

CANADIAN MINING JOURNAL

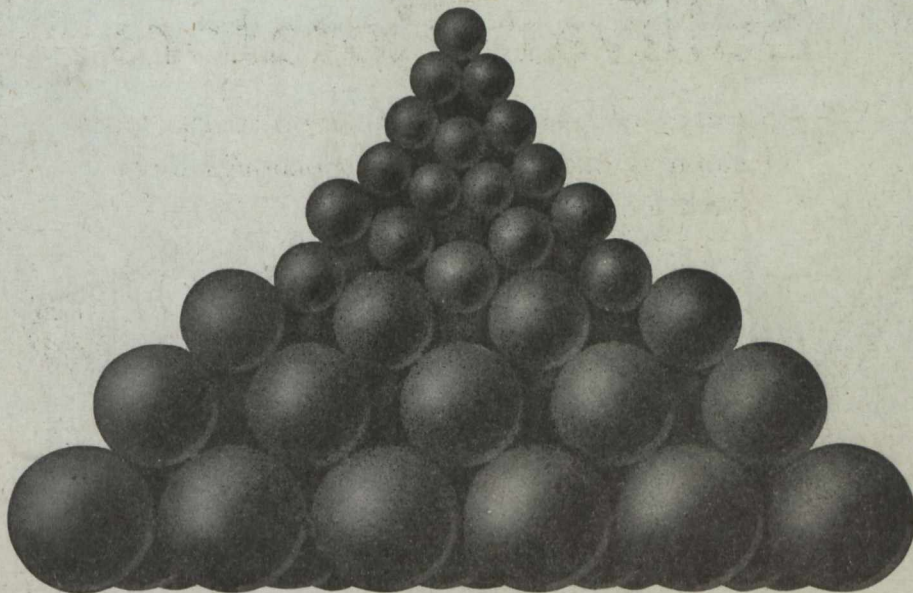
VOL. XL.

May 7, 1919.

No. 18

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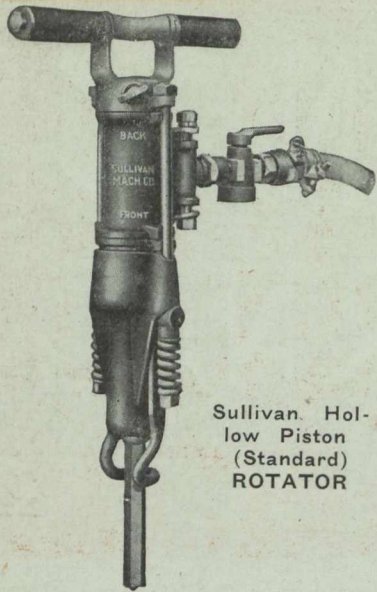
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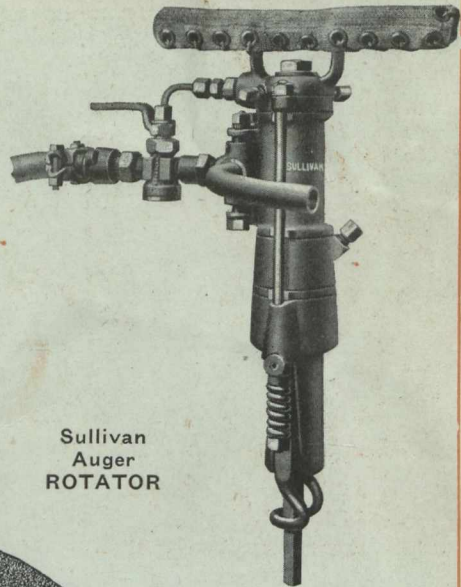
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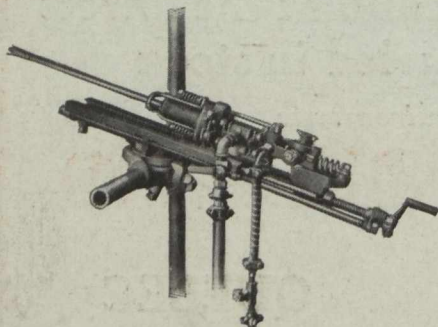
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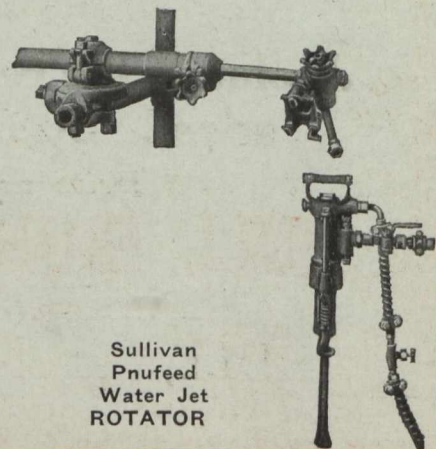
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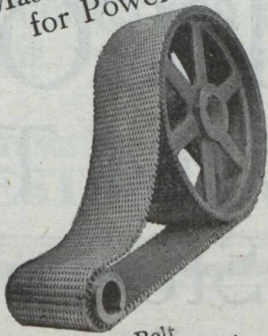
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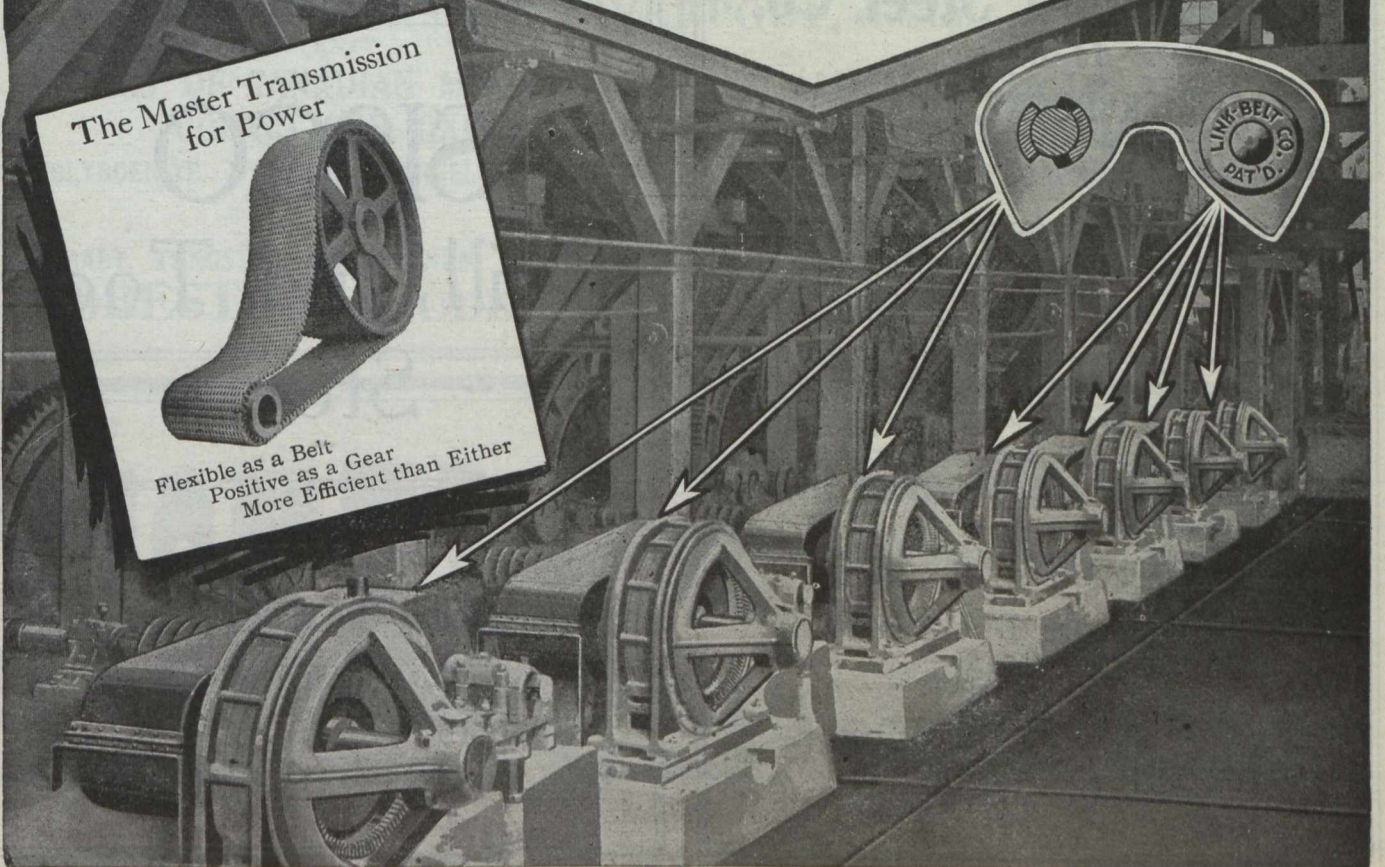
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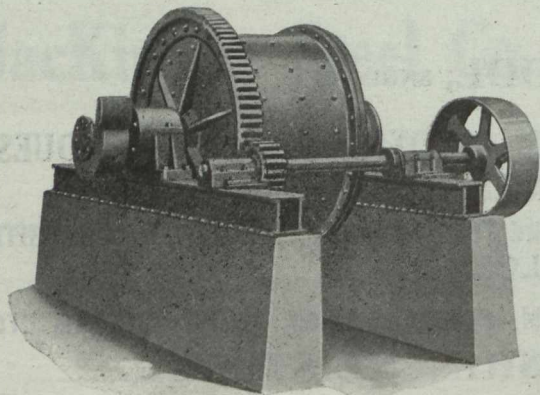
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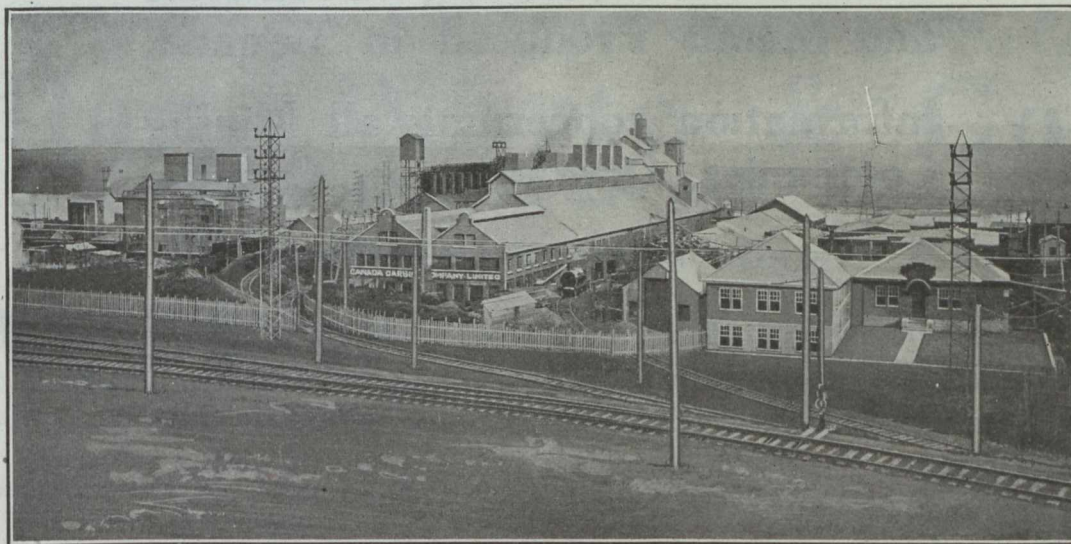
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Many other useful minerals, both metallic and non-metallic, are found in Ontario:— actinolite, apatite, arsenic, asbestos, cobalt, corundum, feldspar, fluorspar, graphite, gypsum, iron pyrites, mica, molybdenite, natural gas, palladium, petroleum, platinum, quartz, salt and talc.

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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.

Dividends and bonuses paid to the end of 1917 amounted to \$11,486,167.45 for gold mining companies, and \$70,821,829.34 for silver mining companies, or a total of \$82,307,996.79.

The prospector can go almost anywhere in the mineral regions in his canoe; the climate is invigorating and healthy, and there is plenty of wood and good water. A miner's license costs \$5.00 per annum, and entitles the holder to stake out in any or every mining division three claims of 40 acres each. After performing 240 days' assessment work on a claim, patent may be obtained from the Crown on payment of \$2.50 or \$3.00 per acre, depending on location in surveyed or unsurveyed territory.

