

CANADIAN MINING JOURNAL

Vol. XL

GARDEN CITY PRESS, Ste. Anne de Bellevue, AUGUST 20, 1919.

No. 33

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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:—

Fuel Testing Laboratory.—Testing value of Canadian fuels for steam raising and production of power gas; analyses, and other chemical and physical examinations of solid, liquid and gaseous fuels are also made.

Ore-Dressing Laboratory.—Testing of Canadian ores and minerals, to ascertain most economical methods of treatment.

Chemical Laboratory.—Analysing and assaying of all mineral substances and their manufactured products. Copies of schedules of fees, which are slightly in excess of those charged by private practitioners, may be had on application.

Ceramic Laboratory.—Equipment is such that complete physical tests on clays and shale of the Dominion can be made, to determine their value from an economic standpoint.

Structural Materials Laboratory.—Experimental work on sands, cements and limes is also undertaken.

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, Argen-teuil 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.

May 1712. Foothills of Southern Alberta, St. Mary river to Hig-wood river. Geology.

May 1714. The Niagara peninsula, Ontario. Geology.

May. 1715. The Ontario peninsula. Geology.

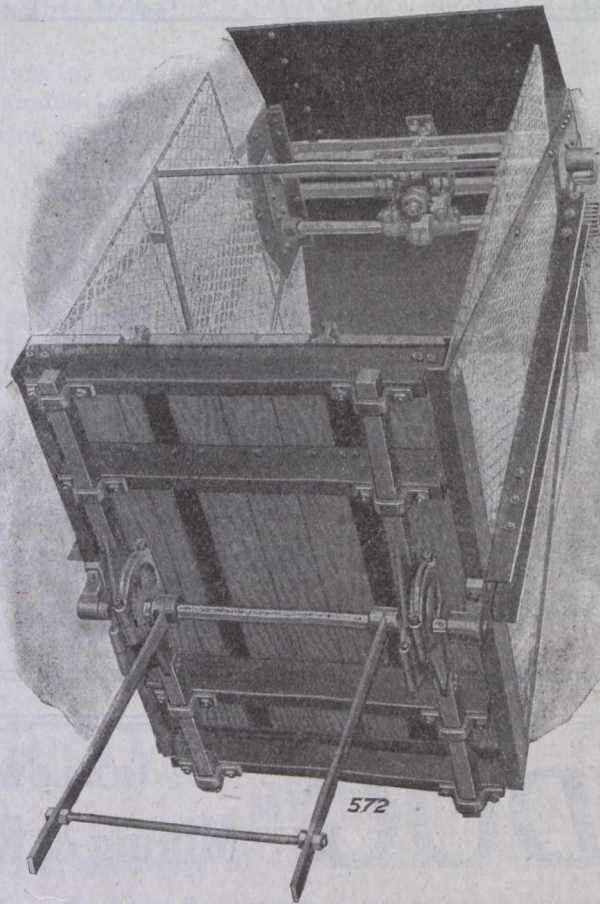
Applicants for publications not listed above should mention the precise area concerning which information is desired.

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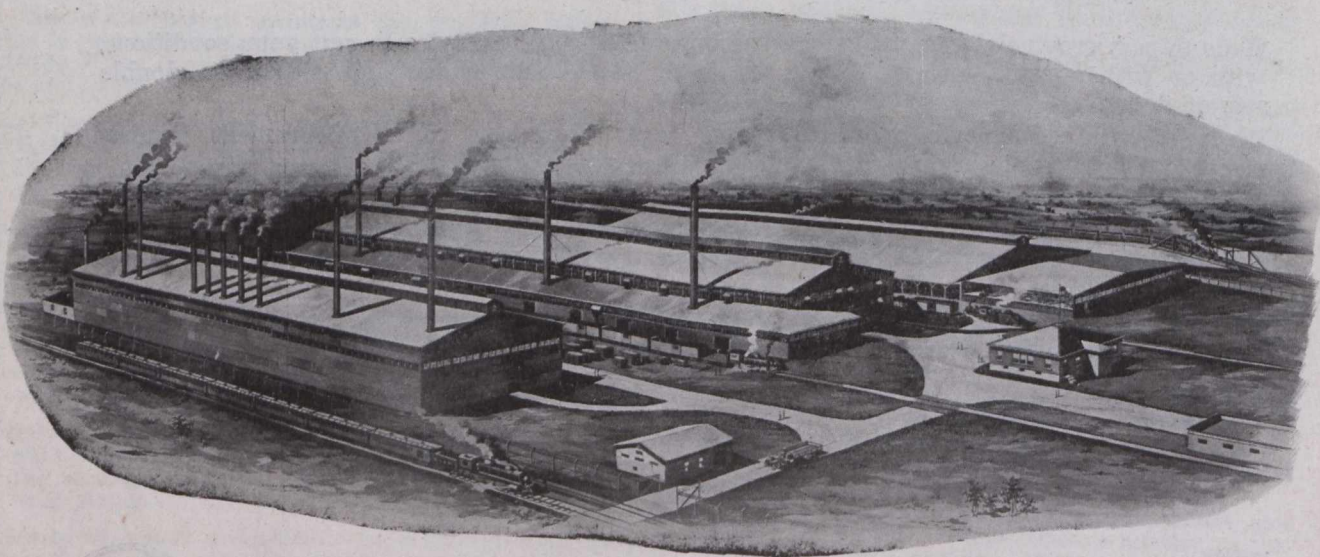
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The holder of the certificate may stake mining claims to the extent of 200 acres.

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

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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

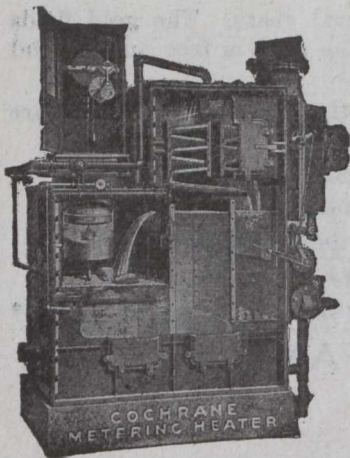
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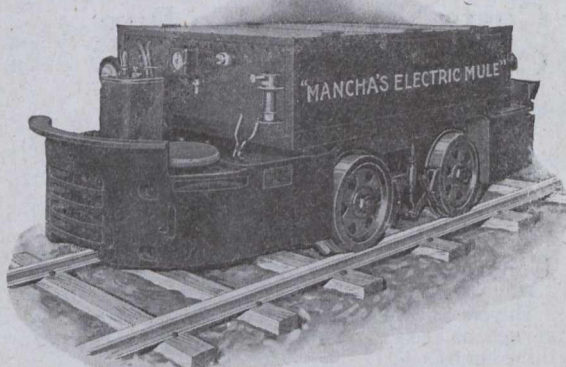
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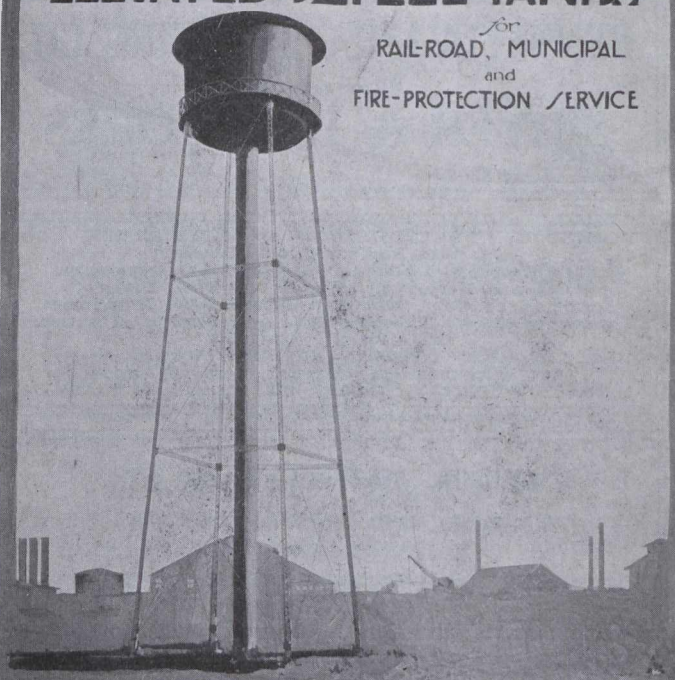
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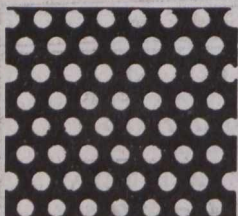
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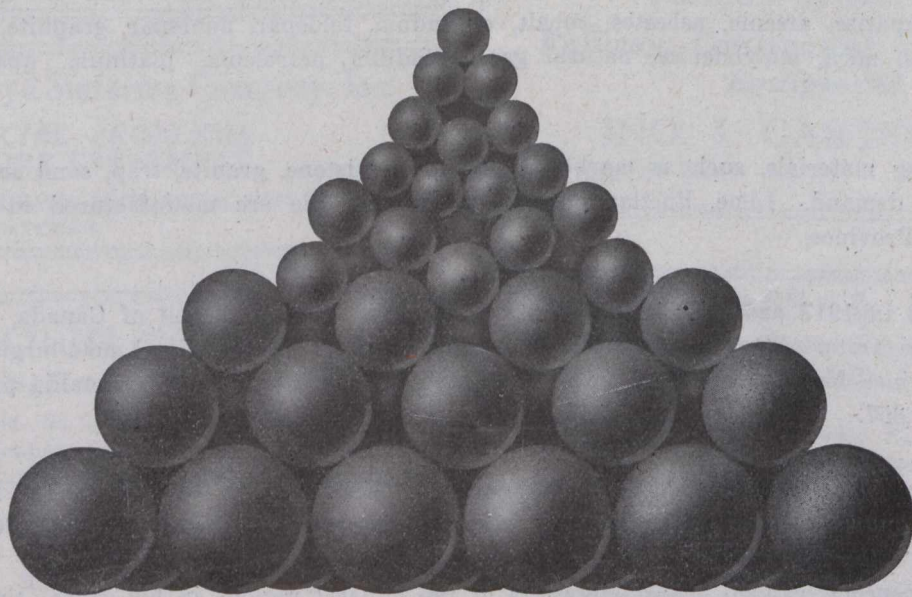
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Published every Wednesday by **The Mines Publishing Co., Limited**, at the Garden City Press, Ste. Anne de Bellevue, Que. 'Phone 165.

J. J. Harpell, Managing Director.

A. S. Christie, Eastern Manager,
Room B-30, Board of Trade Building, Montreal.
'Phone Main 2662.

H. W. Thompson, Western Manager,
1402 C.P.R. Building, Toronto.
'Phone Adelaide 3310.

F. E. Payson, Pacific Coast Manager,
507 Board of Trade Bldg., Vancouver, B.C.
'Phone Sey. 3920.

Changes in advertisements should be in the Publishers' hands ten days before the date of issue.

F. W. GRAY, Editor,
Ste. Anne de Bellevue, Quebec.

REGINALD E. HORE, Consulting Editor,
1403 C. P. R. Building, Toronto.

The editor cordially invites readers to submit articles of practical interest which, on publication, will be paid for.

Subscription to any address in Canada, United States and British Empire, \$5.00 yearly. Other countries postage extra. Single copies, 15 cents.

VOL. XL.

GARDEN CITY PRESS
Ste. Anne de Bellevue, Que.

