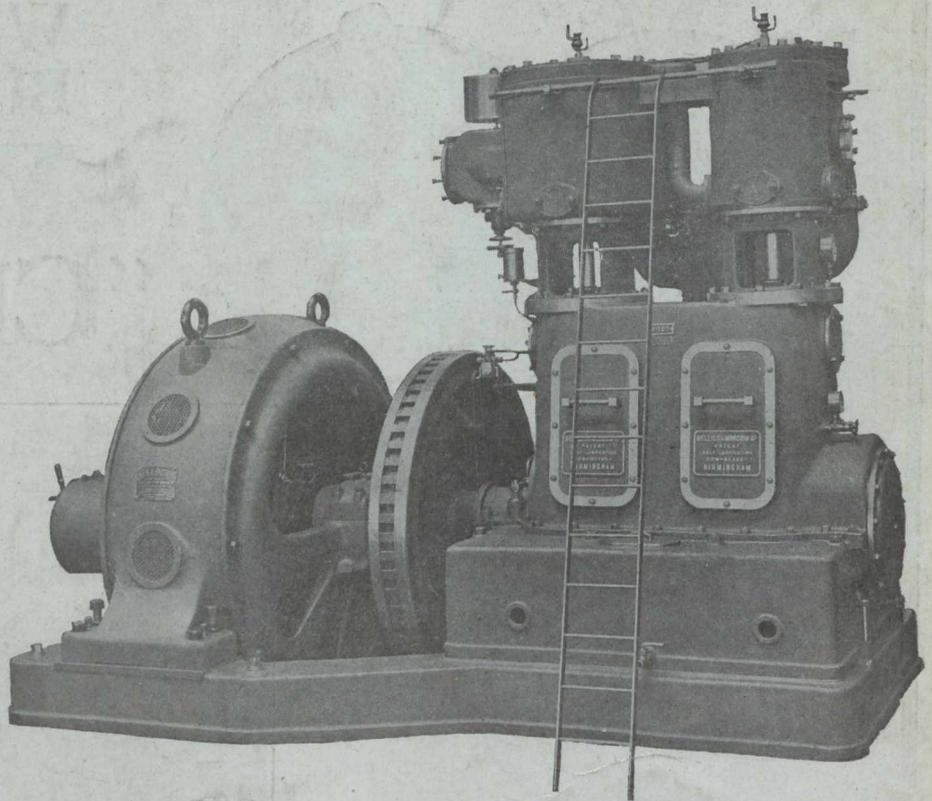
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