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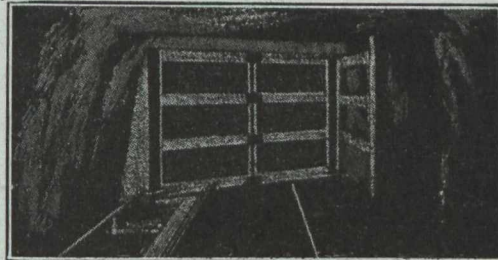
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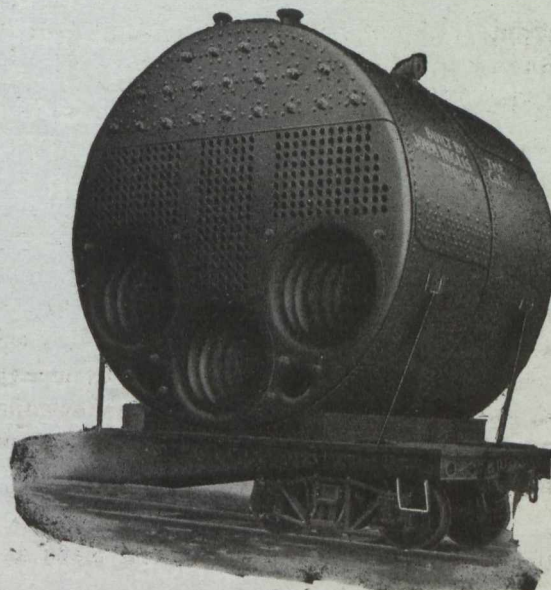
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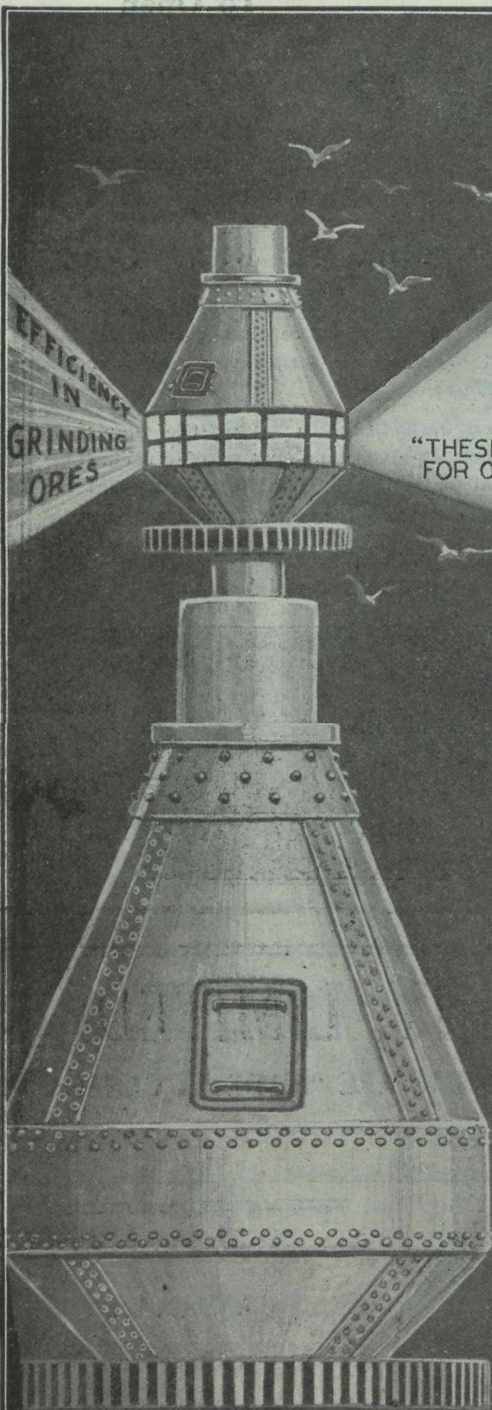
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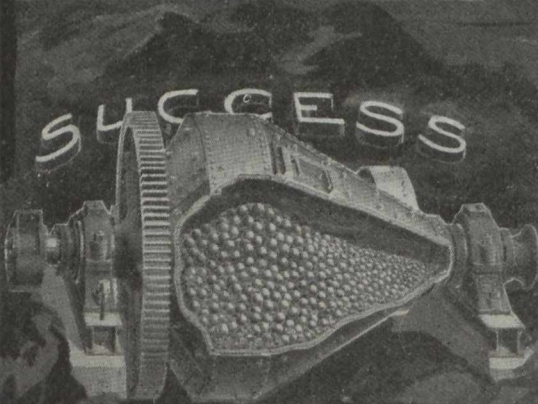
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VOL. XL.

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No. 18

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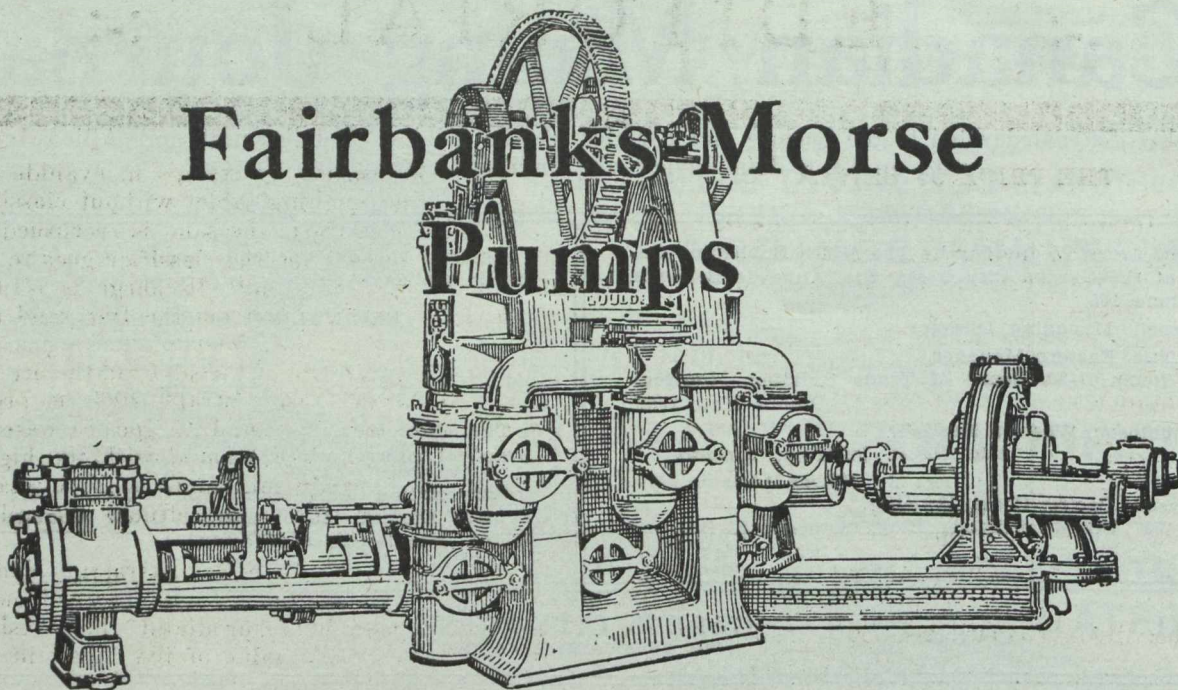
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EDITORIAL

THE PRICE OF SILVER.

Mining Interests in the Cobalt silver district are evincing a good deal of interest in the activities of the so-called "Silver League", in the United States. Should the efforts of the League be successful, and result in the removal of the fixed maximum price of silver, or perhaps an increase from 101.½ cents to \$1.25 cents an ounce, the development would be of extreme importance to the silver mines of this country. Not only would it result in greater earnings on present ore, but should serve to add tonnage, in that a large amount of low grade material not classified as commercial ore with silver at the current quotations, could be profitably treated following an increase in price.

INCREASED ACTIVITY IN GOLD MINING.

There is every indication that the increase in activity in gold mining is to result in very important developments this year. In some lines of industry there are so many difficulties to be overcome that the return to normal conditions is being very slowly made. In the case of gold mining we will not have a return to pre-war conditions, but rather an expansion that will make pre-war operations look small. Porcupine and Kirkland Lake areas will soon be producing on a larger scale and the less developed gold areas will also receive attention.

MINING.

Treatment of Silver Ore at Nipissing Mine.

In his report on operations during the past year, general manager R. B. Watson says of the results obtained by the alleyanide process:

"The process which has heretofore been used in the treatment of our high grade ores and which gave satisfactory results for seven years, is an amalgamation process, using a large quantity of mercury. The price of mercury before the war was \$33.00 to \$39.00 per flask of 75 lbs. Demand for war purposes raised the price to \$130.00 per flask. This so increased the cost of the process that it was decided to discontinue amalgamation and rely on cyaniding alone, after giving the ore a preliminary treatment with bleaching powder in the tube mill.

"The necessary apparatus for this process was installed in the low grade mill at a small cost, and in August last the old high grade mill was shut down. The new process is working smoothly and will be used as long as it shows a saving over amalgamation."

In the low grade mill there was treated during 1918 80,274 tons ore containing 1,911,198 oz. silver and 43 tons by-products containing 116,066 oz. silver. There was recovered 1,796,923 oz. silver or 87.95 per cent. The average tailing contained 2.82 oz. silver per ton.

In February 1918, thirteen roughing tables were installed over the tube mills, and in April, sixteen fine sand tables were added.

"The ore is crushed by stamps in cyanide solution and goes to the roughing tables without classification. The tailing is classified; the sand is re-crushed in tube mills; the overflow from the classifier goes to the fine sand tables. The tube mill discharge is returned to the classifier; the tailing from the fine sand tables is cyanided.

"By this method 48% of the silver in the ore is recovered in the form of concentrate, 40% as precipitate from the cyanide plant, and 12% goes to waste.

"The concentrate is re-treated with the high grade ore in the high grade mill and the precipitate from both treatments is sent to the refinery where it is converted into bullion.

"This process gives a better extraction and at less cost than can be obtained by cyanide alone on the quality of ore now being produced; due consideration must be given for the value of the cobalt in the concentrate.

"Forty stamps ran 323 days, or 88.49% of the possible dunning time; they crushed 248 tons per day or 6.98 tons per stamp per day."

DEVELOP CLAIMS OR FORFEIT THEM.

In connection with the problem of finding a remedy for the existing laws which permit large areas of territory to become staked out and held in idleness, the suggestion that all claim holders should have to perform perpetual assessment work or pay its equivalent in taxation, has apparently met with no concrete opposition, and has found considerable favor in the eyes of not a few prospectors.

Genuine prospectors look upon the frequent amendments to the Mining Act of Ontario as the very reason for the Act being perhaps the most satisfactory ever compiled. The genuine prospector is as far from being a "land grabber" as a racehorse is from being a donkey. As for the frequency of amendments to the Mining Act, the present day prospectors have to thank the untiring and sincere effort of far-sighted men for these very amendments which are serving to keep the mining laws up to date. In order to keep such laws from becoming obsolete it is necessary to continually add desirable amendments. Very recently the prospectors received the benefit of an amendment which permits the cost of survey to apply as so much assessment work done.

The properties like the Nipissing, Miller, Lake-O'Brien, Dome, Hollinger, Tough-Oakes and dozens of others, were developed into important mines, not through being held in idleness, but through the unremitting efforts of their owners. These properties, without exception, were worked almost continually without such work the prospectors and the country would not be reaping the present great advantages which have accompanied the successful development of such mines.

If assessment work were to be perpetuated on mining claims, and before such an amendment should be made, it is unquestionably true that "land grabbing" on the

part of so-called settlers should also be remedied. Truly, it would not be just to single out any one set of individuals as being responsible for the present conditions, but the fact remains that large areas are being held in idleness by reason of patent having been secured on mining claims and the only apparent remedy lies in perpetuating assessment work or imposing its equivalent in taxation. Such would not mean that annual trips to mining claims would be necessary, in that work could be done as far in advance as desired, but it would mean that the game of watchful waiting would cease.