No. 33

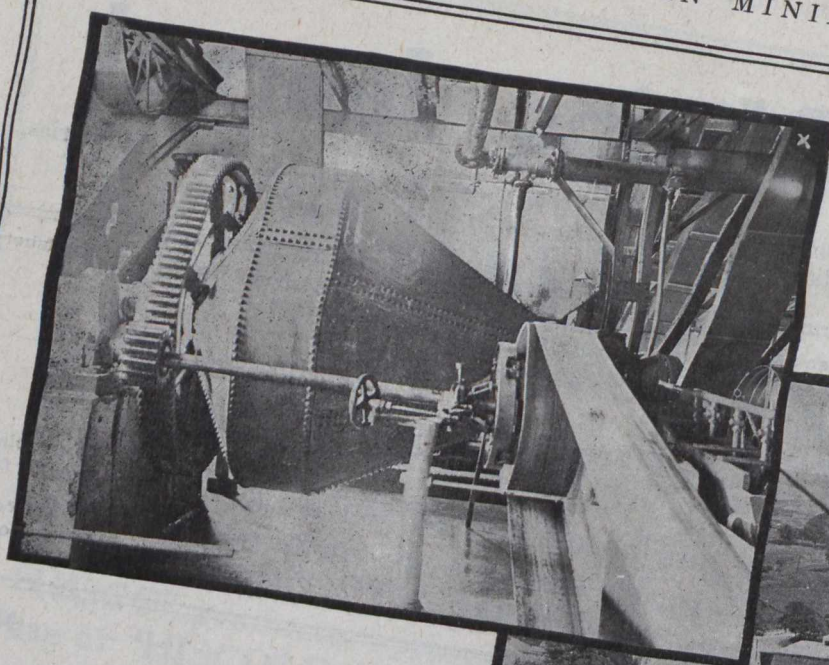
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EDITORIAL

THE WORK OF THE BUREAU OF MINES GEOLOGISTS.

During the past few weeks there has been in the "Toronto World" a great deal of criticism of the work of the Ontario Bureau of Mines. The criticism is quite unfair to the geologists employed by the Bureau. Very good work is being done, as many who have used Ontario Bureau of Mines reports and maps will bear witness. The Province is getting a lot more out of these men than it is paying for. The real cause for complaint is that a larger number of such men are not available for the work.

The mineral resources of Ontario are being more and more rapidly developed. It is regrettable that the Bureau of Mines has not a large enough staff of geologists to enable it to have promising areas mapped at a speed in keeping with that of exploration, but that is the fault of the province, not of its present employees.

No men have a better reputation among mining men than the chief officials of the Ontario Bureau of Mines. Mr. T. W. Gibson, the Deputy Minister, is known here and in the United States as an exceptionally competent director. Dr. W. G. Miller, the Provincial Geologist, is not only a distinguished geologist, but is a leading figure in the mining industry. It is true that he has been recently spending more of his time in England than in Ontario, but the province needs a capable representative there and no one is better qualified to bring Ontario's mineral resources to the attention of the Imperial Resources Bureau than is he. We would be glad to see him back on his job in Queen's Park, but it is idle to say that in his absence the Bureau is not doing good work.

Most of Ontario's metalliferous deposits are in pre-Cambrian rocks. The geologists of the Bureau — Knight, Burrows and Hopkins—are successfully studying and mapping these formations. There is more to be done than they can do in a reasonable time, but they should be given credit for what they are doing.

We could say more in praise of the work of the Bureau of Mines if we thought it good policy. Being convinced that the work should be speeded up in order that development of our mineral resources may come more rapidly and more intelligently, we are not so anxious to direct attention to the past activities of the Bureau as to the future. We need more work of the kind that is being done. The quality is satisfactory, but there are not enough workers to produce the desired quantity. Every year's delay in the development of our mineral resources means a loss to the pro-

vince. If the writer in the "Toronto World" give the Bureau proper credit for the work that it is doing, we would welcome his direction of "World's" readers to the necessity of the province making a great effort to achieve faster progress.

CO-OPERATIVE RETAIL ASSOCIATIONS.

Dr. McFall, the Dominion Cost of Living Commissioner accuses the Retail Merchants' Association of openly and secretly opposing the growth of co-operative retail associations, and in doing so he discloses a thing that has been well known to those interested in co-operative stores.

The attitude of the Retail Merchants' Association is one that interests mining companies, as the hostility of the merchants has been extended to mining companies and corporations operating retail stores with the object of reducing the cost of living to their employees. A recent example of this policy is the intention of the gold companies at Timmins to operate a co-operative retail store with the express intention of reducing retail prices.

The Dominion Coal Company and the Nova Scotia Steel & Coal Company for many years have done the same, and throughout the war period these stores exercised a salutary and steadying influence on retail prices. Naturally, this excited the opposition of the retail merchants, who were almost able to promote legislation prohibiting the coal companies from operating their stores. No grounds were advanced for such action by the legislature except the deterrent effect of the competition of the company stores upon retail profits, and strange as it may seem, the Legislature of Nova Scotia were on the eve of acceding to the importunities of the retail merchants to abolish the company stores, and the merchants have still much hope that their efforts will eventually remove these stores as competitors.

The extraordinary presumption of the merchants went even further, for they asked that co-operative retail associations should be prohibited, and opposed the incorporation of co-operative societies in Nova Scotia. It seems strange that a body of men presumably so well-informed as the retail merchants should have so elementary a knowledge of the unassailable right of a group of persons to incorporate for any form of business that is not against the public interest or actually felonious, as to dare to publicly oppose the formation of a co-operative society, but it actually was done.

which of the retail stores is to be operated to co-operate with the miners.

effective than the public opposition of co-operations, however, is the secret policy and retail men in refusing to sell goods to co-operative societies. The wholesalers are much a course of action by the attitude of the retailers, but it is well-known to co-operators that the difficulty experienced by co-operative societies in Canada is occasioned by the secret underground that exists amongst retailers that co-operative societies are not desirable from the retailer's point of view and are to be discouraged by every possible means.

In Great Britain the same hostility was experienced, and the co-operators were forced into commencing a wholesale society, which is now familiarly known as the C. W. S. and has achieved world-wide influence.

The Commissioner believes that the new law restraining combines in Canada may make it possible "to compel the retailers to refrain from threatening to boycott wholesalers and manufacturers who sell to co-operative associations." We should hope that it may be possible to do this. It does not seem a great deal to ask. Co-operation is not an experiment. It has proved very effective in saving the services and the profits of the long line of middlemen, commission agents, jobbers and retailers that do the distributing work of commerce. If co-operation dispenses with any of these interpolations between the producer and the consumer, it is so much to the general public good. The middleman, of all grades, is only a useful member of the community in so far as he performs a service. To that extent he is entitled to reward, but if the middleman should become obsessed with the idea that he has a vested interest and some occult right to profit from the purchases of the public, irrespective of the necessity for his services, then he becomes an incubus, a parasite, and will in due time meet with the fate of all things and institutions that perform no useful purpose.

THE CANADIAN NATIONAL RAILWAYS AND THE PURCHASE OF NOVA SCOTIAN COAL.

In a letter addressed to the President of the Canadian National Railways, Mr. D. D. MacKenzie, the member for Cape Breton North, pleads eloquently the case of the Nova Scotia coal mines in requesting a larger allotment of the coal purchases of the Canadian Government Railways.

Mr. MacKenzie touches upon the two main reasons for the present exclusion of Nova Scotia coal from its usual markets, namely, the shortage of ships occasioned by Admiralty requisition, protracted beyond all reason; and, secondly, the great drain upon the colliery working organizations, and their permanent impairment caused by heavy voluntary enlistments and an unusual percentage of casualties among the miner-soldiers. The late leader of the Opposition concludes by writing:

"I must with all respect, yet with all insistency, impress upon you the necessity of coming to the assistance of these men by purchasing the article which they produce, whether or not it may be more expensive than the same article imported from a foreign country. This is not only a national question but an imperial one. . . . The reasons you gave for not buying more of our coal do not measure up to the gravity of the situation involved."

The reasons given by Mr. Hanna for not buying more coal from Nova Scotia than was needed in the Eastern Lines section of the C. N. Railways, east of Levis, or thereabouts, was that Nova Scotian coal cost much more than American coal.

Is the cost of an article, purchased by a national enterprise for national services the true measure of economy or statesmanship? Nova Scotian coal is costing more because of the sacrifices in life and services made by Nova Scotian miners, and because of the admirable manner in which the foresight of Nova Scotian coal owners had provided cargo carriers so excellently adapted to the Admiralty requirements that they were requisitioned early and released late. American coal is costing less than Nova Scotian coal because it will always and did always cost less to mine, and because, thanks to the draft system and the lessons learnt from our experience, the United States coal mines were not drained of productive labor, but, on the contrary, the U. S. Government went to extraordinary pains to conserve and increase the production of what they realized to be the most essential raw material for war purposes. In other words, the United States coal trade benefited by Canadian sacrifices, and it is rather a poor return for the injuries that the war inflicted upon the coal trade in Nova Scotia, that because of the preferential position now occupied by United States coal operators, **occasioned by these same injuries**, Nova Scotia should be called upon to suffer further injury.

But, admitting that the Canadian National Railways can save large sums of money by buying United States coal in substitution for Nova Scotian coal, what does that really amount to? Do we not owe sufficient money to the United States already? Is not a five per cent premium on New York funds enough discount on the Canadian dollar to worry about? As we have pointed out in these columns many many times the importations of American coal are only exceeded in their tremendous increase by the deplorable halt in Canadian coal production, and it appears as if the Government itself were going to lead the procession towards the United States coal-heaps, and were going to set a good example by spending more money in the United States for coal that could be and should be produced in Canada.

If large numbers of men in Nova Scotia are thrown out of employment by the substitution of American coal, if sums for relief have to be voted by municipal, provincial and possibly federal agencies, if the royal-

ties of the Province of Nova Scotia are still further reduced by a still further diminishment of output, if more miners are compelled to leave Nova Scotia and go to the United States for a living, if the revenues of government accruing from taxation on exciseable goods and customs duties are diminished by unemployment, if the general commercial prosperity of Nova is diminished; and if all these benefits are transferred to the United States in the measure and extent represented by the tonnage of coal that is mined in the United States that should be mined in Canada, how does the country benefit, and where is the saving in money? Is not the saving an entirely fictitious one, existing only on paper, and represented as a material factor by an increased rate of exchange against Canada and poverty and distress within our borders?

If the reason given by the Canadian National Railways for buying United States coal in preference to Nova Scotia coal, or buying United States coal at all where coal is obtainable from Canadian sources, is that it costs less, then, as Mr. MacKenzie says, the reasons given do not measure up to the gravity of the situation. Very few people realize—even in Nova Scotia itself—how black the outlook is for the future prosperity of the coal trade in that province. It is one of the limitations of Nova Scotia that coal, in the nature of things, always did and must always cost much more to mine there than it does in the United States. This is a limitation Nova Scotia shares with Britain and other coal producing countries in the Empire. If the Canadian Government wishes to see coal mined in Canada, and to receive all the internal benefits that accompany coal mining, then the Government must accept the limitations of Canada, and not buy goods in the States because they are listed lower in dollars and cents, because that does not mean that they cost less. In these days money has a variable and often unascertainable value. If we persist in buying goods abroad, then we must be content to accept unemployment at home, and this, in turn will result in inability to pay for the goods purchased, or national bankruptcy.

SIR AUCKLAND GEDDES' SPEECH ON BRITISH COAL PRODUCTION.

The speech in which Sir Auckland Geddes presented the gravity of the coal situation in Britain attracted world-wide attention, and cabled summaries of the speech were contained in most Canadian newspapers. The coal question is one which concerns Canadian readers, not only because the commercial effect of the disappearance of Britain as a coal-exporting nation will extend to Canada, but because the questions that are in dispute between the miners and employers in Britain are the same questions that are being raised in Canada. Sir Auckland Geddes sums the matter up by saying: "The key of the position, the final key, rested with the miners, not on any Report, but by working."

There is a curious similarity in the statements of

coal-miner leaders in all parts of the world. In Canada, in the United States, in France, and even in Germany, the colliery managers and coal-owners are accused of restricting output by inadequate and antiquated equipment, by inefficient management, and other sins of omission. The simultaneous discovery of the managerial shortcomings, and their simultaneous announcement in coal-mining districts so far separated as Alberta and Westfalia, as England and the United States, in language moreover that is identical in intent if not in phrase, is an instance of mob psychology, or thought transference, or something more sinister, or else the mining engineering profession has undergone a remarkably widespread and consistent deterioration all at once.