The writer has spent a good deal of time in the majority of the mining camps in Canada, the time, for the greater part, being spent in the capacity of a prospector. In each case, that old adage "when in Rome do as the Romans do," has been adhered to. This has been particularly true in Northern Ontario, where the mining laws appear to be better than any others in the world, and where any prospector should be pleased to apply his efforts, and where we have the advantage of a Bureau of Mines that at all times is endeavoring to add to the efficiency of the mining laws.

The Journal solicits expressions of opinion from mining men and prospectors with regard to the advisability of supporting a plan to perpetuate work on mining claims, believing that such would prove beneficial to the genuine prospector. A wholesome discussion of the subject should be beneficial.

The suggestion appears to have already won a good deal of favor, not only among the prospecting fraternity, but with the Mining Commissioner for Ontario, as well as among members of the Canadian Mining Institute.—J. A. McR.

Western coal operators are asking for an independent board to take control of the coal industry in the West. This would indicate approval of the work of Mr. Armstrong who, during the war has been Director of Coal Operations in District 18.

The discontinuation of British Government purchases of ores of molybdenum and tungsten has evidently been caused by the over supply on the market. This will be unwelcome news to those who opened molybdenite mines during the war.

The conferring of the honorary degree of LL.D. on Emeritus Professor William Nicol has been a well merited distinction. Professor Nicol has been for nearly thirty years a teacher at Queen's University and an enthusiastic one. He has to his credit a large share of the success of the School of Mining, where he trained many a student in the use of powers of observation. He had a passionate love for the school and its work, and did everything in his power to make it efficient. As a teacher of mineralogy, he endeavored to obtain for each student a collection of representative minerals, for he is a strong believer in the objective method, which has recently been championed by Mr. Corless. He took such a personal interest in all his students that there is peculiar satisfaction to them in learning that "Billy" Nicol has been honored by his university.

According to reports of hearings before the Industrial Relations Commission in Calgary last week the operators present did not favor the appointment of a joint council of employers and employees because most of the miners are foreigners whose ignorance made them a prey to agitators. It is unfortunately true that in most mining districts there is a large proportion of foreigners, most of whom cannot understand the English language, and that these men are commonly used as tools, by agitators. But should we not endeavor to do something to remedy this condition of affairs? Can we make progress so long as the same old objections are accepted as insurmountable obstacles: If we are to continue to use foreigners, should we not attempt to make good intelligent citizens of them? What is being done in the mining communities to counteract the propaganda of professional disturbers?

COMPARATIVE COST OF MATERIALS.

In the report of Mr. D'Arcy Weatherbee, of the Mining Corporation of Canada there is published the following comparative summary of material costs. It will be seen that practically every item increased in 1918 over 1917. Since the Armistice, however, a tendency to lower prices is indicated and it is hoped that 1919 will show a general reduction.

	Dec. 1913	Dec. 1915	Dec. 1916	Dec. 1917	Dec. 1918
40% Forcite Price per 100 lbs.	\$12.98	\$12.98	\$20.58	\$24.75	\$24.75
60% " " " " "	15.98	15.98	25.58	31.75	31.75
No. 8 Detonators Price per 100	1.19	1.72	2.70	2.70	2.70
Fuse Price per case (6,000 ft.)	23.85-24.35	26.60	28.60	33.20	43.80
Mine Rails Price per ton	43.50-45.00	48.00	52.00	100 up	100 up
Steel Sheets 3-16 Price per 100 lbs.	2.90	2.75	5.43	10.00	12.00
" " 1/8 " " " "	3.00-3.20	2.90	6.00	7.25	12.00
Bar Iron, Base " " " "	2.50	2.50	3.80	5.00	5.25
Solid drill steel " " " "	8.00-8.50	7.88	10.50	14.00	16.00
Hollow drill steel . . . . . " " " "	.....	12.00	12.00 and 14.00	23.50	25.50
Nails, Base " " " "	2.90	3.30	5.10	5.85	6.10
Fuel Oil Price per gal.	.....	.08 1/2	.11	.13 1/2	.14
Drill Oil " " " "	.24-.26 1/2	.22	.25	.28	.26
Waste Price per lb.	.08 1/2-.09	.08 3/4	.15	.16 1/2	.14 3/4
Steam Coal Price per ton	5.75-5.87	5.75	6.20-9.80	9.70	10.15
Pipe: 1" Price per 100 ft.	5.41	5.44	9.98	14.00	14.79
" 2" " " " "	11.78	11.90	20.12	30.48	32.12
" 3" " " " "	24.71	24.72	44.89	63.86	67.34

MINING CORPORATION.

In the report on exploration of new properties Mr. D'Arcy Wetherbe, consulting engineer of the Mining Corporation of Canada says in part:

Efforts were continued in 1918 to secure a suitable property for exploitation, but, although out of many investigated several have distinct merit, only one has been acquired. In Canada and the United States 160 proposals were considered against 90 in 1917, and a large number of these were examined by your engineers. In the Cobalt district, four properties were examined and extensive work was done on three of them. All were rejected, however, as no ore bodies were proved. At North Cobalt a property is now being actively prospected, though nothing of value has as yet been found.

In the Casey district, the Mining Corporation, working under option, is developing the "Nels Nelson" and other claims, where, in 1914, a shaft was sunk on a vein to a depth of 40 feet, but has since lain idle. This shaft, known as No. 5, has been equipped with head frame, hoist and pumps, and the necessary buildings. It is to be sunk to the Keewatin contact, which several diamond drill holes have shown to lie, in this neighborhood, at an approximate depth of 350 feet. Cross-cuts will be driven from this shaft, both at the 220 foot level and from a level near the contact, northeasterly and southerly, closely following the plan suggested by the writer in 1914, of which details were at that time issued to the shareholders of the Casey Cobalt Silver Mining Company. This shaft, at the close of 1918, has reached a depth of 280 feet.

Of the other prospects in Northern Ontario, the "Rickard," on preliminary examination, showed rich gold ore near the surface, but after a campaign of drilling and underground work, occupying over six months, very discouraging results forced its abandonment.

Near Madoc, in Eastern Ontario, a vein of fluorspar was examined and finally acquired and a separate Company controlled by your Corporation was formed for its exploitation. A plant has been installed and a power line built to the property by the Ontario Hydro Electric Commission. Development work has reached a depth of 200 feet, and a body of ore of good quality has been partially exposed. Shipments of this ore have been made to several buyers under contract, and are expected to be resumed shortly. Depending on the future market condition, and on the results of further development of the ore body, the venture seems promising.

In British Columbia, and at other places in Western Canada, several properties, examined or considered, were all decided to be unsuitable for acquisition, and the options were given up.

Shareholders will have heard of the tragic news of the visit to Alaska, to examine the "Engineer" gold mines, by your Resident Manager, Mr. C. E. Watson, and his assistant, Mr. Randolph, during which both these gentlemen, as well as one of the chief owners of the property, lost their lives under most distressing circumstances, in the sinking of the steamer Princess Sophia. No report on the examination was received and no further action has, under the circumstances, been taken.

NIPISSING'S SEARCH FOR NEW PROPERTIES.

In the report of the Nipissing Mining Company for the past year, general manager R. B. Watson, says:

A diligent search was made to acquire another mine for Nipissing; over a hundred different properties were examined either personally or by reports — mines situated in Canada, Arizona, California, Idaho, Missouri, Montana and Nevada.

Most of the work was done in Ontario where we had a scout in the field throughout the year. Fifty-three separate groups in fifteen townships in Ontario and Quebec were personally examined. The work done in the United States was in charge of another engineer.

Only two of these properties were taken over and operated and in neither case were the developments satisfactory. At Fort Matachewan on the Montreal River considerable surface work was done on a gold property, but the results did not justify its purchase.

At Butte, Montana, an interest was acquired in the Butte Copper Czar Mine by buying treasury stock, the proceeds of which were spent under our direction. The development was disappointing and the mine was closed down.

Search for new properties will be continued during the coming year.

COST OF PRODUCING SILVER AT NIPISSING MINE.

Based on production of 3,701,416 ounces silver.

		Per Ton Ore	Per oz. Silver Cents
Exploration	\$ 108,227.	\$ 1,329	2.92
Diamond Drilling	20,045.	.246	.54
Development	73,023	.897	1.97
Stoping	104,380.	1,282	2.82
Hauling Dumps	6,706.	.082	.18
Shipping Residue and Cobalt Ore	3,369.	.041	.09
Assaying and Engineer- ing	9,968.	.122	.27
Administration and of- fice	42,702.	.525	1.15
Camp Maintenance	9,091.	.112	.25
Insurance and Taxes	383,716.	4,713	10.37
General and Legal	12,923.	.159	.35
High Grade Mills	144,749.	1,778	3.91
Low Grade Mill	410,014.	5,037	11.08
Depreciation on Plant	59,004.	.725	1.59
Marketing Product	67,249.	.826	1.82
Corporation, N. Y. Of- fice, and Travelling	20,660.	.254	.56
	<u>\$1,475,832.</u>	<u>\$18.128</u>	<u>39.87</u>
Less Rents, Profit on Supplies Sold, Dis- count and Exchange at Cobalt	31,481.	.387	.85
Total Cost of Pro- duction	<u>\$1,444,350.</u>	<u>\$17.741</u>	<u>39.02</u>

Merritt Collieries.

The Merritt Collieries Ltd. are opening up a new No. 3 slope. It is in the Diamond Vale field and when completed is expected to result in a material increase in the coal production of that section.

THE BRITISH COLUMBIA DEPARTMENT OF INDUSTRIES.

The mining industry of British Columbia is expected to be materially benefited by the Industrial Act which passed the last session of the Provincial Legislature. A deputation of returned soldiers made representation that action along these lines should be taken for the purpose, generally, of promoting industry and the development of the natural resources of the country. For this work an industrial Commissioner must be appointed and this official and his assistants must have funds. The latter necessity has been foreseen by the granting of authority by the Legislature for the raising of the moneys required up to a certain set maximum. Mining men, as has been stated, are looking to see this move help them and the industry in which they are interested. They believe that, as British Columbia probably is more a mineral bearing area than anything else, those concerned with mining must receive the most assistance.

Following are the powers of the Department of Industries set out in seriatim form:

The powers of the Department of industries shall be:

- (a) To provide for industrial research; to co-ordinate as far as possible all industrial investigation and research; and to collect and disseminate data emanating therefrom.
- (b) To acquire and utilize in arts and manufactures the knowledge already existent in other countries.
- (c) To carry out an economic survey of the natural resources of the province, and to furnish advice in regard to the best methods of utilizing such resources.
- (d) To furnish advice with regard to the best methods for attacking industrial problems, for inducing industrial improvements, and for facilitating and encouraging manufacture in suitable localities;
- (e) To co-ordinate various industries so as to obtain the best combined results and the exchange between user and manufacturer of manufacturing improvements and operating experience, and to bring together producer, manufacturer, and purchaser.
- (f) To publish technical, scientific and statistical information, and to encourage technical and industrial study by all possible means;
- (g) To enquire and report on and aid in the establishment of any industries in British Columbia where it appears that such industries can profitably be carried on.
- (h) To consider and initiate scientific researches in connection with or for the promotion of primary or secondary industries in the province;
- (i) To aid by loan, guarant or guarantee of securities on approved plans any enterprise calculated to encourage the economic and commercial manufacture of the natural resources or products of the province;
- (j) To consider and deal with plans submitted by representative bodies of returned soldiers of British Columbia for promoting and providing for employment through the establishment of new industries and the development of existing industries;
- (k) Generally for any other purpose calculated to promote the economic development of the province.

Oil Company Wants Concession in Peace River District.

The D'Arcy Exploration Company, which is the exploration agent of the Anglo-Persian Oil Company, is interested in the oil bearing possibilities of certain sections of British Columbia. A representative of the former concern has approached the Provincial Government seeking such concessions as would warrant the investment of the capital required to thoroughly prospect the areas which are considered promising. The company's chief request is to be given control over a tract of land 60 miles square in the Peace River District immediately south of the block of land owned by the Dominion Government and lying directly west of the inter-provincial boundary. Two years are asked for to carry out necessary geological examination and three years more for drilling and other preliminary work. In return the company proposes that the Province shall receive one-eighth, or 12½ per cent. at the casing mouth of all oil discovered and produced.

Mr. C. F. Law, who is acting for the Company in its negotiations with the Government, points out that the tract of land asked for would be only about one-tenth of the vast Peace River Territory. Probably not more than one-tenth of the lands covered by a concession would be actually used in producing oil, as, of course, the land actually needed in producing oil is a small proportion of what must be explored. The company, Mr. Law explains, seeks sole exploration rights within the area named. It is not willing to go in under the existing regulations, which would give it prospecting rights only. Thus, after the expenditure of much capital, it might find itself in the position of discovering oil on property not under its control. It has consented to pay 12½ per cent. royalty to the Government for the reason that a larger concession is being asked than is provided for under the existing laws. Provincial Statutes, it may be explained provide that oil producing companies shall pay a royalty of 2½ per cent. per barrel. Mr. Law wants the Government to act without delay. He states that to wait to place the matter before the Legislature at its next session would mean the waste of a year in exploration. He believes that oil will be discovered in quantity and hopes that the company will be permitted to proceed with its plans immediately.

Granby By-product Coke Ovens to be Operated June 1.

The Granby Consolidated Mining & Smelting Co.'s smelter at Anyox, resumed operations on Friday, the 4th of April, having been idle since the 2nd of March. The mine also was re-opened. Men to take the places of those who left last month were obtained in Vancouver and elsewhere in the Province, those who received and accepted or rejected applications giving preference to returned soldiers. The latter, therefore, are largely represented at Anyox at the present time.

Mr. F. M. Sylvester, the managing director of the company, who arrived the other day from New York, has made the interesting announcement that the new by-product coking ovens at Anyox will be opened on or about June 1.

There was one fatality in the metal mines of British Columbia during the first quarter of the present year as compared to three in the same period, 1918. The death referred to was caused by a skip in the shaft of the Surf Inlet Mine.

CANADA'S PRODUCTION OF CHEMICALS DURING THE WAR.

Canada, in the line of chemical industry and production during the war, stepped from a very lowly plane to one of high accomplishment, according to Mr. Noble W. Pirrie, director explosives for the Imperial Munitions Board, in an address given before the British Columbia section of the Society of Chemical Industry recently.

Mr. Pirrie spoke on the subject of the Canadian chemical war industry. He stated that what had been done in the matter of shell, steel and airplane production was now common knowledge, there was general public ignorance of the production of chemical plants. The vast sum of \$15,000,000 had been expended in erecting chemical plants during the war and these, he added, had produced \$200,000,000 worth of explosives. The war was a war of scientists and the scientists of Canada had performed a great research work in doing their share.

Dealing largely with the subject of the production of acetone, an essential in high explosives and propellants, he told how when the demand became acute the research experts of Canada and the United States bent their efforts toward increasing that production. The older method of producing from alcohol was used in the United States at first. This while not commercially successful under ordinary conditions resulted in a good, though not sufficient, production. Other methods were sought. In the United States another process wherein kelp was used was also taken up.

In Canada two new processes were discovered and proved, he continued. The erection of the great plant at Shawinigan Falls, and that at Trenton, and the utilization of the Gooderham & Worts distillery followed. In connection with the use of the latter establishment, he told how the owners of the property refused an offered rental and gave freely the use of their plant during the war.

The Shawinigan Falls plant was developed to be the largest acetic acid plant in the world, producing finally 1,600 tons monthly. The Gooderham & Worts plant, when the United States entered the war, was producing over 2,000 tons of explosives per year.

During the six months ending Oct. 16th, 1918, when the Trenton plant was wrecked by an explosion, the combined Canadian production, exclusive of private companies, was 25 per cent. of the entire production of nitric acid in the British Empire, 10 per cent. of another essential chemical, and 36 per cent. of a third. During that time 16,000 tons of guncotton were produced in the Empire and of this 8,000 tons were from Canadian plants. These figures, Mr. Pirrie stated after his lecture, did not include the production of plants such as that on James Island, British Columbia.

Mr. J. A. Dawson, of the Dominion Government chemical department here acted as chairman of the meeting. In his introductory remarks he spoke of the importance of Canada ever endeavoring to improve its research departments and pointed out the splendid results already obtained by Canada. In this he mentioned the highly creditable services given by several British Columbia chemists in war-time research, speaking particularly of Professor McIntosh of Trail, who did work in zinc production at the British Columbia plant before he was taken to more important work at the great Shawinigan Falls establishment.

Mr. Pirrie in answer to a question relating to the commercial possibilities of T.N.T. declared that in his

opinion it had come to stay. It had superseded picric acid, it did not freeze, and it could easily be used either as a quick or slow burning powder. As to its safety he said that not a single pound of T.N.T. had ever been exploded through fire. He told of a car-load through which a huge plate of steel fell without causing an explosion. In Mr. Pirrie's opinion T.N.T. will eventually be freely accepted as freight by transportation companies.

A hearty vote of thanks was extended to the speaker of the evening. Mr. Dawson, at the conclusion of the lecture and discussion, suggested the importance of a chemical research bureau in British Columbia.

BRITISH COLUMBIA COAL PRODUCTION.

A distinct improvement is apparent in the coal production of British Columbia during the month of March in comparison with that of February, there being a difference of approximately 28,000 tons. The total for March is about 223,000 tons. The reason definite figures are not given is that returns have not been received from one or more of the smaller of the province's producing mines. In March the Crow's Nest Pass Collieries were working at least five days a week, which is better than was done in February. It may be observed incidentally, in connection with the Vancouver Island output, that the new Wakesiah Mine of the Canadian Western Fuel Company, which was expected to be in operation by this date, is still in the development stage, the work of opening up the property having ceased some weeks ago.

Following are the detailed figures:

Coal Production of Vancouver Island for March, 1919.

	Tons.
Canadian Western Fuel Co., Nanaimo.....	58,005
Canadian Collieries (D), Ltd., Cumberland..	56,158
Canadian Collieries (D), Ltd., Extension....	22,090
Canadian Collieries (D), Ltd., South Wellington.	7,281
Pacific Coast Coal Mines, South Wellington..	5,298
British Columbia Coal Co., East Wellington...	2,788
Nanoose Collieries, Limited, Nanoose	1,898
Granby Consolidated M. S. & P. Co., Cassidy..	945
Total Vancouver Island	154,463

Coal Production for Nicola-Princeton District, March, 1919.

	Tons.
Middlesboro Collieries, Ltd. Merritt.....	4,616
Fleming Coal Company, Merritt.....	3,955
Columbia Coal Company, Coalmont.....	480

Coal Production for Crow's Nest Pass District, March, 1919.

	Tons.
Crow's Nest Pass Collieries, Coal Ck.....	32,834
Crow's Nest Pass Collieries, Michel.....	20,405
Corbin Coal Company, Corbin, B.C.....	4,126
Total for District.....	57,365

Concentrating Plant for Bowena Copper.

The Bowena Copper Mine, which is under lease to C. W. Tipping, is to have a concentrating plant, instructions having been given for its installation. A shaft has been sunk and values obtained which are considered very satisfactory.

Destruction of Mine Property by the Huns

Frank H. Probert, consulting engineer of the United States Bureau of Mines, and dean of the College of Mining, University of California, member of a special American Commission to investigate the damage done by the Germans during the war to the coal and iron mines and steel works of France and Belgium, after a personal investigation, has just returned to Washington with a first-hand story of the almost unbelievable atrocities of the Hun in the destruction and wreckage of the Industrial life of France and Belgium. Mr. Probert, together with Dr. F. G. Cottrell, chief metallurgist of the Bureau of Mines, and George S. Rice, the chief mining engineer, made up the American mission sent to Europe last January on the invitation of the French High Commission. The purpose of this mission was not only to investigate the damage done, but to advise with the foreign officials concerning reconstruction and rehabilitation and assist in any way possible on matters pertaining to the mineral industry.

Mr. Probert visited the iron mines of Nancy, Briey, Longwy, and Luxemburg; coal mines in the Province of Saar, and the coal district of Pas de Calais. Details of the investigation will be published in an official bulletin of the U. S. Bureau of Mines within the next three months, until which time, no detailed statement is permissible. Letters of introduction from M. Loucheur, Minister of Industrial Reconstruction in France, assured the mission proper recognition, and every facility to expedite the work was given by the French government officials. On instruction cabled by Secretary of War Baker to General Pershing, rapid transportation was arranged and such other assistance as needed was placed at the disposal of the representatives of the Bureau of Mines. In no other way would it have been possible in so short a time to get as comprehensive an insight into the present-day condition of the mining industry of the Western front.

Mr. Probert, in a preliminary report to Van. H. Manning Director of the Bureau of Mines, has the following to say:

"Early in the war the German hordes swept southward through the iron basin of French Alsace and Lorraine, and for nearly four years this renowned mining area was held and exploited by the invaders. Many of the employees were made captives and compelled to work in the mines under German direction. The international boundary between France and Germany was drawn in 1871 to give the victor of the Franco-Prussian war control of the iron fields, but since that time scientific development, guided by a better understanding of the local geology, exposed for France a greater ore reserve at lower horizons than that of Lorraine Annexee. With the return of Alsace and Lorraine to the mother land, France will become the dominant factor in the future steel industry of Europe. During the German occupation, the iron mines were not intensively exploited because of the necessity of recruiting into the Teuton army every able-bodied man and on account of the large accumulation of war minerals in preparation for the war. The actual physical damage to the iron mines is relatively small when compared with the destruction of the coal fields of northern France, which was as reprehensible

as it was completed. Only in a few cases, where pillars have been robbed, is there any collapse of underground workings in the iron mines, but the equipment, both surface and underground, has been misused, and where ore has been mined, the lack of development will defer realization of capital until the exploratory work is sufficiently advanced to admit of daily output approximating pre-war conditions. The mines are not seriously crippled, but what of the steel plants in which the iron ores are smelted? No such atrocity was ever perpetrated against the industrial life of any country. Magnificent plants, comparing favorably with anything in the United States, are now but a tangled, twisted mass of structural steel and broken stone. The wilful demolition was scientifically planned and systematically carried out. This after the removal of all such mechanical and electrical power units as could be used in Germany. The maliciousness and efficiency with which this crime against French industry was conducted is almost unbelievable.

"In the coal districts of Pas de Calais and Nord, a sector fought over from the beginning to the end of the war, changing hands frequently, bombarded all the time, all surface structures whether of town, village or mining enterprise have been razed. This may be legitimate warfare, but now that the guns are silenced and the frenzy of combat is past, it is horrible to look upon. Arras, Douai, Bethune, Bapaume, Lens, Loos, Courriere, centers of coal-mining activity but a few years ago and the mainspring of French industrial life, are gone, but the indomitable spirit of France survives and already plans are laid for the future. Bruay, at the western edge of the known coal field, was not in the fighting zone and its output has been steadily maintained, but going eastward the frightfulness is more and more appalling, for the hate of the Hun left its mark on the mines during his forced retreat. The coal measures are overlain by water-bearing strata, necessitating special methods of shaft sinking and support to keep the mines dry. The steel lining of the shafts was dynamited, letting in the quick sands and flooding the underground workings for many miles. In the entire Pas de Calais region it is estimated that 120 million cubic meters of water must be pumped before mining operations are resumed. Having flooded the mines, the headframes and surface equipment were systematically dynamited, the twisted debris in many cases filling up the demolished shafts. It will probably be five years before this coal district can be rehabilitated and twelve to fifteen years before it gets back to normal pre-war output. The first great need is for building in which to house the workman.

"The Saar coal fields were visited by the Bureau of Mines officials. Here, in striking contrast to the mining districts of France and Belgium, the coal industry is at its height. German workmen and German engineers are still employed, but under the direction and supervision of French officers. A spirit of unrest is apparent everywhere, the suspense of the peace negotiations, uncertainty as to indemnity to be exacted and lack of food, is telling on the already broken morale of German workmen. Unfortunately the Saar coal does not give a desirable metallurgical coke to the

French and the blast furnaces now running are working inefficiently. Westphalian coal is much desired and a special committee of which George S. Rice of the Commission is a member left for Cologne to investigate the possibilities of early shipment from Westphalian to France.