However that may be, Sir Auckland Geddes' exhaustive setting-forth of the problems that face the British nation through the special and preferential treatment demanded by the miners contains much that is as pertinent to Canada as to Britain.

THE LIGHT RAILWAY.

In a recent number we suggested that a light railway such as was used in France might be advantageously constructed into the West Shiningtree and Wasapika areas. Such a railway would certainly be of great assistance to those who develop gold properties in this and adjoining districts and would enable operators to spend a higher percentage of their funds on the development of ore deposits.

A correspondent says: "One of the unquestioned successes of the war was the light railway and Canadian railway troops had their share in this success. Consequently, we have men who are experienced, and no doubt the Government if it wished could get plenty of applicants for employment of this nature. The light railways offers a cheap and speedy means of opening up the hinterland which in the near future will be a source of untold wealth to the present Canadian transcontinental railways and incidentally to Canada as a whole."

PERSONALS

Mr. W. E. Segsworth, is in Toronto having returned from an extended visit to England.

Mr. D. H. McDougall, President of the Nova Scotia Steel and Coal Company, has returned from a two weeks visit to Wabana Mines, Newfoundland.

Mr. G. Blake Walker, President of the Institution of Mining Engineers (Great Britain) is visiting the timber areas near Bonne Bay, Newfoundland, in which he is interested. These areas were acquired during the war by a syndicate of Midland coal-owners to provide pit-timber for the British collieries, but owing to shipping shortage it was not found possible to send pit-timber to England during the war period. With the close of the war, it is expected that the Company's plans will be followed out.

THE PRICE OF COAL

SIR AUCKLAND GEDDES' SPEECH.

The proposed increase of 6s. per ton in the price of coal formed the subject of debate in the British House of Commons on Monday, July 14.

Sir A. Geddes (President of the Board of Trade) said there was no ground for the suggestion that this increase in the price of coal was based upon political considerations. It was based upon a realisation by the Government of the very serious position by which the country was faced at the present time in connection with the supply of the main source of power. The causes that had been assigned for the reduction of output were numerous. It was quite wrong to suggest that all these causes were to be found inside the coal industry itself. There were many outside causes, and he proposed to look at those causes under two heads: first, the external causes, and then causes internal to the coal industry. Among the most important of the external causes was the present transport position in the country. Output was being checked at many mines because wagons were not forthcoming as required, the failure being in some cases extraordinarily serious. The records of the arrival of the general user wagons at some 40 specially affected pits showed that those 40 pits in pre-war loaded some 10,000 general user wagons in a week, in addition to privately owned wagons. At these same pits during a recent week it was possible to have present waiting for loading only some 700 wagons. That was, of course, not an average for the whole country; it was taking the worst group of cases where this factor tending towards reduction of output operated. As to why wagons were not provided, there were many reasons operating to strangle the flow from the collieries, one of them being that the coal, after being loaded on the wagons, was longer on them than it used to be, because they could not be cleared at their destination. As a result of the institution of the eight-hour day on the railways, there was less work being done, and the new men who were being taken on were not so well trained or so expert. A further factor was that the work was over sooner, and there was consequently a delay in getting the wagons back.

The Interdependence of Industries.

A great difficulty had arisen in connection with the whole of the railway system through the enormous freights which had to be charged for coastwise service and those in turn arose from changes in general conditions of employment. Much higher wages were being paid, and in some cases less work was being done. He laid stress on these points to emphasise the fact—the recognition of which was vital to the country at the present time—that less work being done in one industry reacted through that industry on to others, and we could not go on with anything like our old pre-war state if the work of the country was not done. At the present moment, for one reason or another, it was not being done. A most pernicious doctrine was being preached—that if a man did less work it left more work for others to do. The real thing was exactly the reverse. We had here an

example of less work being done in industries outside mining, making it impossible for another industry to get the flow of its products away, and therefore checking back the work in that industry. That fact should be clearly recognized. This question of the interdependence of industries was complicated by other factors. For instance, the drought we had in the early summer was also a contributing cause to blocking back coal, as it caused a shortage of hay, and people who used to do carting, and in that way help to clear the railways were no longer doing that carting because it did not pay. That the fact had added to the difficulty of the coal output. Not only was the flow from the coal industry checked by conditions of labour and employment in industries outside itself, but the actual production within the industry was checked by conditions arising in industries outside itself. There was at present the greatest possible difficulty in getting forward to the mines the steel rails, the machinery, and the tubs which they required, and those difficulties were accentuated by a change in the hours of labour and the amount of work done per day in the steel and other industries. Consequently, it was not possible at the present moment to get the supplies of manufactured steel required for other industries. These were some of the outside factors. In short, you could not take an old country such as this, and suddenly profoundly change the conditions under which the majority of its people lived and worked, without causing widespread disturbances outside the area of those changes themselves.

Inside Factors Reducing Outputs.

Inside the coal industry there was no doubt that there were factors at work tending to reduce output. As the result of the Government's adoption of the recommendations of the Interim Report of the Sankey Commission, the coal owners' profit was now fixed at 1s. 2d. per ton. It did not matter to them, therefore, how much a ton coal cost to raise, although the number of tons raised did matter. Taking the side of the men, wages were very much up. It was freely alleged that there were men working in the industry who found they had made enough in the course of the week, and did not go on to make more. He thought that was probably true. The figures of absenteeism in the mines suggested that something of that sort was happening. The White Paper stated the percentage of absenteeism due to sickness, injury and voluntary absence, shown as a percentage of the possible number of shifts which could have been worked, increased from an average of 10.7 per cent. in 1913, to an average of 12.5 per cent. in the first 20 weeks of 1919, and to an average of 13 per cent. in the four weeks ended May 24. That was another factor at work tending to reduce output. The Coal Control Department reported that absenteeism was less last week, but the figures showed that during the time covered by the White Paper there was an increase in absenteeism. There was also during the same time a reduction in the output of mines for a period of four weeks, increasing from 19.8 tons in 1913 to 16.8 tons in the first 20

weeks of 1919, and to 17.1 tons in the four weeks ended May 24, during which period there were no holidays and few stoppages. For the last four completed weeks, excluding Whitsuntide, the output was 16.7 tons. Those last figures by themselves, of course, proved nothing, because there were factors operating from outside. But, as a result of those figures, there was no reason to doubt that there was still an unused capacity for output existing within the coal miners themselves, and that point was, he thought, fully conceded by a member, himself a miner, when he said that if there was a campaign to get an increase of work in the mines he was quite sure something would be done. This very wide range of causes in connection with the reduction of output was something which could not be put right at once, and something which no single man and no single body of men representing any one industry could put right by their own efforts. It must be a national effort to get this vital question of coal output put right.

Prices Compared

As a result of the reduction of output there must be some increase in price. The following figures showed where the money paid for coal at the pit-mouth went in 1913, and what consumers would have to pay after July 16, first of all per ton of coal raised, and secondly per ton of coal available for sale. The average pit price for coal per ton raised in 1913 at the pithead was 10s. 1½d., and the corresponding figure to-day was 26s. 0½d.; per ton sold the corresponding figures were 11s. and 29s. 3½d. Those figures were made up as follows: The 10s. 1½d. was made up of the following items: Labour in and about the mines, 6s. 4d.; timber and stores, 1s.; other costs, 11d.; royalties, 5½d.; owner's profits, 1s. 5d. That was for 1913. The corresponding figures to-day were: Labour, 19s. 5½d. as against 6s. 4d.; timber and stores 3s. 2½d.; other costs, 1s. 2½d.; royalties, 6¾d.; owner's profits, 1s. 2d.; compensation to owners for working, under the instructions of the Controller of Mines, mines which would not otherwise be worked, 3¼d.; and there was another penny required for administrative purposes in connection with coal, control, and the 1¼d. which we had as a surplus on the price. Now, taking the same things corresponding with per ton sold, because it was rather instructive to get these figures, the price in 1913 was 11s. Labour in that year was 6s. 10½d.; timber and stores, 1s. 1d.; other costs, 1s.; royalties, 6d.; owners' profit, 1s. 6½d. After July 16 the following would be the state of affairs: Labour per ton, 21s. 10¾d.; timber and stores, 3s. 7d.; other costs, 1s. 4¼d.; royalties 7½d.; owners' profits, 1s. 3½d.; compensation as before. It would be observed, then, that the increase of wages and reduction of output had resulted in two things—labour costs had increased by 13s. 1½d. per ton raised, or 15s. per ton sold out of the total increase of 15s. 11d. per ton raised, or 18s. 3d. per ton sold. This included nothing but labour in and about the mines, actual labour associated with getting the coal. The figures were taken from the evidence given to the Sankey Commission by the Coal Mines Department. They were sifted by the Commission, and the actual figures were those for the September quarter of last year. To those figures had been added the necessary amounts to cover such increases as those resulting from the application of the Sankey wage and the increased cost resulting from the return of men to the mines, who,

although back, were not sharing to the same extent as those who were there before in output. The other costs, timber stores, etc., were adjusted to the actual cost at the present time.

Tracing the Cost to the Consumer

Tracing the cost of coal through actually to the coal seller and consumer in London, and taking 29s. 3d. as the cost actually paid for the coal at the pit mouth, he found that the coal should be sold in London, and was sold in London, for 49s. 6d.; 20s. 3d. marked the increase on the cost, and that was distributed as follows: First of all, the pit price, 29s. 3d. The average railway rate to London was 6s. 4d.; wagon hire, 1s. 6d.; loaders' wages, 1s. 9d. per ton; carmen's wages, 1s. 10d. per ton; other cartage charges, 2s. 7d. per ton; loss on smalls, 7d.; sacks replacement, 5d. per ton; railway siding rents, demurrage, etc. 1d. per ton; salaries, establishment charges, and the various administrative costs in connection with the offices of the factors and retailers, 3s. 6d. per ton; and the profit distributed between the factor, which amounted to 4d. per ton, and the actual small retailer, or between two, or perhaps even three factors and the last man, 1s. 8d. per ton on the average. In 1913, for this particular coal, best Derbys, the pit price was 13s. and the London price 27s. The railway rate was exactly the same as to-day, 6s. 4d. per ton; wagon hire was 1s. against 1s. 6d. at present; loaders' wages 11½d. against 1s. 9d.; carmen's wages 10½d., against 1s. 10d.; other cartage charges 1s. 0¼d., against 2s. 7d.; loss on small. 4d. against 7d.; sacks, 1½d. against 5d.; railway siding rents, demurrage, etc., exactly the same, 1d.; salaries, establishment charges, 2s. 4d. against 3s. 6d.; and the profit 10¾d., against 1s. 8d. That profit, of course, excluded the 1s. 2d. fixed profit allowed to the coal owner. In the last group of figures, the price delivered to the consumer, there was as yet no allowance for any increase in carriage resulting from the various increases of costs by which the railways were faced, of which one, of course, was the increased price of coal. The present price of delivery in London, or in any town or port in Great Britain, was a subsidised price—the Government was subsidising the delivery. Moreover, the actual cost getting was subsidised still, and would continue to be, by the foreigner, because they were carrying into those figures still the subsidy derived from the export profits, and that subsidy was falling in amount day by day. If it disappeared altogether, the price of coal would be up another 1s. 4d. at once.

Everything Dearer.

Following from the increased cost of coal, we had at the present moment to face a rise in the price of our pig iron of anything from 15s. to 20s. a ton, perhaps more; in steel and finished iron, an increase of 25s. to 30s., perhaps more. Coke would be up 10s. a ton; spelter, £2 a ton; gas, 6d. to 9d. per 1,000 ft.; electric power, 0.2d. per unit; paper, 10s. a ton; glass, 5 per cent to 10 per cent; textiles about 4 per cent; bricks, about 5 per cent; machinery, about 12 per cent; chemicals generally, about 10 per cent; some of them, such as caustic soda, sodium sulphide, and bleaching powder, from 20s. 30s. and 50s. a ton. This question of the increase of price in coal was of the most grave and serious nature for the whole nation. Not only were we losing our subsidy from export coal, but we were going to lose our national earnings from exports. Rails in Britain before the rise in coal cost £16 a ton; after the rise £17 10s. a ton; and in the United States

to-day £10 a ton; ship plates, £17 15s. a ton before the rise in coal; £19, the probable new price; American price, £14; crown bars, £21 a ton before the rise in coal; £22 10s., probable new price; American price, £11 15s.; pig iron, Cleveland No. 3 foundry, before the rise, £8; after it, £9; and No. 2 Pittsburg, £6. These figures must make everyone realize how grave was the crisis with which we were faced, because we lived by nothing else than our exports, and our export trade was gravely threatened by this position which has arisen.