"The French attitude toward her allies is an interesting psychological study. France has been hurt, really hurt by the long conflict. She has suffered perhaps more than any other nation, the battles have been fought mostly on her soil, her manhood has been drained of its best and most productive blood, her industries, her economic mainsprings have been ruthlessly destroyed. These two classes of French thought are desirous that France rebuild herself, financed by German indemnity. They seek neither money nor advice from others; the irrespressible spirit will be all sustaining. Directors of industry, mine owners and employers of labor, possessed of the same love of country, look on the problem from another viewpoint. They claim that money borrowed from other countries at reasonable interest rates, new equipment for mines and plants purchased from America for early delivery, will admit of an earlier return to pre-war scale of operation and the higher immediate cost will be more than offset by the earlier realization of profits from natural resources and raw materials.

"It would be presumption on the part of an American mining engineer to suggest improvements in methods or practice in French mining. The French engineers have long known their own problems and have solved them in accordance with their system of finance and amortization. Their mines are developed and equipped with the idea of permanent industry and unless there is serious labor unrest and extraordinary advances in wage scales, the old French practice is peculiarly suited to French conditions. Their policy is progressive. There is constant search for new mineral areas or extension of proven deposits. French Lorraine has greater iron ore reserves than those of Lorraine Annexe, and just before the outbreak of war, drill holes had shown the extension of the coal measures of Pas de Calais to the south. Iron and coal are complementary minerals. France has them both in larger quantity than in 1914, and when her reconstruction program is carried out, the steel industry will be among the first assets of a land that has suffered greatly."

Ore Receipts at Trail.

Ore and concentrates to a weight of 96,542 gross tons have been received at the Canadian Consolidated Mining & Smelting Co.'s Plant, Trail, B.C., during the first three months of the present year. This compares with 103,118 tons for the corresponding period in 1918, and with 120,486 tons for the first quarter of 1917. It will be appreciated, of course, that the last mentioned years were affected by war conditions. It is well known that, because of present conditions, the smelter management is not seeking ores of any kind. No ore is being accepted from the American side of the line; in fact, 85 per cent of that which is received and treated comes from the company's own properties. Up to the present date only 60 outside properties have shipped to Trail this year.

The monthly details for the first three months of 1919, together with similar figures for the previous two years, follow:

	1917.	1918.	1919.
January	36,570	27,404	35,283
February	40,967	33,989	30,450
March	42,949	41,725	30,809
Tons	120,486	103,118	96,542

COWICHAN MANGANESE DEPOSITS.

It is reported by Mr. G. C. Mackenzie, late of the Canadian Geological Survey Branch, Ottawa, that all available information relating to the Manganese Deposits of the Cowichan District, Vancouver Island, will be published shortly by the Canadian Munition Resources Commission.

Mr. Mackenzie reports on his investigations in August and November in the ore area situated near Cowichan Lake, at the summit of the divide between Chemainus and Cowichan Rivers. He says of the August investigation:

"The ore-body appears to be associated with the quartzite rocks of the Sicker series and consists of manganite and, possibly some psilomelane, which has undoubtedly been derived from the alteration of rhodonite, the silicate of manganese, which is strongly in evidence on both sides of the orebody. Samples taken across the widest portion of the outcrop indicated approximately twelve feet of ore with a metallic manganese content of better than fifty per cent., and with less than fifteen per cent. of silica. Phosphorus was found to be present in amounts generally less than .075 per cent."

After the November examination Mr. Mackenzie says:

"Unfortunately, the owners contented themselves with merely stripping the surface, and while they have disclosed a very attractive outcrop of high grade metallurgical ore they had not during 1918 accomplished any cross-cutting or sinking to prove the quality of the ore depth. This, of course, is to be regretted, as in all secondary deposits of this nature, particularly manganese, the deciding factor as regards the value of the deposit is the extent to which oxidation of the original mineral has taken place. That the owners realize the importance of this is indicated by the fact that they are now engaged in removing portions of the outcrop to prove the quality of the ore for at least ten feet below the surface."

"If the Cowichan deposits are proved to contain a large tonnage of metallurgical ore such discovery would be of considerable importance to the iron and steel interests of this country. At the present time, Canadian iron and steel works are using something over 1,000 tons monthly of ferro-manganese, all of which is imported either from England or the United States, and therefore if a domestic supply of manganese ore can be assumed its utilization should be carefully investigated. The situation of the deposits with respect to the market in Eastern Canada is unfortunate, and it is a matter of doubt whether it would be advisable to manufacture ferro-manganese on the coast, or transport the ore to Atlantic ports via the Panama Canal."

Fatal accidents in the coal mines of British Columbia over the first quarter of the present year totalled two, of which one was caused by falls of roof and rock and the other by mine-cars and haulage.

PERSONALS.

Dr. W. G. Miller is in London.

Mr. R. B. Watson and Mrs. Watson have returned to Cobalt from New York.

Mr. W. E. Segsworth and Mrs. Segsworth left Toronto on Tuesday April 29th for England.

Mr. Frank Horne, and Mr. O. Gillette, have resumed their former duties on the staff of the Dome Mines.

Mr. George J. Miller, president of the Miller Independence Mines returned north last week from Dayton.

Dr. C. K. Leith has returned to the United States from Paris, where he acted as an advisor concerning minerals.

Mr. Malcom Lang, M.P.P. for the Cochrane district, was a business visitor to Cobalt and Haileybury this week, returning to Porcupine Thursday.

Messrs. A. G. Burros, P. E. Hopkins and W. R. Rogers, of the Ontario Bureau of Mines will leave Toronto shortly for field work in the Kirkland lake area.

Mr. J. A. McVichie, former mine superintendent of the Chambers-Ferland mine, will leave Monday evening for the southern states, and may take up residence either in Utah or Arizona.

Mr. T. J. Flynn, manager of the Fort Matachewan Gold Mines, is a business visitor in Haileybury and Cobalt, having come out by way of Elk Lake. Mr. Flynn states that navigation on the Montreal River has opened this week.

Mr. T. R. Finucane, managing director of the McKinley-Darragh mine, and one of the recently appointed new directors of the Dome Mines, has concluded a visit to both properties, and has returned to his home in Rochester.

Mr. N. J. MacAulay, mining recorder for the district of Temiskaming, has returned to Haileybury, after having given evidence in Toronto relative to the boundary dispute between the O'Brien mine and the La Rose Consolidated.

Mr. J. H. Black, general manager of the Northern Canada Power Company, went to Cobalt last week, and is in the Porcupine camp on business. Mr. Black just recently returned from Texas, where he spent about one month on the scene of the present great oil boom.

Among the present day mine managers of the Cobalt camp, Mr. McVichie is one of the first to have engaged in mining in this field. Indeed, Mr. Vichie, together with T. R. Jones, manager of the Buffalo Mine, represent the only remaining members of that first school who did the pioneer work of this greatest of the world's native silver camps.

Mr. McVichie came to Cobalt some fourteen years ago. Since that time he has served as superintendent of the Temiskaming mine, later at the City of Cobalt, and finally at the Chambers-Ferland mine of the Aladdin-Cobalt Company. As a consequence he is widely known among the mining fraternity of the North, where general regret is expressed over his decision to remove to the south.

HEDLEY GOLD MINING CO.

In a report dated March 1, 1919, President I. L. Rill says of the Hedley Gold Mining Co.:

During the past year everything at the mine and mill ran fairly well until December, when the excessive cold weather formed so much marsh ice in the river and in our power flume that it caused us a loss instead of a profit and makes our year's profits small.

Our reserves of ore are a little lower in both tonnage and grade, as a result of our running through the war under high prices for everything and with the same price for gold. Still, I think we did right to continue to operate and pay our high taxes, etc., to help win the war.

The mine still looks fairly well, and if prices for labor and supplies come down to near pre-war-time levels we expect to earn a fair rate of interest on our stock; and with more development we hope to get the mine back into better shape.

General Superintendent Gomer P. Jones says:

From January 1st to April 30th, 1918 (the period of operating under the former owner of the property), there was mined and milled 20,028 tons of ore having an assay value of \$11.18 per ton; from May 1st to December 31st, 1918, there was mined and milled 47,285 tons, having an assay value of \$9.99 per ton.

The general condition of the labor market and cost of supplies that prevailed during 1918 prohibited development of any extensive scale, although we are of the opinion that the mine has not suffered thereby, except that no sufficient new ore has been opened up to replace the total amount milled. We are confident of doing this, however, as soon as the diamond drill is again in operation, at which time we should be in a position to maintain a higher grade of ore.

TAILINGS PLANT AT COBALT LAKE.

The Mining Corporation of Canada during 1918 constructed and put in operation a plant for treating the mill tailing beds in Cobalt Lake.

The plant consists of a pontoon equipped with two powerful centrifugal electric suction pumps, which have a practical capacity of 17,000 to 18,000 tons per month. These pumps deliver the sands and slimes from the lake beds, directly to a classification plant, from where the pulps are carried by belt conveyors to the mill and treated by concentration and cyanide. The pumping plant also delivers a surplus quantity of tailing to a stock pile near the classification plant, which can be drawn on during the cold weather when the pumps are not in operation. During the portion of the season during which the plant was working, 47,465 tons were pumped, of which 17,633 tons were treated in the mill and an extraction of 40,908 ounces were made.

The Hardinge Conical Mill Co. reports the honorable discharge from war service of J. C. Farrant, its London manager. Mr. Farrant for over four years was held a prisoner of war in Germany. 1st. Lieut. J. J. Cadot, of Air Service, A. E. F. returns to take charge of its Denver office. Capt. Harlowe Hardinge, Signal Corps, Director Radio Schools in the A. E. F. will return to his duties as vice-president of the H. C. M. Co. in the New York office. The Hardinge Company anticipates the early return of three more of its staff and a consequent renewal of its highly efficient service to its customers.

CONCENTRATION OF GOLD-COBALT MOLYBDENITE ORE FROM NEW HAZELTON MINE.

Mr. Nichol Thompson, director of the New Hazelton Gold and Cobalt mine on Rocher de Boule Mountain, Hazelton, has received returns on a car of ore shipped from the mine to the Ore Dressing and Metallurgical Laboratories of the Department of Mines, Ottawa, which are particularly interesting because of the wide variety of metals found in the ore and the thoroughly satisfactory recovery of the content by treatment. The full results of the tests follow:

"A shipment of ore was received on August 6th, 1918, from "The New Hazelton Gold and Cobalt Mines," New Hazelton, B.C. This shipment consisted of 669 bags, which gave the following weights, analyses and content: Net weight (wet), 53,772 lbs.; moisture, 1.01 per cent., 544 lbs.; dry net weight, 53,228 lbs. Analysis, sulphide of molybdenum, 1.40 per cent.; oxide of molybdenum, 0.18 per cent.; cobalt, 1.12 per cent.; nickel, 0.60 per cent.; arsenic, 8.98 per cent.; gold, 1.24 ozs. Content, sulphide of molybdenum, 745.19 lbs.; cobalt, 596.15 lbs.; nickel, 319.37 lbs.; arsenic, 4,779.87 lbs.; gold, 33.00 ozs.

"The object of the test was to concentrate the values in the ore and also obtain a separation of these values as far as practical. As the cobalt, nickel, arsenic and gold values were intimately associated it was feasible to concentrate these by water concentration and also to obtain a separation and concentration of the molybdenite values by flotation."

The shipment was divided into three lots as follows:

"Lot No. 1, test No. 1, dry net weight, 12,144 lbs.; lot No. 2, test No. 2; dry net weight, 35,234 lbs.; lot No. 3, test No. 3, dry net weight, 5,850 lbs.

"Lot No. 1, test No. 1: The procedure was as follows: The ore was crushed to 20-mesh and concentrated on a Wilfley concentrator to remove as much as possible of the cobalt, nickel, arsenic and gold values. Two products were made, a concentrate and tailing. The tailings were reground in a Hardinge mill to 60-mesh and the molybdenite concentrated by means of the Callow Pneumatic flotation process. The flotation tailings were re-run over the Wilfley concentrator to further remove any cobalt, nickel, arsenic and gold values.

"Lot No. 2, Test No. 2:—The procedure was as follows: The ore was crushed to 40-mesh and concentrated on a Wilfley concentrator to remove as much as possible of the cobalt, nickel, arsenic and gold values. Two products were made, a concentrate and tailing. The tailings were reground in a Hardinge mill to 80-mesh and the molybdenite first floated in a Callow unit. The flotation tailings were re-run over the Wilfley concentrator and the tailings from the table were considered final and allowed to go to waste.