The Key Figure.

The White Paper showed some of the figures on which the decision to raise the price of coal was fixed. Obviously the key figure was the output of coal during the coming 12 months. The only way to determine what that figure would be was to base the estimate on experience of actual output, either for 20 weeks of this year (as in the White Paper) or 26 weeks of this year, or a selected recent period. There was a good deal to be said for each of those bases. If factors determining the possible output of coal were all confined to the coal industry, and strictly limited to it, it might be possible to say, "Well, by goodwill, by the same sort of patriotic leadership of the miners which they got from their leaders during the war, they could get the output up at once." No amount of work on the part of the miners could get the output of coal up to the figures we wanted, although they could get it up a long way, until we had got all the other things right. So that we were absolutely bound to look at the factors which surrounded the coal industry in deciding what estimate to take. On the basis of the 20 weeks of the early part of the year, the estimate would be 217 million odd tons; or on the first 26 weeks of the year, 216 million tons; whilst for a selected four weeks, when all these factors were concentrated upon the output of coal, the estimated output was 214 million tons. The estimates involved one factor which had been followed from the Sankey Report, viz., whilst the actual hours were being reduced by 12½ per cent., the reduction of output was only taken as 10 per cent.; but with the factors outside the coal industry operating upon it, he was not sure that that 10 per cent. only might not be rather optimistic. With those estimates they had taken the 217 million tons figure to work on, which showed a deficit of £46,600,000 upon the working for the coming year. Those figures were handed in to the Coal Commission, and had been before the public, for weeks, but there had been no serious criticism of them. That £46,600,000 was 4s. 3d. per ton on all the coal raised, but it was related to a tonnage of 161 millions, which would be affected by the increase because there was the coal used in the collieries—18 million tons—on which it was no use putting 6s. a ton even for book-keeping purposes. There was also the miners' coal, which was part of the miners' wages; and then there was the coal for export and bunkers sold at open market price above the minimum, viz., 32 million tons of coal which were already earning more for us than they would earn if the 6s. were put on.

Cost of Coal Control.

In addition to that there was the cost of the coal control, at present 0.7d. per ton; but in view of all the new circumstances and new difficulties, another 0.3d. per ton must be allowed for coal control, which would make the future cost 1d. per ton, which would make miners, not on any Report, but by working."

5s. 10½d. as the absolute necessary increase to get a balance. To that they had added 1½d. in order to give a slight margin according to that estimate. Another estimate was got at in a different way: worked out from the actual subsidised cost—subsidised by export to obtain from the figures actually in possession of the Coal Control, and which were given to the Sankey Commission. Taking the 216 million tons basis, and export trade—at the pit mouth, a relatively easy thing knocking off the 18 million tons used in the collieries and the six million tons for miners' cottages—from which, by the way, there was derived a revenue of almost exactly £1,200,000—there remained 192 million tons for commercial disposal. The subsidised cost of raising this 192 million tons was £281,250,000. Knocking off the £1,200,000, left £280,000,000. Domestic and industrial use absorbed 157 million tons. The present average pithead price obtained for the coal was 22s. per ton, equal to £172,700,000—leaving a balance of £107,350,000 to be obtained from the sale of coal for export and bunkers. For these purposes and on this basis there would be only 35 million tons available. At present the prices for this export and bunker coals ranged from 15s. per ton for the poorest quality, small broken dross, up to 90s. per ton. Last year's average was 29s., at present the average price was 39s., but unfortunately our diminished exportable quantity was having the effect that the average composition of our export and bunker mass was deteriorating. Trade returns for June 1917 showed that the small coal exported amounted to 535,000 tons, a ratio of roughly 1 to 4. This year we exported 724,000 tons of small, and only 1,500,000 odd tons of large, a ratio of 1 to 2, so that the average price that we were getting for our export coal was falling because the quality of the composition of the mass of the coal was less good than before; and as the amount of coal we had to export declined, the composition got worse. So they were estimating for a price of 35s. for our export on the average, as against 29s. last year, and 39s. at the moment. That meant that we might expect to receive £61,250,000 for our export and bunker coal. When that had been deducted from the £107,000,000 which ought to have been paid for by export, we were left with a deficit of £46,100,000. This deficit, according to this method of calculation, had to be spread over 157 million tons, and it worked out at 5s. 10½d. per ton, which, with 1d. per ton for coal control, gave 5s. 11½d. These two different methods checked each other, and both pointed to the 6s. increase in the price of coal if the country was prepared to go on subsidising its domestic coal out of the profits of its exported coal.

Foreign Competition

It was rather dangerous to imagine that during the coming year we were going to have a great deal of coal to export at a good price, because competition was getting very keen. American coal f.o.b. Atlantic ports was almost exactly 20s. and America was nearer some of the places to which we sent coal than ourselves. Another competitor was oil. On the West Coast of South America the shortage of patent fuel coal had the effect of establishing oil in the market. During the war the American oil companies made contracts for three years with various consumers who used to be patent fuel coal at 10s. per ton delivered, and now the three years' period has terminated the American oil companies had intimated that they were prepared to contract for one year for 70s. per ton of

oil, which was worth two tons of coal calories. That was some of the competition we had to face, and also the fact that the Americans were now offering long term contracts, and if we had also to offer long term contracts our profits must be further reduced because the price would have to be lowered. So one could only say that, though we were estimating on a 6s. per ton rise for coal, we were doing it knowing that we were taking a very considerable risk in having underestimated the amount that we ought to put on, because the 6s. was arrived at after allowing full credit for about 1s. 4d. subsidy derived from our export trade.

The secretary of the Miners' Federation of Great Britain had issued a statement to the Press to the effect that the Coal Controller on June 3 estimated the output for the year 1919 at 230,606,000 tons, and the deficiency for the year ending December 1919, after providing the owners with a guarantee profit of 14 millions, at £36,900,000, and that this sum, spread over 230,606,000 tons output, equalled 3s. 2.4d. per ton, whereas Sir A. Geddes would increase the price to the consumer by 6s. per ton, even when advised that the arithmetical deficit was only 3s. 2.4d. Now, no part of that deficit of £36,900,000 so far had been raised from the price of coal; it had been met from the taxpayer or borrowed money. If we were to pay the whole of that £36,900,000 of this year, the increase in the price of inland coal on the remaining part of the year would have to be 9s. 2d. per ton. Another point which had been made strongly was that in the past there was an increase—described as a useless or unnecessary increase—in the price of coal of 2s. 6d., as a result of which the Government has been alleged to have made a large profit out of the coal industry. That transaction had not been fully understood. In the spring of 1918 it was ascertained that the Coal Mines Agreement Act was being worked at a loss, and the accounts up to March of 1918 showed a deficit at the rate of six millions per annum. In order to make the agreement self-supporting it was necessary to impose a charge of 2s. 6d. in June 1918. It had been said that the Government was profiteering out of the people of the country. Nothing of the sort; it was preventing international profiteering. The profits that were made out of the 2s. 6d. rise at that time were profits made from overseas. For example, we had during the war to get large quantities of goods from neutral countries for which high prices were asked, and in fact we got those goods by bartering coal, the only way that we could keep the price of those things which we were buying anything like reasonable was by charging, in the arrangements for barter, a larger sum for the coal. That was the source of the so-called profits. They were not profits in a sense, but they were going against what the Government was paying for stores in the war. These sums of money only passed as a matter of book-keeping through the coal industry, and on the international basis that money was absolutely required to meet our war charges accruing overseas. The actual arrangement, so far as the industry at home was concerned, was that after the half-crown was on there was 1s. 6½d. profit per ton of coal available for the mine owners in this country. The mass of money which passed through the coal industry—it was not taken from the coal industry, but passed through—at that time was altogether coming from outside the country, and was part of the general adjustments in connection with

international bargain. These possibilities of so-called profits no longer existed. We had not got the coal to export. Our ships would have to go out in ballast if they were to come back bringing iron ore, or whatever it might be in the way of raw material. If we had not exports to send out—and we should have few if coal, iron, and finished iron and steel were dear—the exchanges must go more against us, and we must be placed in a position of having to pay more for all our food. He would urge that the present was no time for any section of the community, or for the Government to think that its interests were separate from the interests of the whole lot. To get through the dark and anxious days which lay ahead we must get back to the spirit which we had during the war. It was no good anybody saying that anybody else especially was to blame, excepting on one thing, and there the blame was heavy if it could be proved in any way whatever. The men who were to blame at the present time were those who were not doing their best to get production, to get output, to get the cost of production down, by increasing its bulk.

Appeal to Miners' Leaders.

That at the present moment was the most urgent need of every department of our national life, and that was the point upon which the miners, the actual workers in the mines, could do more to help the country than in any other way to get ahead, and whatever the other difficulties outside the industry might be, or of getting the coal away from the mines, let us see that the maximum amount of coal was got out of the mines that could be got. He would ask the leaders of the miners to go down to the men they know so well and say to them: "This is no time for doing less than the maximum you can do." He would ask the leaders of the other section of the community to say the same thing to their people; but, because coal was the basis and principal source of our power, its shortage, its dearness, affected us more than the shortage or dearness of any other thing except bread. Therefore he would ask every man who had influence with the miners, if they saw, as they must see, and know that many of the men who had the chance were not working, and many who had a limited chance were not working to the limit of their chance. If they would work to the limit of their capacity, then he had little fear that it could be possible for them soon to say: "The output is rising so well that we may run the risk of bringing down the price of coal." If the output went up, they would be only too glad and willing to meet the rising output by a fall in the price of coal. If the output could be got up, he thought he might say on behalf of the Government that as the output rose they would only be too glad to get the price of coal down 6d. a time, or some small amount, in order once again to get our industry freed and our export cheap. But unless we got coal, and unless everybody really would do all he could to get the output, and unless men of other industries would do all they could to free the circulation of goods in the country, to get up the supply of things required for the miners, there would be great difficulty. The key of the position, the final key, rested with the miners' not on any report, but by working.

Mr. Robert Bryce, of Toronto, is leaving for British Columbia. He will be away for about three weeks.

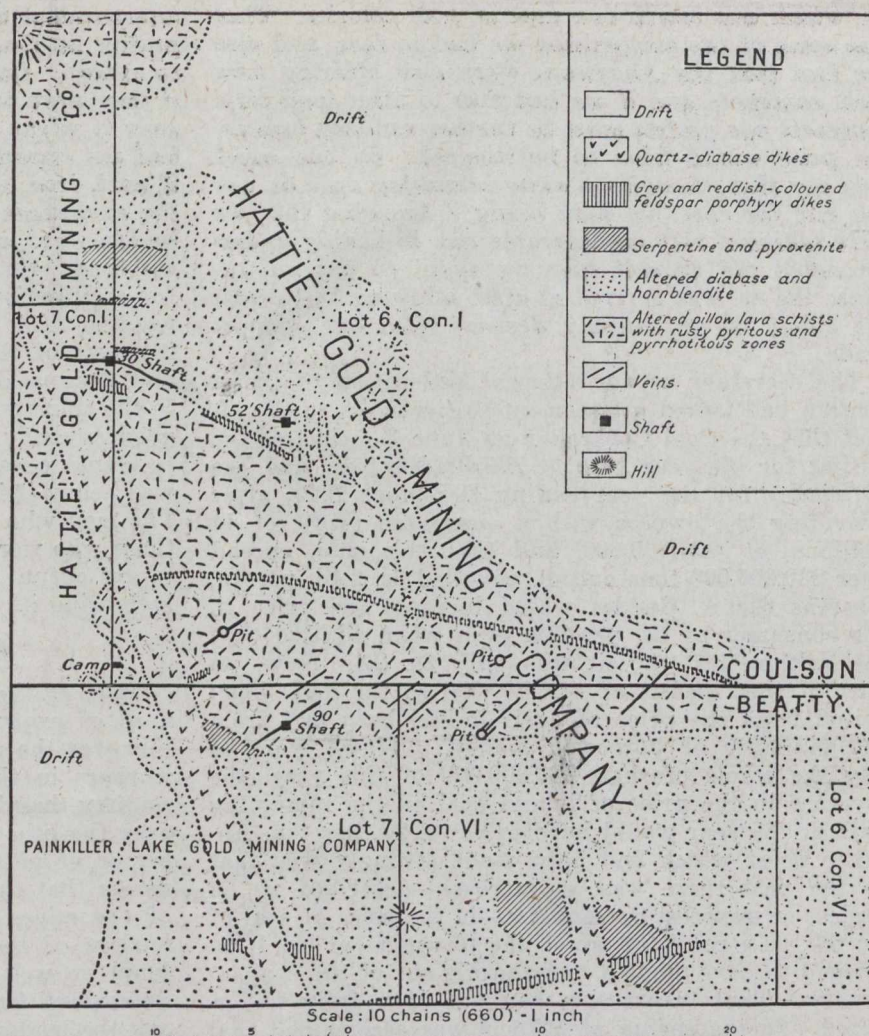
GEOLOGY OF PAINKILLER LAKE AREA

A part of the Painkiller Lake area has been mapped in detail by the geologists of the Ontario Bureau of Mines. The accompanying sketch map from a report just published shows the properties of the Hattie and Painkiller Lake gold mining companies and will be of use as a key map for adjoining properties.

The veins occur in altered volcanic rocks. The numerous narrow gold-telluride-quartz veins in the area are practically all parallel, striking north-east. "The veins, which are usually about one inch in width, are not always closely spaced, and the intervening area contains few or no cross fissures.

The minerals are gold, tellurides, pyrite, chalcopyrite, pyrrhotite, galena, zinc-blende, quartz, chlorite, sericite and calcite. Large east and west veins of mispickel, pyrite and quartz carrying low values in gold represent another type of vein."

The Painkiller lake area is in Coulsin and Beatty townships, Temiskaming, Ontario. The lake is about ten miles northeast of Matheson, a town of the Ontario Government railway.



Geological sketch map showing properties of the Hattie and Painkiller Lake gold mining companies, townships of Coulsin and Beatty.—Bureau of Mines.

DR. COOKE'S REPORT ON DAVIDSON PROPERTY MATACHEWAN AREA.

(A Correction.)

In our July 16th number we published a resume of an article by H. C. Cooke on the Matachewan Gold Area. Unfortunately some paragraphs were omitted and the description of the Matachewan Gold Mines property came under a heading intended for the description of the Davidson property. The sketch maps which accompanied the article and the introductory paragraphs made it obvious that the property being described was the Otisse; but some newspapers reproduced the article without the maps and introductory paragraphs and consequently the incorrect heading was then more misleading. Dr. Cooke said of the Davidson deposit in part:

"On the Davidson claim the ore body is a portion of the porphyry itself. The porphyry is cut by a multitude of veinlets of auriferous quartz mostly less than one quarter inch in thickness, and spaced at intervals of approximately a foot. The porphyry has thus the character of a stockwork, although the veins in the main are not reticulating, but possess a sub-parallel arrangement evidently the result of jointing according to a definite system. Such jointing and enrichment has taken place mainly in the coarser-grained, more slowly crystallized phases, located, in

general, toward the centre of the intrusive. Where the grain is finer, jointing and enrichment has not occurred. The hypothesis advanced by Spurr, that the last portions of a magma to crystallize are rich in water, and hence must contract considerably on cooling with formation of joint cracks, may be the explanation of this phenomenon.

"Channel samples taken along the bottoms of trenches in the enriched areas by the engineers examining the property are said to have yielded values varying from \$5 to \$25 per ton.

"The gold appears to be chiefly present as the native metal, although it is difficult to tell whether this was its original form, as development has not gone below the oxidized zone. However the lack of limonite around many of the grains of gold would indicate that it is not residual from the oxidation of pyrite. Whether the pyrite also is auriferous has not yet been established. The gold is found principally in the narrow veins of quartz that intersect the porphyry, but grains of gold have been occasionally found within the porphyry itself, although never more than a few inches from a veinlet."

THE HOWEY-COCHENOUR-WILLANS GOLD DEPOSIT

In the recently issued report on the Lightning River area the geologists of the Ontario Bureau of Mines describe the deposit on the Howey-Cochenour-Willans property on which some work has been done. The accompanying sketch, taken from the report shows the lode structure at a depth of 35 feet. There is a "main persistent quartz vein, varying in width from an inch to 10 or 12 inches, with an average width of about 4 inches. Roughly paralleling this main vein there are a number of narrow veinlets, usually less than an inch in width, and more or less discontinuous, the whole partaking of the character of a sheeted zone produced by shearing that accompanied the formation of the fault. This zone varies in width from 2 to 3 feet." The quartz vein is in basalt at the westerly exposure and in rhyolite at the eastern. The shaft following down the vein dip of 23° was started in basalt and entered rhyolite at about 50 feet. Information furnished by J. W. Morrison, who was in charge of operations, indicates that the deposit lies along a fault of the thrust type.

"The quartz for the greater part is of a milk white color and, where not fractured by secondary movement, is rather coarse grained and characteristic of primary quartz in veins. Where the primary quartz has been granulated, usually in a direction roughly parallel with the walls, there is an abundance of secondary calcite with pyrite and a small amount of chlorite. Some pale colored zinc blende and galena are also present."

"The gold usually occurs in a fine condition with the pyrite, but samples from the main vein often contain gold in the quartz visible to the eye."

"Near the veins the wall rock, which is a basic lava, has been greatly altered by circulating waters to carbonate and chlorite, and is penetrated by veinlets of quartz, calcite and chlorite."



Sketch showing quartz veins at Howey-Cochenour-Willans gold prospect, Holloway township; east walls at depth of 35 feet in shaft. The length of vein system in sketch is about six feet. The main quartz vein is shown by the heavy black part; parallel stringers of quartz occur on each side of the main vein.—Bureau of Mines.

Mr. J. E. Spurr has been appointed editor of the "Engineering & Mining Journal," New York. Mr. Spurr is a geologist who has been notably successful in applying geology to mining. Recently he has been in charge of Mineral Investigations of the U. S. Bureau of Mines, a special staff having been engaged on this work for war purposes.

THE MACKENZIE RIVER BASIN

A map and report that will be very useful to those who explore the Mackenzie River Basin in Northwestern Canada has been prepared by Charles Camsell and Wyatt Malcolm and published by the Geological Survey of Canada. Mr. Camsell has had much field experience in this large area and those who explore it will do well to provide themselves with copies of the report.

As the area of the Mackenzie basin is about 682,000 square miles and the greater part of it practically unexplored, it would be a tremendous task to prepare a geological map of the basin. The purpose of the present compilation is to give a concise statement of the present knowledge of its economic possibilities, particular attention being given to the geological features and possible mineral resources.

The area shown on the map extends from Edmonton, Alberta, north to the Arctic and from Prince Albert, Saskatchewan, west to the Pacific Ocean. It includes large portions of the provinces of Saskatchewan, Alberta and British Columbia and of Yukon and the Northwest Territories. The known waterways are mapped and along the chief waterways the geological formations are mapped. Prospectors will find much to interest them in the map and the accompanying report.

Bituminous Sands.

On the Athabasca river there is exposed an immense body of bituminous sands. In the report some of these beds are described in detail. The results of the investigations made by S. C. Ells are summarized. Mr. Ells is of the opinion that the sands can be successfully used as a basis for satisfactory asphaltic pavements.

Clays.

Some of the clays along the Athabasca have been studied. In the report a summary of the results of tests is given.

Coal.

Coal is being mined in the Crataceous rocks along the Canadian National railway which crossed the southern part of the area mapped. In this report attention is directed to the more remote and less known seams, which lie further north. Coal seams on the Smoky River in the Kootenay formation are high grade bituminous "and at least one seam on Smoky river may be classed as anthracite."

A large number of thin seams are exposed in the canyon a few miles above Hudson Hope. Small seams occur also in Peace River canyon and on Getling Creek. On Johnson creek twenty seams are exposed, but only four exceed 2 feet in thickness.

Lignite coal is seen at a number of places in the banks of the Athabasca for 62 miles above Fort Assiniboine. Coal occurs also on McLeod river and near Wolf creek. A number of other occurrences of coal in the area are mentioned in the report.

Gypsum

"Gypsum is exposed at many points in the Mackenzie basin. The deposits that are most likely to prove of commercial interest are those occurring on Peace river and in the escarpment to the west of Slave river."

Petroleum and Natural Gas

"Boring operations have been conducted along Athabasca and Peace rivers where strong flows of gas were struck in two or three wells, and petroleum bearing strata on Peace river have been penetrated.

Oil and gas indications are found in the sediments of Cretaceous and Devonian age, both of which are of wide distribution."

It is stated that "the possibilities of the Devonian sediments as a source of petroleum are worthy of consideration." From the point of view of the prospector the McMurray sandstone is so far as present knowledge goes the most important formation of Cretaceous age, in the Mackenzie basin." The writers summarized that little is known of the structure of the Cretaceous formations.

The report on petroleum possibilities is particularly interesting at this time because of the unusual activity in geological exploration for oil this summer. Areas as far north as Great Slave Lake are being carefully examined and drilled.

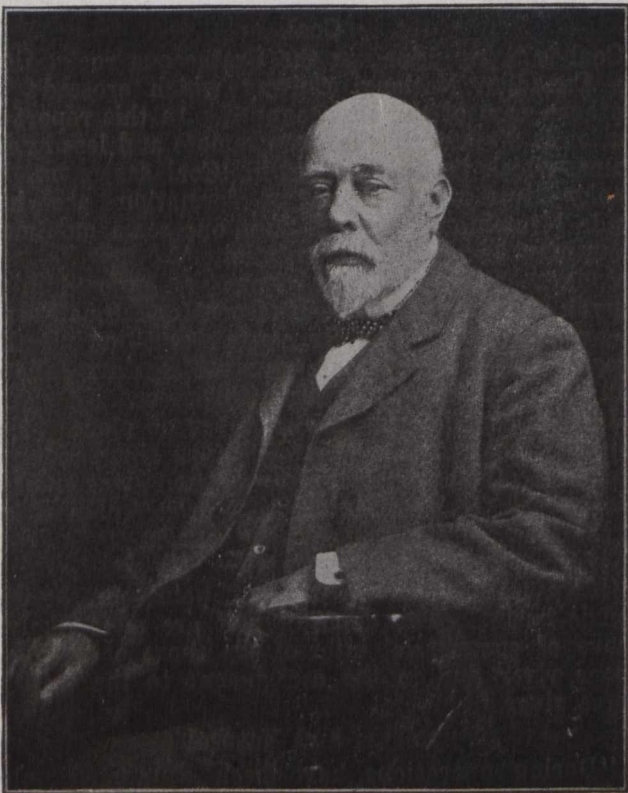
Salt

"Numerous brine springs are found in the Mackenzie basin, from some of which is obtained for local consumption." Several analyses of brine are given in the report.

Pre-Cambrian Areas

It will be noted that most of the known important mineral deposits in the basin are non-metallics. There are however Pre-Cambrian areas concerning which little is yet known. In the central and western part of the area mapped the younger formations predominate, but in the eastern third of the basin there are rocks such as enclose most of the metalliferous deposits of Ontario and the Lake Superior states.—R.E.H.

"It's a hard come down," says Walter Pulitzer, "that the country that produced William of Orange should have to continue to harbor William the Lemon."—New York Evening Mail.