"Lot No. 3, Test No. 3:—The procedure was as follows: The ore was ground in a Hardinge mill to 80-mesh and the molybdenite first floated in a Callow unit. The flotation tailings were concentrated on a Wilfley concentrator to remove the cobalt, nickel, arsenic and gold values, and the tailings from the table pumped to waste.

This latter test was run to obtain a comparison of results between tabling followed by flotation and flotation followed by tabling.

"The results are contained in the attached tables.

"Conclusions: From the attached summary, the actual recoveries made on this carload of ore were as follows:

"In table concentrates: cobalt, 72.6 per cent.; nickel, 87.5 per cent.; arsenic, 84.9 per cent. In flotation products: molybdenite, 54.4 per cent. These recoveries should be improved upon in practice where a closed circuit could be maintained and the losses due to handling and slime overflow would be reduced to a minimum.

"As the molybdenite values are of secondary value as compared to the other metals present, it is advisable to remove as much as possible of the cobalt, nickel, arsenic and gold values before flotation to recover the molybdenite values. Most of these values can be removed at 40-mesh, and, as it is necessary to grind it to 100-mesh to recover the molybdenite values, it would not be wise to float first and table afterwards, as the loss in cobalt, nickel, arsenic and gold values due to fine grinding would not compensate for the higher recovery of the molybdenite.

"From the test work conducted, the procedure to follow in the concentration of this ore would be as follows: The crude ore crushed in a jaw crusher to 1½ inch or 1 inch and ground in a wet ball in circuit with a classifier to about 40-mesh and concentrated on tables of the Wilfley type; the table tailings reground in a ball or tube mill to 100-mesh in circuit with a classifier and the molybdenite floated in an oil flotation unit; the tailings from the flotation unit concentrated on slime tables or vanners."

A NEW PROCESS FOR TREATING COPPER ORE.

A new process for the treatment of copper ore is being demonstrated in the City of Vancouver B. C. The late A. A. Lockwood and C. J. A. Dalziel, British metallurgical engineers, are said to be the discoverers of this method, for which it is claimed that it will extract copper from the crude ore in twenty-four hours, at a much lower cost than is now involved, and that it will recover not less than 85 per cent of the copper content of the most complex ores. The Lockwood-Dalziel process is described as being the leaching and electrolytic recovery method speeded up by mechanical agitation and other devices hitherto unused in the treatment of copper ores. Filtration and sedimentation are eliminated, much time thus being saved. Then, too, there is the saving of plant, the original investment being reduced so materially in this respect as to make considerable difference in the cost of treatment. It is stated on good authority that the prime object of the demonstration referred to is to prove that the Texada Island property on the Norseman Exploration Company, of Minneapolis, can be operated. This property has been lying idle for years, but now is likely to be opened on a considerable scale. If the new process can make an 85 per cent. recovery of the copper content of the ores, which is reported to have been proved, the claims can be converted into a shipping mine forthwith. A plant may be installed on Texada Island without delay. About \$250,000 is said to be ready for the investment and mining men are much interested in watching the development of what promises to be an important new industry.

Platinum in Eby Sulphide Ore.

Platinum values have been found in a large sulphide body in the township of Eby. Heretofore the big vein had been found to carry encouraging values of gold and silver, in addition to a high percentage of sulphur. It was only recently that a test was made for platinum.

Special Correspondence

NORTHERN ONTARIO.

Indian Peninsula Mill Nearly Completed.

The mill at the Indian Peninsula molybdenite property, situated near Ames in north-western Quebec is almost completed, and will be set in operation late in May. The winter roads having broken up, and navigation not yet being open, delays have been met with in the delivery of a number of small parts for the plant.

The flotation process is to be used, the plant having a capacity for treating 50 tons of ore daily, and provision having been made to increase to 100 tons daily when the need for such an increase becomes necessary.

Bald Island.

Mining interests at present closely identified with the leaseholders of the Foster Mine, at Cobalt, are reported to have secured an option on Bald Island, situated in Night Hawk Lake, in the Porcupine district. A narrow vein containing considerable visible gold is in evidence upon the island, and sinking operations are to be commenced. Bald Island lies in close proximity to Gold Island, on which one of the first gold discoveries in this district was made.

Casey Mountain.

Operations have been carried to a depth of 380 feet on the Casey-Mountain property, situated about two miles north-east from the Casey-Cobalt mine. In the course of driving the shaft a layer of diabase some 270 feet in thickness was cut, followed by a layer of conglomerate about 110 feet thick. A strong and well defined vein was followed, and low grade silver values were encountered.

It is now proposed to begin lateral operations in the conglomerate formation at a point about twenty feet above the lower contact.

Motor Road for Kirkland.

All the leading mines of the Kirkland Lake camp are now on record as favoring a first class motor road in preference to a branch line of the steam railway. A petition has been drawn up and presented to the government with a view to inducing the abandonment of the steam railway project.

The consensus of opinion now seems to be that the Government will perhaps welcome the suggestion, and may be very glad to provide a motor road which would cost but \$12,000 per mile, or less than one-half the estimated cost of a railway.

Anzac Company Operating Armstrong-Booth Property.

Diamond drill operations are now well under way at the property formerly known as the Armstrong-Booth, in the Porcupine district. The property is now known as the Anzac Mining Company.

The property consists of eight mining claims situated adjacent to the Plenaurum property at the east end of Pearl Lake. In the early days of Porcupine this property was explored on surface with encouraging results, but was never operated extensively.

Bewick-Moreing's Interests Sold.

The mining interests of the Bewick-Moreings, in the Porcupine field are reported to have been sold to an American Syndicate. This concern held considerable property in the Porcupine camp, but never conducted aggressive or extensive mining operations. The con-

cern was a heavy holder of stock in the original Hollinger Mine, but disposed of its stock prior to the consolidation of the Hollinger with the Acme Gold Mines, Limited, and the Millerton Gold Mines, and certain building, plants and equipment of the Canadian Mining and Finance Company.

Dome Mine.

The power plant of the Dome Mines Company is gradually being brought into full use. It is understood another 25-drill compressor has been brought into service, thus increasing the capacity to 50-drills.

Miller Lake-O'Brien.

During the week ending April 18th, the Miller Lake-O'Brien mine, of Gowganda, shipped a car containing approximately 64,000 pounds of ore.

The shipment was consigned to the Deloro smelter for treatment.

Working Old Reliance Property.

Operation which commenced on the old Reliance property, near the Kerr Lake mine, have resulted in the production of about 28,000 ounces of silver since late in November. The property is being worked under lease by John Shaw and E. Dean, a small force of men being engaged.

Hollinger.

The current rate of production at the Hollinger Consolidated is the highest in the company's history. The statement just issued which shows \$1,368,980 produced during the first twelve weeks of the year, indicates an output of \$5,948,405 annually. However, whereas the report covered the period up to March 25th, it is interesting to know that operations have been greatly speeded up since that date. During the period under review the mill ran a little less than sixty per cent. of possible running time, or at an average of 1,646 tons daily. It is considered very significant that such a record should be established on such a tonnage. With the plant working at 98 per cent. capacity, as has been since reported, it is evident the daily average will approximate 2,646 tons. On the basis of \$9.15 ore, which the average throughout the mine, an output of \$24,310.90 daily is indicated or about \$7,873,478.50 yearly. It is considered probable dividend disbursements will shortly be increased to perhaps one per cent. every four weeks, or thirteen per cent. annually.

Oxford-Cobalt.

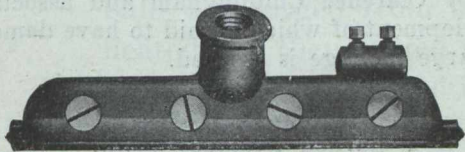
Work has been started on the Oxford-Cobalt property, situated in the Gillies Limit directly south from the Kerr Lake Mine. The company owns blocks A-100 and C-1000, it being proposed to sink to a depth of 200 feet on a strong calaite vein which shows on surface, and which carries low silver values at outcrop. The geological conditions are somewhat similar to the Beaver-Temiskaming-Adanac area.

Oil Flotation for Reeves-Dobie.

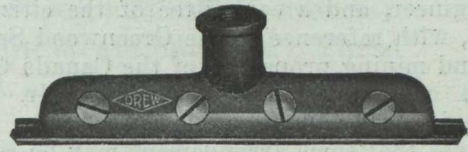
It is understood the Reeves-Dobie mine at Gowganda, will instal oil flotation equipment, the first plant of its kind to be installed in the Gowganda field.

Mining men throughout Canada are endorsing without reservation the action of the executive of the Canadian Mining Institute in asking the Dominion Government to place a representative of the Mining Industry on the Industrial Commission being appointed to investigate the relationship between capital and labor in the Dominion. The name of D. H. McDougall, president of the Nova Scotia Steel & Coal Company, is put forward in this connection by the Institute.

DREW OVERHEAD MATERIAL



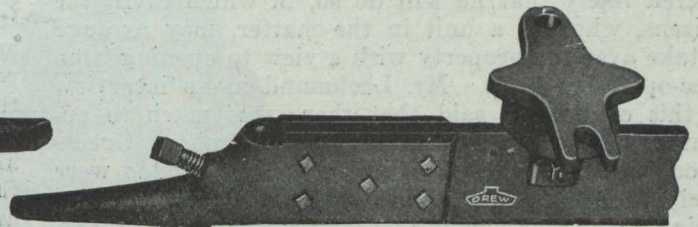
This feed-in- Screw Clamp Trolley Ear is made from bronze with horizontal feeder lug to accommodate 0000 size feeder wire. This ear can be furnished tinned if so desired.



This Screw Clamp Trolley Ear is supplied both in malleable where the ears are galvanized by the hot dip process or in bronze. It can accommodate grooved or Figure Eight to 000 size.



This Samson Splicing Ear is installed without special tools, stays upright in the span, cannot make a hard spot in the line and is non-arcng. Repeated service records show that the Samson will outwear the wire in which it is installed under the most severe operating conditions.



This Samson Tunnel approach is for taking trolley into barns, under bridges, elevations or through tunnels where there is a minimum clearance. It is good practice to place the insulated hangers about six feet apart. The tapered "V" shaped lips of the Samson Approach give smooth under-run.



This hanger has a galvanized Clevis with $\frac{3}{8}$ x $1\frac{1}{2}$ in. machine bolt, and is for use in connection with the Samson Tunnel Approach shown above.



This hanger is used when the trolley is supported in shallow wooden trough or like places such as mines or structures with low rods. Its height has been reduced to a minimum.

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BRITISH COLUMBIA.**Coke Ordered For Grand Forks.**

There does not seem to be any immediate likelihood of the Granby Company's smelter at Grand Forks closing down, as an order was placed recently for the shipment of 900 tons of coke weekly from the Fernie Collieries to this plant.

May Operate Smelter on Co-operative Plan.

A. H. Rogers, consulting engineer for the Canada Copper Corporation, Ltd., was in British Columbia recently and conferred with Oscar Lachmund, metallurgical engineer, and a committee of the citizens of Greenwood, with reference to the Greenwood Smelter, now idle, and mining properties of the Canada Copper Corporation contiguous to the smelter. Mr. Lachmund, who is acting in an advisory capacity to the citizens, hopes that some arrangement may be reached whereby the citizens may realize their ambition that the plant should be re-opened and mining operations in the district resumed. Mr. Rogers, it is understood, was asked to place a price on the plant, and it is considered likely that he will do so, in which event the citizens, who are a unit in the matter, may arrange to take over the property with a view to opening it on a co-operative basis. Mr. Lachmund in an interview in this connection said that there was much to encourage the prospector in the country about Greenwood, and in the Slovan division. These fields were likely to become attractive to returned soldiers and their attractiveness would be increased with the carrying out of the government's policy of the establishment of sampling works in various mining sections of the province. He added: "The success which may be achieved in operations on a small scale is illustrated by the performance of Duncan McIntosh, who removed \$100,000 in high grade ore from the Bell Mine of Beavercreek District, on Wallace Mountain, in two years, out of which he took up a bond of \$26,000 on the mine and a profit besides. Lessees are at work on various claims in this district. The veins are narrow, but they persist into depth, evidence of which is found in the Carmi, which represents a geological level 1,000 feet deeper than the Wallace Mountain claims."