GEORGE BLAKE WALKER, M. Inst. C. E., President of the Institution of Mining Engineers. 1918-1919.

LABOR AND SCIENTIFIC RESEARCH.

The American Federation of Labor adopted the following resolution at its Atlantic City convention:

"WHEREAS, scientific research and the technical application of results of research form a fundamental basis upon which the development of our industries, manufacturing, agriculture, mining, and others must rest; and

WHEREAS, the productivity of industry is greatly increased by the technical application of the results of scientific research in physics, chemistry, biology, and geology, in engineering and agriculture, and related sciences; and the health and well-being not only of the workers but of the whole population as well, are dependent upon advances in medicine and sanitation; so that the value of scientific advancement to the welfare of the nation is many times greater than the cost of the necessary research; and

WHEREAS, the increased productivity of industry resulting from scientific research is a most potent factor in the ever-increasing struggle of the workers to raise their standards of living, and the importance of this factor must steadily increase since there is a limit beyond which the average standard of living of the whole population cannot progress by the usual methods of readjustment, which limit can only be raised by research and the utilization of the results of research in industry; and

WHEREAS, there are numerous important and pressing problems of administration and regulation now faced by federal state, and local governments, the wise solution of which depends upon scientific and technical research; and

WHEREAS, the war has brought home to all the nations engaged in it the overwhelming importance of science and technology to national welfare, whether in war or in peace, and not only is private initiative attempting to organize far-reaching research in these fields on a national scale, but in several countries governmental participation and support of such undertakings are already active; therefore be it

RESOLVED, by the American Federation of Labor in convention assembled, that a broad program of scientific and technical research is of major importance to the national welfare and should be fostered in every way by the Federal Government, and that the activities of the Government itself in such research should be adequately and generously supported in order that the work may be greatly strengthened and extended; and the Secretary of the Federation is instructed to transmit copies of this resolution to the President of the United States, to the President pro tempore of the Senate, and to the Speaker of the House of Representatives.—Bulletin A. I. M. M. E.

PERSONALS.

Mr. R. E. Hore is examining mining claims in Churchill township, Sudbury mining division.

Lieut. H. K. Boysen, who went overseas with the R.A.F., and Miss Lorena Ferguson, of Haileybury, were married recently. They are spending their honeymoon at Barre, Mass. Lieut. Boysen was for some time on the staff of the Tough-Oakes mining company. He came to Toronto to learn how to fly, and soon became a capable aviator. He served on many battlefields. He says he will now give up aviation entirely and devote his attention to the mining business.

Special Correspondence

BRITISH COLUMBIA.

British Columbia Coal Production in June.

While the output of the coal mines of British Columbia for the month of June was not altogether satisfactory, it is gratifying to note that the Cassidy Collieries, Granby Consolidated Mining and Smelting Company, Vancouver Island, materially increased its output. The mines of the Crows Nest Pass of course made no production because of the strike, which has been in progress there for some time. It is expected that the Island coal mines will increase their output with the return to five full working days a week. The mines of the Western Canadian Fuel Company, The Canadian Collieries (Dunsmuir) Limited, and the Nanoose Collieries, have of late been working on what is known as slack time, about three days a week, but recently this has been extended.

The output for June in detail follows:

Vancouver Island Coal Production, June, 1919.

	Tons.
Western Fuel Company, Nanaimo Colliery ..	36,747
Canadian Collieries, Comox Colliery	35,357
Canadian Collieries, Extension Colliery	15,157
Canadian Collieries, South Wellington Coll.	5,124
Pacific Coast Coal Mines, Morden Colliery..	5,516
British Columbia C. M. C., East Wellington (Jinglepot)	3,420
Nanoose Collieries	1,412
Granby C. M. S. & P. Co., Cassidy	10,572
	113,305

Nicola-Princeton District.

Middlesboro Collieries	6,091
Fleming Coal Company	2,963
Merritt Colliery	266
Coalmont	1,400
Princeton Colliery	1,184
	11,904

Northern District.

Telkwa Colliery	158
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Crow's Nest Pass District.

Nil
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Total 125,367

Victoria, B.C.

Privy Council Decide Foreshore Coal is Property of Province.

The Privy Council has upheld the judgment of Canadian courts that the coal lying under the foreshore within the Esquimault and Nanaimo Railway belt is the property of the province. The E. & N. Railway Company, it will be recalled, laid claim not only to all the coal within the railway belt proper, but all that might be found under foreshore lands. Their title was contested by H. W. Treat of Seattle, Washington, who has staked some foreshore near Chemainus and was proceeding under Provincial license to do some boring with the intention of developing the coal should it prove to be in sufficient quantity. When the Railway Company questioned his right and took the matter to the Court Mr. Treat was successful. The case, however, was appealed, but now with the Privy Council on record there is no further question of the validity of his claim.

Following the publication of this result mining men are interested in the development of the coal leases at Oyster Bay and other points in the neighborhood of Chemainus. Mr. Treat is reported to have run through coal at Chemainus in two drilling positions. It has been established that there are large coal beds in this section, but whether they are available for commercial development remains to be established. It is understood that Mr. Treat and his associates propose to continue with their work, being confident that this foreshore coal can be mined at a profit.

Anyox, B. C.

When the Honorable William Sloan, Minister of Mines for British Columbia, was at Anyox recently, he was particularly interested in the new by-product coking ovens recently installed by the Granby Consolidated Mining Smelting and Power Company and the operation of which commenced some weeks ago. He said that the coal from the Cassidy Collieries, Vancouver Island, was producing the desired quality of coke and that while facilities for utilization of all by-products were not yet available, pipes were being laid which would permit the use of the gas and result in a considerable saving of fuel. The coal tar is being stored and will be marketed at various Northwest points for use in the manufacture of creosote. The benzol plant is fast being completed and will be the most up-to-date of its kind on the Pacific Coast. There are seventeen other by-products to be manufactured including ammonia, tri-nitro-toluol, toluol and dyes. Thirty ovens, each with a capacity of more than ten tons, are now making coke.

Fernie, B. C.

The situation developing as a result of the strike of coal miners in District 18, U.M.W. of A. (Eastern British Columbia and the Province of Alberta) has reached a stage of open conflict between the International Union and the One Big Union. It would appear that the men in the Crows Nest Pass field at least are willing to return to work and are anxious that an agreement should be negotiated with the mine owners. The latter, however, take a strong position against the One Big Union. They state that they are willing to come to a settlement with the men through the United Mine Workers of America but will have no "truck or trade" with the O.B.U.

That it is open war between these two organizations now is quite clear and it would seem that the men will be forced to make a choice. Recently the charter of District 18 of the United Mine Workers of America was revoked, an official statement to that effect being made from Calgary by International representatives Samuel Ballantyne, Samuel Caddy and William Dalrymple. This has put eight thousand miners who have been on strike in Alberta and British Columbia since May 24th outside the pale of the International Union. The International representatives mentioned wired the result of their inquiries into the Western Canadian situation to John L. Lewis, International President of the U.M.W. of A., as follows:

"Completed investigation today find District President is member of dual organization. Showed Committee his membership card (O.B.U.) Vice-President and Secretary Treasurer also lined up in favor of dual organization. We would advise that District charter be suspended at once. Awaiting early reply."

In reply to this telegram the following wire was received from the International President:

"Message received. Wired H. M. Christopher (President of District 18 U.M.W. of A. today as follows: "As you are aware the International Executive Board directed Messrs. Ballantyne, Dalrymple and Caddy to conduct an investigation into the existing affairs in District 18 of the United Mine Workers of America and make recommendations to the international offices as to the matters of policy to be pursued in that District. This Committee has been pursuing its investigations and I am today in receipt of its recommendations that the charter of District 18 be revoked for good and sufficient cause. Accordingly I am hereby officially informing you that effective this date the charter of District 18 stands revoked and the District as such ceases its affiliation with the United Mine Workers of America."

As illustrating that there is a distinct difference of opinion as to the wisest course to pursue among the miners of the affected district, it may be noted that at Fernie on July 10th a meeting of the Fernie Miner's Union declared by a large majority in favor of negotiating a new working agreement as an organization of the U.M.W. of A., while from Calgary under date of August 2nd comes a statement by Ed. Browne, late Secretary-Treasurer of District 18 U.M.W. of A., that it has been decided not to turn the books of the Union over to the International officers. The latter, of course, made this request following the suspension of District 18, already referred to. Mr. Browne explained that this decision had been arrived at after a meeting of the Policy Committee, an executive board of the miners, who have constituted themselves into "No. 1 Mining Department of the One Big Union." Of this P. M. Christopher is the President; Alexander McFegan, Vice-President, and Ed. Browne Secretary-Treasurer. These officers to remain in office until the first constituted convention is called. "We are organizing the different locals under this heading" Mr. Browne observes, "and are now opened to do business. We have wired to Coal Commissioner Armstrong informing him of this and stating that we are prepared to negotiate for a settlement of the present strike, and also telling him that if this is not done he will be the man responsible. Any contract that we make will be fulfilled, and as for turning over any documents or anything else to the International representatives we wont do anything of the sort, and they will have to fight us all the way for their possession."

Broadly speaking, the situation is that many, in fact almost certainly the majority of the miners want to go back to work but are not likely to have that privilege at an early date unless something unexpected occurs tending towards the settlement of the present very sharply drawn issue between the U.M.W. of A. and the O.B.U.

Victoria, B. C.

T. H. Williams, who has been mine inspector at Fernie B. C. has retired and A. Strachan, inspector at Merritt, B. C., has moved to Fernie. D. McLean has been appointed inspector at Merritt. This is a new appointment. Mr. McLean is a returned soldier. He conducted a mining school at Ladysmith, B. C., before going to the front and on his return managed for a few months one of the mines of the Nicola-Princeton coal field. Messrs. Henry Miard of Fernie and James Dixon, late Manager of the Reserve Mine, Nanaimo, who recently was appointed to the British Columbia Board of Examiners, have been appointed also acting inspectors.

Ottawa, Ont.

As a result of the investigation held by the select committee of the Senate of Canada appointed recently to inquire into the question of certain valuable coal

leases in the Smokey River district of the Alberta Peace River, about two hundred miles north of Edmonton, the leases have been cancelled by Order of Hon. Arthur Meighen, Minister of the Interior. As a consequence the application for the right to build a railway to be known as the Athabasca Grande Prairie and Vermillion Railway, will go no farther in its present stage. In the investigations that took place officials of the Geological Survey Branch, Ottawa, testified that the coal area in question probably is the richest in Canada and that if developed and connected with the main line to the south it would be able to supply the whole of the West with a coal almost equal in quality to the Pennsylvania anthracite. That this may come about it is recommended that the Government develop the area either on a National or royalty basis and that a line of railways sixty miles in length be constructed at once from the Grand Trunk Pacific or Canadian National Railways' main line to the area in question. The leases comprise some eighteen thousand acres, and the coal available is estimated at from 200,000,000 to 400,000,000 tons. A German-American, Dr. Botts, first filed on the leases in 1912, and paid into the Treasury the sum of \$100,000 in six years for his leases. In 1918 he failed to make payment and the rights were cancelled.

Nanaimo, B.C.

On his return from Ottawa recently, Senator Planta made some statements with reference to the efforts which had been made at the Capital to have the duty on fuel oil into Canada removed. He said that strong pressure had been brought to bear on the Government to this end. Petitions having been forwarded with the support of the Vancouver Board of Trade and other Vancouver organizations. The reason advanced for the move being to force down the price of coal. Senator Planta thought that it was the big interests who were behind the movement and he referred in this connection to the C.P.R., the Canadian Pacific Steamship Company and the Manufacturers Association. The Minister of Finance it is stated, had been strongly impressed with the advisability of taking this action but it was so strongly opposed by representatives of the coal mining constituencies that no action was taken.