Hyatt Steel Products.

Announcement has been made of the completion of negotiations whereby the Hyatt Steel Products, Ltd., of Granville Island, takes over the Canadian Metals, Ltd., Tudhope Electric Metals, Ltd., and the Steel Rolling Mills at Port Moody, B. C. The new concern thus becomes one of the largest iron and steel industries in Western Canada and with the greater facilities obtained through the fusion of interests the company's operations will be considerably extended. The important branch of the industry is steel manufacture, it being asserted that tests conducted at the Tudhope plant, False Creek, have established its practicability. Operating a three phase electric arc six ton furnace, of 1,500 kilowatt capacity, steel has been poured and declared to be of the highest quality. The company's intention is to make the ingots at this plant and roll them at the Port Moody Mills. For some time low phosphorous pig iron has been manufactured at the Tudhope plant. The company has its own power station.

Concentrator Nearing Completion.

The concentrating plant under construction on the Idaho-Alamo Mining Property, near Sandon, B.C., is nearing completion and should be ready for tests before the tramway, with which it is to be served, is in shape for operation. The plant covers about an acre of ground and the mill, which has a capacity of 300 tons, is costing about \$200,000. Its equipment is exceptional in diversity, having been designed to concentrate ores from several mines, and the workmanship is first-class throughout. The mill will be required to dress ores from the Sovereign, Wonderful, Queen Bess and Idaho-Alamo Mines, all of which are owned by Clarence Cunningham and associates, and the development of which is said to have demonstrated that a large tonnage is assured.

Lower Wages.

There is a marked tendency towards the lowering of miners' wages in the Ainsworth-Slocan district as well as throughout the province. A reduction of 25 cents per shift has gone into effect at the Florence mine, and it is likely that similar reductions will take place in connection with other operating properties. It is stated by the management of the Cork-Province mine that operations at the mine on the South Fork will not be resumed unless a 50 cent per shift reduction is accepted by the men. During the past year or so the prevailing scale for miners in the Slocan and Ainsworth Mining Camps has been \$5.00 a shift for miners. This rate still is in force in the mines around Slocan. No doubt justification for the smaller scale will be found by the operators in the fact that reductions of \$1 per shift have been made in the Coeur d'Alenes and Butte, that forces are being reduced steadily, and that the uncertainty of the metal markets, particularly with reference to lead and zinc, make wage reduction necessary.

Will Dredge for Gold in Yukon.

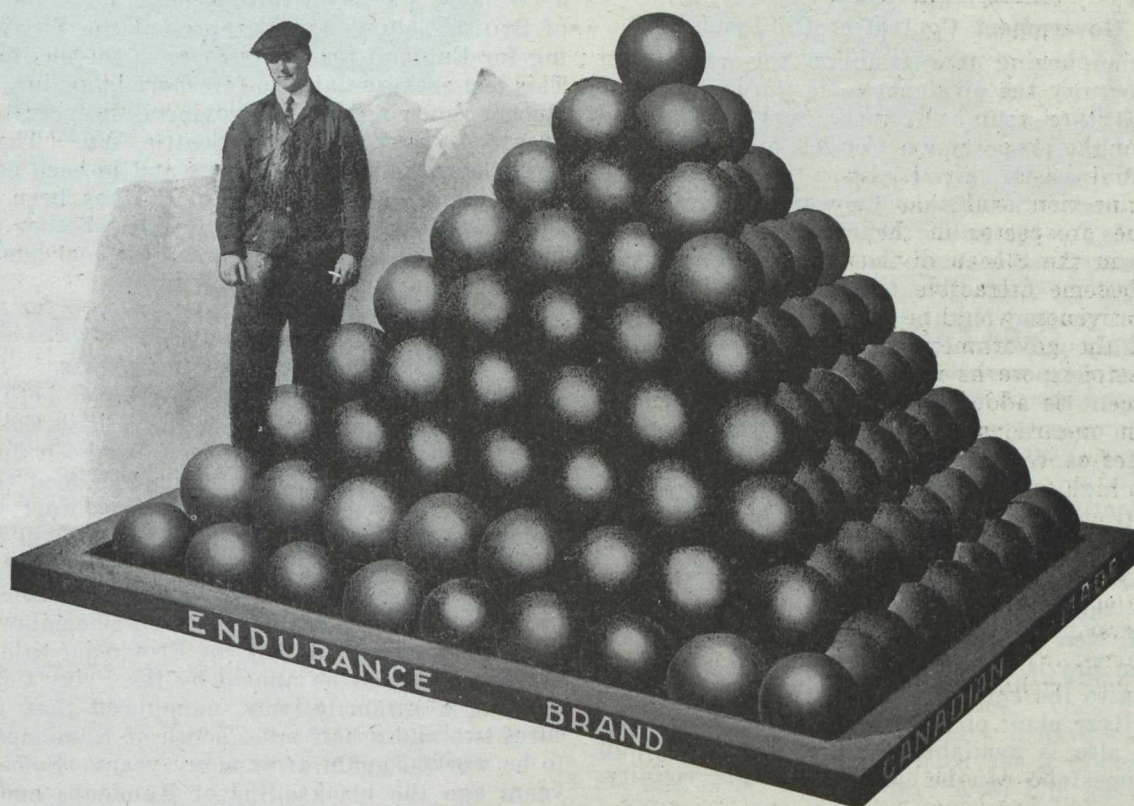
Confidence in the Yukon's resources is exemplified by two new post-war enterprises. One is the Forty-Mile Power and Dredging Company, backed by New York capitalists, said to include the Eastman Kodak and Curtiss Biplane companies. The company has acquired ninety-six miles of river claims and hydraulic benches along the Forty-Mile River near Dawson. Its capitalization is \$5,000,000. The second enterprise is headed by Lewis Titus, pioneer Yukon dredger, and A. McVicar, of Seattle, Wn., who have secured a dredge which will be taken from McQuestion River this season to dredge the Hight Creek placers. All old-time dredge and hydraulic companies on the Klondyke Rivers are preparing to start the season's operations in May. There is said to be plenty of labor available there at present.

Yukon Needs Railways.

The construction of a line of railway through Northern Alberta and Northern British Columbia to the Yukon is the chief proposal in a somewhat ambitious programme which is being urged by the Yukon Development League in a determined endeavor to bring Canada's great northland in closer touch with other sections of the Dominion. The Federal Parliament has been asked to provide funds for a survey of the contemplated railroad, it being suggested that the line should tap one of the transcontinental roads. It is

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The Steel used in our ENDURANCE BRAND BALLS is an alloy composed of a Chrome and Manganese content. These balls are forged from bars cut into proper lengths, thoroughly heated and then forged under a powerful steam hammer. These balls are then quenched in an oil bath, which gives them the properties of toughness and hardness.



We have found a steel and also discovered a treatment for these balls which gives extraordinary performances in action by resisting abrasion and withstanding shock. All sizes.

PRICES ON APPLICATION

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Canadian Billings & Spencer Plant, WELLAND, ONT.

asserted that such a road would open up a richly timbered, farming, grazing as well as a practically unexplored mineral country.

The Yukon territory, containing about 192,000 square miles, more than half of which is habitable, is still practically without railway connections. It is pointed out, in support of the Yukon's claims, that it sent over 600 men to the Great War; gave cash contributions to the war greater per capita than any other section of the British Empire, and up to the present has produced over \$200,000,000 in gold.

The Providence Mine.

Greenwood, B.C.—The Providence Mine of this district is reported to be showing considerable activity, development work necessary for more extensive work having been satisfactorily completed. Ten men have been employed all winter and fifty more will be engaged for the summer. One carload of ore has been shipped to the Trail Smelter.

Urge Government Control of Oil Lands.

A resolution urging the Dominion Government to hold in perpetuity the oil deposits of the Province of Alberta and other parts of Canada was passed at a recent meeting of the Canada Council of Agriculture held at Winnipeg, Man. It also is asked that the government undertake the development of these natural resources for the public benefit. In this connection it is interesting to note that several representatives of Western Canadian constituencies have organized a provisional Natural Resources Commission, which probably will develop into a permanent body, and the chief purpose of which is to try and induce the government to adopt a well-defined and permanent policy in regard to the development of the natural resources of Western Canada.

Will Make Carbide on Vancouver Island.

Vancouver Island is to have a new industry. A factory for the manufacture of carbide for export to Australia, New Zealand, and Asia is to be established. Union Bay is likely to be the site for the plant, as it is close to the cheap hydro-electric power of the Puntledge River plant of the Canadian Collieries (D), Ltd. Coke also is available on the spot, and high grades of limestone can be obtained in the vicinity.

Trail Smelter.

The Consolidated Mining and Smelting Company has 8,266 tons of lead that remained unsold on March 1, according to a report from its Trail office. This may be compared with 9,042 tons on February 1st. The receipts in February were 1,435 tons, which increased the surplus to 10,477 tons, but the sale of 2,211 tons made at 7.835 cents a pound reduced the quantity to 8,266 tons. The unsold surplus includes 2,382 tons on hand at the end of October; 1,346 tons made January, and the 1,435 in February. The February price is reduced to 7.61 by the freight adjustment referred to in circulars of July 21 and November 1. The February sales are applied as follows: Balance, August, 35 tons; September, 1,811 tons; to apply to October, 365 tons. "We are settling for September lead at 7.61," says the report. "We still have a balance of about 500 tons to deliver to the Imperial Munitions Board at the War Price."

Gibson Mining Company.

An injunction restraining D. K. May, Minnie M. May, and the Gibson Mining Company from disposing of or in any way interfering with shares of the company, which company is in possession of the Winthrop and Butte Groups of mineral claims on Cariboo Creek, has been continued by Chief Justice Hunter until after the trial. Louis Chassy and J. M. Wolbert are bringing action for a declaration that they are half owners in the claims. In Wolbert's affidavit it is alleged that a transfer of his holdings was made on the authority of a power of attorney to which his name was forged.

Privy Council to Decide Title to Coal Lands.

Title to the under-surface rights in foreshore lands within what is known as the Esquimalt & Nanaimo Ry. Belt on the East Coast of Vancouver Island will be decided by the Privy Council. At the hearing of the test case which will decide the whole issue Hon. J. W. deB. Farris, Attorney-General for the Province of British Columbia, will represent the Province, leaving for England for the purpose in the month of June. This test action relates to foreshore lands in Chemainus Harbor covering which Provincial licences have been granted to H. W. Treat, of Seattle, Wn. The case has been through the lower courts and in each case, up to the present, the E. & N. Ry. Co. has been defeated. The Privy Council now will decide whether the Province can issue good licences to these coal lands and its judgment, of course, will be final.

Developing New Coal Areas.

New coal areas are being developed both on Vancouver Island and in parts of the British Columbia interior. On the Island licences have been applied for in the Comox district and it is understood that T. R. Stockett, formerly of the Western Fuel Company, Nanaimo, B.C., is organizing a Company in Seattle to develop the coal of these lands. H. W. Treat, of Seattle, also is proceeding with his preparations to open up areas which he has acquired on Chemainus Harbor, apparently confident that the Provincial title which he has acquired will be upheld by the Privy Council. Besides it is authoritatively announced that coal measures two and a half miles south of Kamloops B.C. are to be worked again after many years. Some eighteen years ago the blacksmiths of Kamloops and some of the householders of the community used to burn this coal. James L. Brown, of Vancouver, has held the ground for some time. Accompanied by David Evans, consulting engineer, Mr. Brown has returned from an inspection of the property and, as a result of Mr. Evans' examination and on his recommendation a diamond drill is to be used to determine the extent of the coal measure. The coal is high bituminous in character and the measures are reported by Mr. Evans to be of the same age and series as those of Vancouver Island.

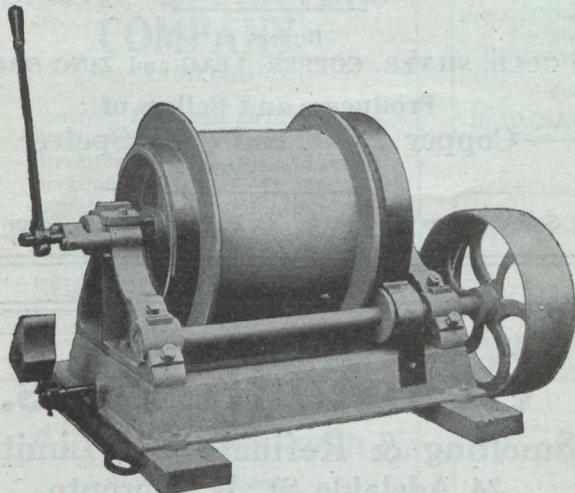
Two Shifts at Galena Farm Mill.

The Galena Farm Mine, Silverton, B.C., is being developed with satisfactory results. Work up to the present shows the vein to be continuous, ore is piled up ahead of the mill, and a considerable reserve of broken ore is available. The mill started recently with two shifts, and will run full blast so long as there is enough water for operation. A. J. Baudette, consulting engineer, thinks the mine's prospects are good.

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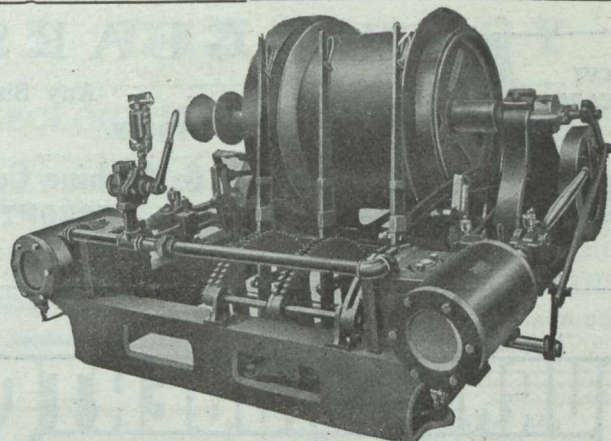
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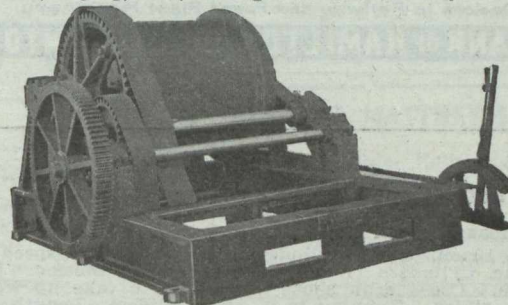
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Canadian Collieries vs. Pacific Coast Coal.

An action is in progress in the Courts of British Columbia in which the Canadian Collieries (D) Ltd. are the plaintiffs and the Pacific Coast Coal Mines, Ltd. the defendants, the suit being for damages for trespass and for an accounting and payment for coal alleged to have been taken from the Alexandre Mine Property, South Wellington in 1911. The plaintiffs maintain that the coal was taken without their knowledge or consent and it is understood to be the plea X of the defendants that whatever was done by them was with the consent of the plaintiff company's officials.

Settlers' Coal Rights.

With further reference to the Settlers' Rights Act of British Columbia, which was disallowed by the Dominion Government in 1917 and on being re-acted by the Province last year was refused the signature of the Lieut.-Governor, it is interesting to note that the Vancouver Island Settlers interested are making a move to bring their case directly to the attention of the Federal Government. Meetings of those who have property without the coal rights therein have been held and it is probable that a delegation will leave the Pacific Coast shortly to carry the grievances to the ears of those in control at the Canadian Capital.

Will Work Leach River Property.

The Leach River, Vancouver Island, is likely to be worked on a large scale for gold, platinum and tale. A company is being formed for the purpose and some of the necessary plant already is on the property. The Leach River is familiar to all old timers. Fifty years

ago it was the scene of some excitement, and for an extended period was popular with the individual placer miner. In fact the river bed and benches have been worked on and off ever since, and it is seldom that one cannot obtain colors by washing out a pan.

Building Small Furnace for Maple Leaf Mine.

The Maple Leaf Mine is putting in a small smelter at Franklin Camp to treat its ores. The furnace is being made at Grand Forks, and will have a capacity of 50 tons a day. The furnace has a dimension of 44 in., and is of cupola type. A 35 h-p. gasoline engine will be used to drive the blower. The ores which are to be handled contained chiefly copper and silver values, although assays made last summer by a government representative disclosed small amounts of platinum.

Copper Mountain Railway Builders Strike.

The construction of the branch railway to Copper Mountain, where is situated the newly developed mining property of the Canada Copper Corporation, has received a temporary check. Three hundred laborers employed by the contractors have laid down their tools and refused to go back to work. They claim they were asked to work 10 hours a day at the same wage as was given for 9 hours' work. Now they want an 8-hour day and a fixed wage of 50 cents an hour, or \$4 a day. The strikers are orderly, no trouble having been experienced in the little towns of Princeton and Allenby, which are the communities nearest to the mining camp.



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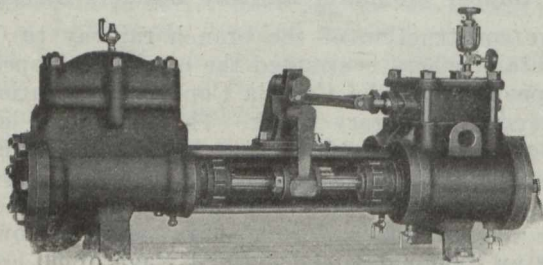
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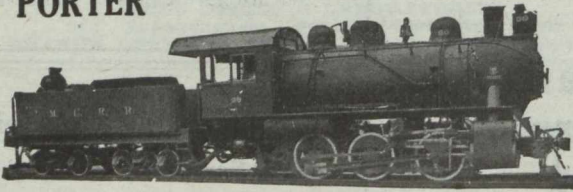
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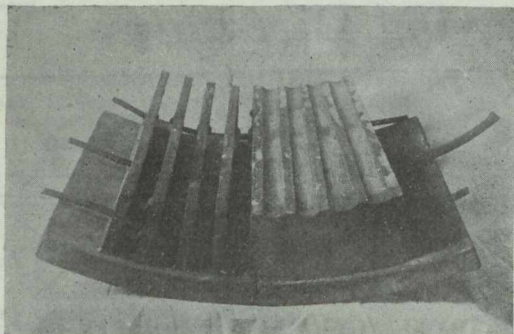
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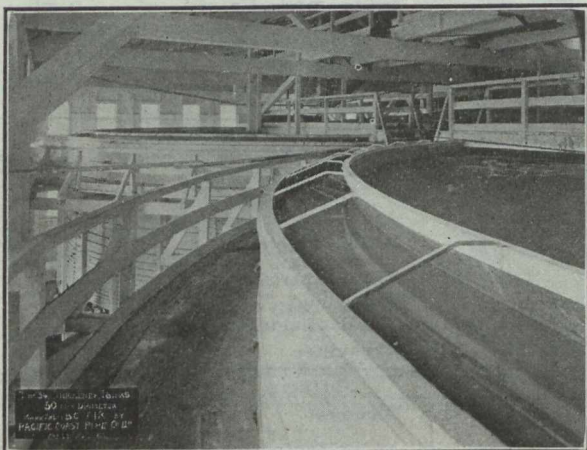
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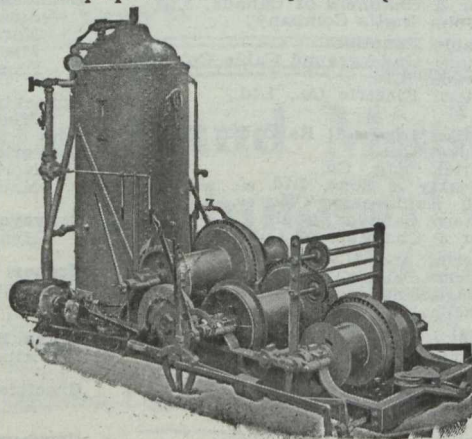
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Northern Canada Supply Co.
The Hamilton Gear & Machine Co.
Fraser & Chalmers of Canada, Ltd.
- Hammer Rock Drills:**
Mussens, Limited.
- Hangers&Cable:**
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Sullivan Machinery Co.
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M. Beatty & Sons.
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Fraser & Chalmers Engineering
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Fraser & Chalmers of Canada, Ltd.
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and Storage Steam:**
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Co. of Canada.
Canada Metal Co.
C. L. Constant Co.
Everitt & Co.
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Fraser & Chalmers of Canada, Ltd.
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International Nickel Co.
- Motors:**
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Northern Canada Supply Co.
- Ore Testing Works:**
Ledoux & Co.
Can. Laboratories.
Milton Hersey Co., Ltd.
Campbell & Deyell.
Hoyt Metal Co.
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Geo. G. Blackwell.
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- Orford Copper Co.**
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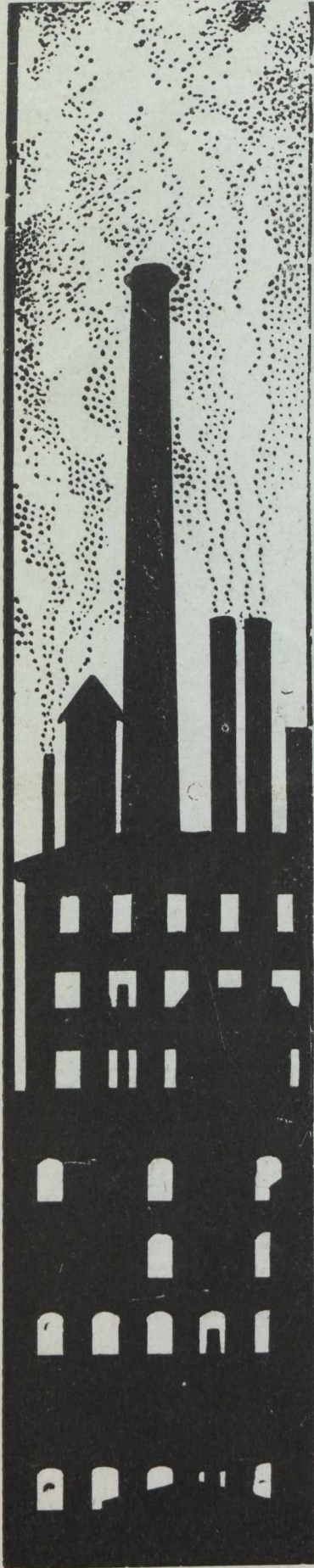
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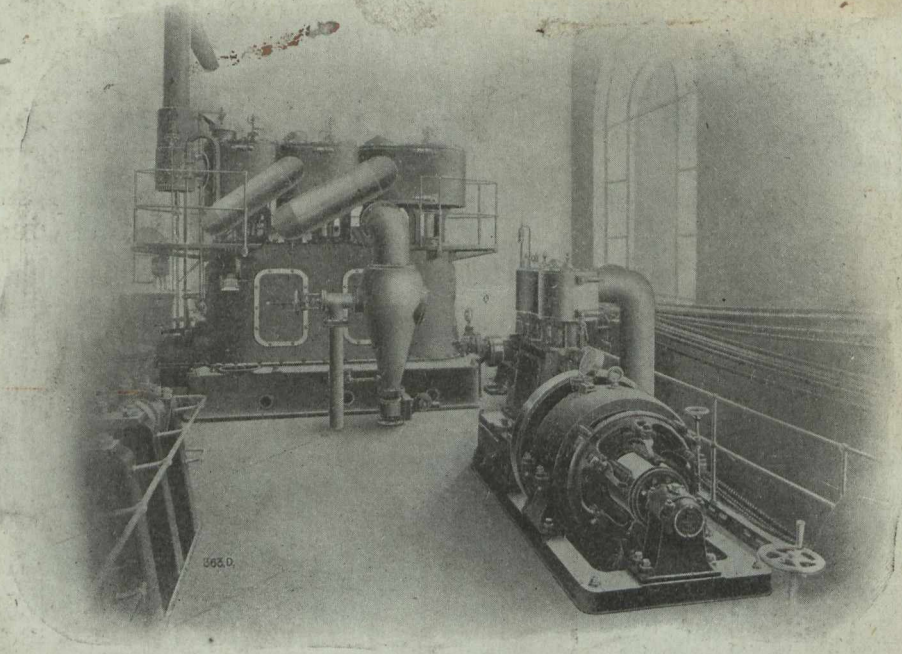
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