The Vancouver Island Mine Safety Association will hold its annual contest in first aid and mine rescue work on September 1st next at Nanaimo, B.C. Seven or eight teams are entered representing the various mines of the Nanaimo district and there will be teams from coal producing sections of the mainland as far east as the Crows Nest Pass. The Provincial Government has made a substantial grant this year to assist the Association in providing an attractive programme and interest is high among those who will compete. They have been in training for months and it is expected that the meet will be the most successful held in the Province for four or five years.

Vancouver, B.C.

Two problems are receiving attention at the hands of consumers of coal in the Northwest at the present time. One of these is the likelihood of there being a shortage next winter and the other the rapidly advancing prices.

Coal merchants of Victoria and Vancouver, B. C. state that they do not expect a condition that will prevent their meeting all demands both from domestic and commercial sources. They are looking forward, however, to the arrival of the American naval squad-

ron at Bremerton, Washington, to tax the production of coal in the Northwest to the utmost. In the meantime an advertising campaign is in progress having in view the inducement of the public to purchase their winter supply of fuel as far as possible without delay.

As to prices, there is a considerable section asking for an investigation. Coal now is bringing about \$10.75 a ton as compared to \$7.50 when the war broke out. Many cannot see the justification for this substantial increase and would like the matter thoroughly probed by a properly constituted government board.

Canadian Consolidated Mining and Smelting Co. Trail, B. C.

In a circular issued by management of the Canadian Consolidated Mining and Smelting Company recently, an advance of wages to employees is announced. A full statement follows: "The management have been giving serious consideration to the further advance in the cost of living, especially married men with families. In Rossland and other camps where the scale of wages increases automatically with advances in the market price of copper, the situation is taking care of itself. In the lead-zinc camps the smelter wage scales have gone up somewhat through increases in metal prices, but as these increases do not compare with the advances in copper, the situation calls for some action.

Effective for three month beginning August 1st, all employees in the lead-zinc camps and at the smelter will receive an additional bonus of twenty-five cents per shift. Existing wage agreements and sliding scales based on various prices of metals will not be affected by this bonus but will continue to be maintained.

Some of these agreements provide that there is to be no advance in boarding house rates while the wage scales set by these agreements are in effect.

In as much as the bonus now granted is in addition to these wage scales and as the advance costs of food, etc., has resulted in heavy losses in the Company's boarding houses, there will be after August 1st, an increase in board of 20 cents per day.

The operations of the Company do not justify the payment of this bonus as there is practically no production of copper and the market prices of lead and zinc are but little higher than before the war.

Employees are asked therefore to co-operate with the management by increasing efficiency, reducing waste and generally taking a personal interest in our mutual welfare."

JAMES J. WARREN,
Managing Director.

The Consolidated Mining and Smelting Company has determined to experiment in the cultivation of land adjacent to its plant at Trail, B.C. Various tracts of land in different directions from the smelter are to be put under crop. The production will be useful in the feeding of the Company's employees and besides the results will be a practical test of the claim made that the smoke from the smelter seriously damages the crops of the district. This is a complaint made by the farmers of the district who have been asking for damages from the Company from time to time. The Company while not denying that perhaps the smoke affects vegetable growth, maintains that the damage done by the smoke is not in any way as serious as alleged by the agriculturalists.

The erection of a large reduction plant at Rossland, B. C. is proposed by the Consolidated Mining and Smelting Company of Canada. The site of the proposed plant has not yet been definitely selected the Company having made a proposition to the municipal authorities of Rossland which is under consideration. If Rossland will guarantee a sufficient water supply and will protect the Company from damage suits it is likely that the installation will take place there, but should this matter not be satisfactorily arranged the John Hintz ranch purchased by the company last year is likely to be selected as the site.

Ore receipts in gross tons for the week from July 22nd to July 31st 1919, inclusive, at the Consolidated Company's Smelter, Trail, totalled 9,684 tons, making a grand total for the year thus far of 202,520 tons. The biggest shippers of course are the Company's mines, 86,755 tons of zinc ore having come from the Sullivan Mine.

A much better outlook for the disposal of the lead surplus of the Consolidated Mining and Smelting Company is indicated by the last circulars of lead shippers issued by the Company. This states that three times the quantity of lead was disposed of in June as during the preceding month.

Anyox B. C.

The Granby Consolidated Mining, Smelting and Power Company gave notice of a further increase in wages amounting to twenty-five cents per day to more than 1500 of its employees a few days ago. This is the second advance made during the month of July. The Company's action is in line with its agreement with the employees that wages shall be based on the price of copper. If, as is predicted, copper reaches approximately twenty-six cents within the next few weeks, wages at the Granby Smelter will reach a figure almost equal to that paid when the armistice was signed.

Work at the mine and smelter is continuing in three eight-hour shifts and the camp is beginning to take on the appearance of pre-war days. When the armistice was signed there were more than sixteen million pounds of copper at the Granby properties ready for shipment, much of which was disposed of at considerably lower figures than present day prices. Steady shipments have been made recently amounting to several millions of pounds and there still are large shipments piled up on the Anyox docks that will be sent to the refineries as quickly as transportation facilities can be obtained.

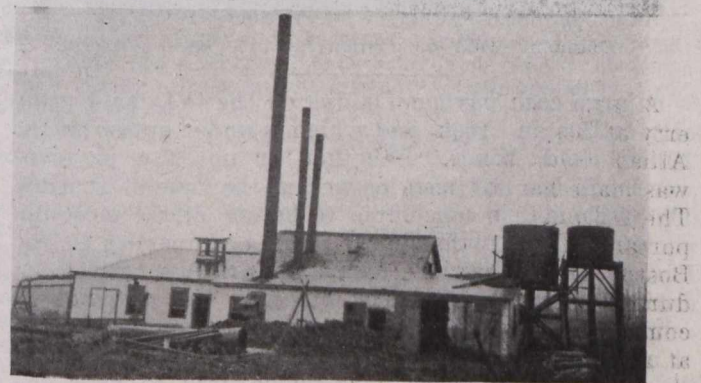
The Granby Company has taken an option on the Harrison property on Chickamin Mountain between Eutsuk and White Sail Lakes.

NORTHERN ONTARIO.

Boston Creek District.

Miller-Independence.

Arrangements to proceed with the installation of a new mining plant and mill are well under way. A small steam driven outfit is being rushed to the property with the object of getting mining operations under



Miller-Independence Power House.

way before the end of this month, so as to lose no time during the installation of a larger modern electrically driven plant.

Plans for the erection of the first unit of the new reduction plant that will treat ore at the rate of 100 tons daily have been carefully laid, and, it is estimated, this amount will be going through by the end of the current year. Later on, according as tonnage should demand, the capacity of the plant can be increased.



One of the Miller-Independence Shafts, Boston Creek.

Mondeau Property.

Cross-cutting is being done at a depth of 140 feet on the Mondeau property, near the boundary between the townships of Boston and McElroy, in the Boston Creek district. A vein has been cut a short distance south from the shaft in which considerable mineralization occurs. To the north the cross-cut at the time of writing is in a highly mineralized body, portions of which contain high gold values, some of the assays running as high as \$92 to the ton.

The exploration and development of the Mondeau will be continued with the present steam plant for the summer, and the results of the work will determine whether or not a larger plant will be installed during the coming winter.



Diamond Drill on Cullen-Renaud, Boston Creek.

A large cash payment is due on the O'Donald property at Boston Creek, and which is under option to the Allied Gold Mines. Whether or not the payment was made has not been learned at the time of writing. The O'Donald is considered to be one of the most important of the undeveloped mining properties in the Boston Creek district. Diamond drilling carried on during recent months has indicated the presence of commercial ore at depth. The property is under option at a price well up in six figures and it is understood the Allied Gold Mines have endeavored to have the terms modified.

The Cobalt Strike

(Reviewed by our Correspondent.)

The weight of the first real labor strike in Cobalt's history is falling with full force upon the mine workers of this camp. Pay-day arrived and past and was unaccompanied with the usual pay envelop. Not a few of the merchants have found it necessary to offer no further credit. For the first time in their lives a great many of the dependents of the mine workers have come to realize that strikes and stress keep company. Perhaps the greatest pity of all is the fact that those least able to stand the strain are compelled to bear the brunt, and further, the more loyal the subject, the greater is the burden.

A good many returned men, those who worked for \$1.10 a day, (hours according to necessity and limited only to twenty-four) have openly stated that the eight-hour day and the high wages paid in the mines were very satisfactory. If the executive of the Cobalt Miners' Union had played a part in fighting for freedom which they now enjoy, declare some of the returned men, they would probably be less anxious to plunge headlong into industrial war at this time and against an industry that is already paying maximum wages and when the principle of of "recognition" is the only important question involved. The man who remained in Canada during the war, working at high wages, was able to accumulate a financial reserve. The man who went overseas generally finds himself without any reserve fund. The former, the larger percentage of whom are foreigners, and a good many of whom are of alien enemy origin, are able to live in comfort for a time or shift to other parts of the country in search of employment. Not so with the returned men, however, who had just got nicely started to share the advantages of the high wages received since returning to civilian life.

It is a grim fact, that although the majority of the returned men of Cobalt appear to be opposed to a labor strike under present condition, yet they have been compelled to suffer defeat in a voting contest where the ballot of the Hun and the Austrian carried equal weight to their own.

The mine managers of the mines of Cobalt have always exhibited a keen desire to discuss various contentious matters with committees representative of their employes. The returned men are aware of this. They also know the reason. They know that such a procedure permits every man to voice an opinion. They that not only is the Western Federation of Miners the traditional enemy of every honorable mine manager, and that by dealing with that organization they would only hear the voice of the radical element whose every action would be in constant danger of being influenced by doctrine of a few non-working "leaders". And so, unless the executive within a reasonably short time find a pretext for at least partially rectifying the blunders of the past month, they appear to be confronted with the probability of being asked to surrender their present authority, or face collapse of the labor organization in its present form.

Summarized, the situation in Cobalt is this: Early in the current year there was little or no dissatisfaction, but signs of an unrest began to appear. In June this unrest had grown to such a pitch that a

strike vote was taken and resulted in a large majority in support of presenting demands which included recognition of the union. At no time did there appear any glaring dissatisfaction. On July 13th a meeting was held in the Union hall and the radicals were defeated at every turn. On July 14th, the writer was informed by a prominent labor man that a meeting to be held on July 20th would probably result in all action being deferred for this year at least. It is a significant fact that the meeting on July 13th was held in the absence of Jimmy McGuire who was in Ottawa keeping in touch with Senator Robertson, Minister of Labor. Before the end of the week the whole situation took an unfavorable turn. It became known that Senator Robertson had requested that the Mine Managers Association send representatives to Ottawa for a conference, that the Union were aware of this, that the Union Executive had previously written the mine managers urging them to attend and that Senator Robertson, on the refusal of the mine managers' to attend such a conference in connection with an issue that was dead, told McGuire that the Government could do no more and that the stand of the union was justified. Had Senator Robertson not invited the mine managers to a conference which he surely felt convinced that they would not desire to attend, things might have gone differently in Cobalt. As it was, McGuire returned from Ottawa, attended the meeting of July 20th, told the 500 or 600 men gathered there that the mine managers had defied constituted authority by not going to Ottawa, that the Minister of Labor had declared that the stand of the Union was justified, that the mine managers were to blame and that a strike was all that was necessary to win that which the Union was demanding. He asked all those in favor of a declaration of a strike to take effect July 23rd, to rise. The vote was almost unanimous. Thus, on the very day which prominent and cool-thinking labor men had the week before expected would result in deferring action for another year, actually saw the industrial situation in Cobalt completely upset.

The Minister of Labor has denied charges that he told McGuire to call a strike. The Minister, however, has not denied that he failed to use his influence to prevent the union from calling a strike. He actually stated that the government had done all that it could be arranged for a settlement and that the stand of the union was justified. At that moment the present strike became inevitable.

During the absence of McGuire and the absence of suggestions from Senator Robertson, the agitation among the mine workers became a dead issue. With the presence of McGuire and the suggestions of Senator Robertson it was fanned afresh into a flame that is still burning.

That the Minister of Labor did encourage the Miners' Union in its stand and did not ask the Union to defer action is borne out in the following copy of a telegram sent to the Minister by the secretary of the union, which reads as follows:— "Reports in press that we stated you had told us to go on strike are false and we are preparing statement for the press giving the developments throughout the progress of the dispute. The only statement was that you said you did not see that the department could do much more, and that you would not ask

"them to wait longer in view of the managers' attitude."

The following reply was sent by Senator Robertson to the Union secretary:

"Your telegram received and the statements contained therein are exactly in accordance with the facts."

Men who are neutral on the issue involved, and who are desirous of seeing labor receive just treatment are found expressing wonder at the stand taken by the Labor Minister, which is apparently to support the Western Federation of Miners even to the point of a strike.

The Cobalt branch of the G.W.V.A. recently appointed a committee whose duty it was to endeavor to bring the contending factions together. The views of the mine managers, according to this committee, are set forth as follows:—

"The Mine Managers will not recognize this Union. It is a branch of the International Mine, Mill and Smelter Workers, formerly known as the Western Federation of Miners. This Western Federation of Miners has a history of intimidation and terrorism. The managers have reams of correspondence, judicial and Royal Commission reports and other data to prove this. The local leaders are radicals, and, the managers believe, do not represent the main body of workers. By their ability to talk they got their radical views before the members, which appeals to the floaters, foreigners and discontents. The managers are all willing and anxious at all times to treat with their workers through individual committees elected by workmen in each mine, and this has proved successful. Union members are not discriminated against, and there is no objection to the men joining the Union, but the managers will protect their non-union workers. Conditions in Cobalt are of the best.

"The managers knew last fall that this trouble was coming, and even then all was well until the arrival of the Industrial Relations Commission resulting in a lot of radical propaganda in the Press. The Union served them with a 48-hour ultimatum and the Minister of Labour has tried to force recognition of the Union down their throats. He himself has said that the real dispute is the recognition of the Union. The managers accept his diagnosis. They will not recognize the Union, and therefore there is nothing whatever to negotiate. The Minister of Labour suggested that the managers go to Ottawa. They replied that they would not waste the time of the Prime Minister and himself by going to Ottawa when there is nothing they can concede, and when the correspondence sets forth their case so exhaustively. They have never been offered a Royal Commission, and have no power to accept or to refuse one. The Minister of Labor has tried to make them swallow the Union, and because they will not do so, he is trying to blame them for the strike. Again quoting their letter: "The present dispute is one between the Mines and the Western Federation of Miners, and in no case can it be considered as one between the mines and their employees.

The mines did not throw their men out of employment but the union did and since the mines will not deal with or through the Western Federation of Miners, the question of adjusting the present deadlock is one that must be settled by the employees themselves. At present the majority of the mines are prepared to re-open under the old conditions as regards hours of work, base wage and profit sharing bonus, but as to how long that condition will prevail we are unable to advise."

The G. W. V. A. Committee concludes its reports as follows—

"Now, comrades, you have heard what both sides have to say, and you must bear in mind that we are not vouching for the accuracy of any of the statements. The indisputable fact is that both sides are absolutely at a deadlock. In fact we have felt that the Mine Managers, though they were very courteous and ready to give us information, were treating us with a certain amount of amused tolerance. They knew we were bound to fail as negotiators, for they will not negotiate. We have tried to be fair and impartial in this investigation, and give you an absolutely unblased view of the facts. There is one thing that you may be assured of and that is that we

have not leaned to the employers' side as we have been accused of being tools of the other parties.

"There are a few other points to which we would draw your attention.

(1) The operators will not conciliate. The Union has shown a very marked tendency to conciliate. This you may construe as evidence of strength or evidence of weakness.

(2) The operators refuse to go into print. The Union has gone into print. This also you may construe as evidence of strength or evidence of weakness.

(3) The operators claim that the Union officials do not represent the main body of workers. The Union officials claim that they do.

(4) The operators will bait no hook to entice the men back to work. Anything they may contemplate doing, if they do contemplate attempting improved conditions for the men, will not be considered unless or until the men return to work.

(5) The operators says that they have and always will give the returned men the preference over the alien enemy; that if an alien has a job that a return man can fill, the alien enemy goes. (This of course is not a bone of contention with the Union.)

"This comrades, is our report. We are sorry that we cannot settle the strike. We have failed as others have failed. The trouble is that when we beat the Boche, we did not destroy distrust, bitterness and rancour. At the same time we sincerely hope that the information we have gathered together and submitted to you will not be altogether unproductive of results."

Developments may now rapidly occur, and attention is directed on four considerations.

First, is the proposal of the G. W. V. A. to proceed with the organization of a local union under an Ontario charter unconnected with the Western Federation of Miners, or the Mine, Mill and Smelter Workers Union. The executive selected are all mine workers. Second, the attitude of the mine managers toward the scheme is being awaited with extremely keen interest, the general impression being that the plan will meet with their approval. Third, is speculation as to what counter measures the radical executive of the Western Federation faction may adopt to combat the move that threatens the existence of the W. F. M. in this its last stronghold. Fourth, is how the great body of mine workers will view the matter.

The present executive of the Cobalt Miners' Union was elected last Winter, its platform being to cling to the International. The opposition, made up of the moderates, were defeated on its platform of breaking away from the International and forming a local union. There would now appear to be great probability of the moderates joining forces with the G. W. V., in which case the Western Federation which is being kept alive by "Jimmy" McGuire would fall.

Provided the mine managers will lend their support to the plan of the G. W. V., there is a likelihood of the strike being broken in a short time, facilities provided for collective bargaining with the moderate element representative of all workmen in the camp, and consequent reasonably harmony as a result of open discussion.

As a result of the present favorable developments, and the probability of further rapid action, a spirit of genuine optimism is again abroad in Cobalt and there is a feeling that the radicals have failed to make good their boast that they could put the country on the "bum".

Latest advices are that members of the Union have been forbidden to vote in the referendum which has been arranged by the G. W. V. A. Committee, on penalty of expulsion from the Union.

A secret ballot has been arranged, Major J. D. MacKay and Major J. E. McCuaig, ex-Mayor of Haileybury,

being the returning officers. All men on the July payroll of the companies are eligible to vote. August 19th is polling day.

The vote is to be taken on whether the men shall return to work immediately on the terms negotiated by the Soldiers' Committee with the Mine Managers Association, which provide for the old conditions, consideration of the cost of living problem, the appointment of local committees elected by the men for each mine, and the election of a central council to deal with the Managers Committee, no discrimination, and the granting of a day's holiday during the week to men compelled to work on Sunday.

Some Recent Improvements In Steam Hoisting Engines

By F. A. McLEAN.

To meet the demand for small and medium sized hoisting engines for mining and industrial purposes the Canadian Ingersoll-Rand Company, Limited, Montreal, Quebec, has just placed on the market a line of such engines of rugged construction, in several sizes, in which are embodied many improvements which have been adopted as a result of their long experience in the manufacture of mining machinery, and knowledge of the unfavorable conditions under which mine hoisting machinery is sometimes forced to operate.

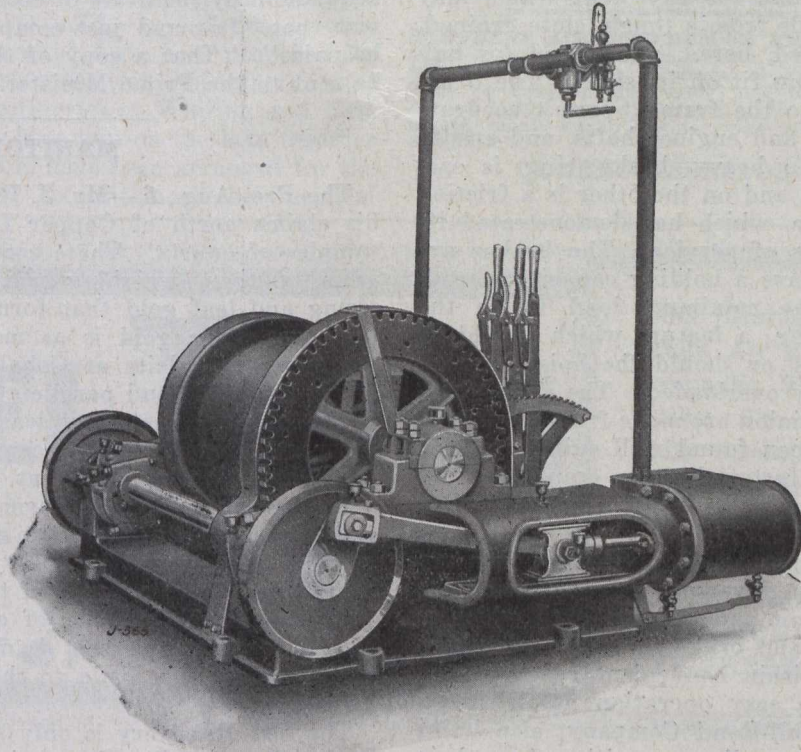
Before going into the manufacture of these hoists it was decided to produce them in quantities on the interchangeable part system, using jigs and fixtures and finishing all parts to close limits, the value of which had been thoroughly demonstrated by their experience in the production of shells and ship winches in large quantities during the war, as well as in the manufacture of their rock drills and pneumatic tools. At present the company is building these hoists in five sizes ranging from 8 x 8 to 10 x 12 inches with conservatively estimated lifting capacities of from 4,000 to 10,000 pounds and will build them in larger sizes on special order.

Some points of particular interest in the construction of the new "CIRCO" hoists are as follows: Cylinders are cast separately from the side frames and being identical in construction are interchangeable, permitting one spare cylinder to be used on either side of the hoist and eliminating the necessity of scrapping the side frame should one of the cylinders be accidentally damaged.

The valve chest is provided with two openings allowing the exhaust pipe to be connected to either the top or bottom of the valve chest as may be most convenient, the opening which is not in use being closed by a plug. In case it should ever be found necessary to operate the hoists by compressed air this extra opening will be found of considerable value as it will enable the air to exhaust to the atmosphere much more freely than is possible with the older styles of valve chest. The cylinders are bolted to the side frames by strong lathe turned studs and faced nuts and the walls are so proportioned as to permit the operation of the hoists at maximum pressure after re-boring. The steam ports are made as short and direct as possible and are of large areas. Exhaust passages are so designed as to reduce back pressure to a minimum.

The ease with which the cylinders may be changed is characteristic of the entire machine, all parts being made to close limits and of the best materials obtainable, thoroughly inspected throughout the successive steps of manufacture. The ease with which these hoists may be taken down should make them of special value for use in isolated mines where the machinery

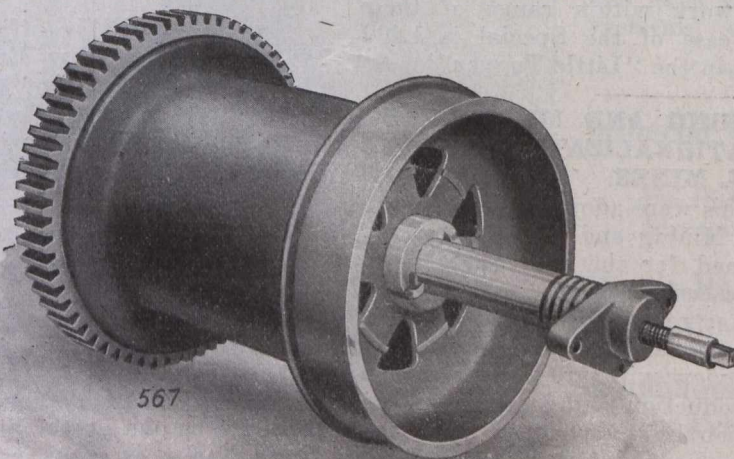
Eccentrics of the locomotive type are used having deep flat rods bolted to the eccentric straps by lathe turned bolts in holes reamed after the valves have been set, thus preserving the accuracy of the original setting. The eccentrics have large bearing surfaces and are adjustable for wear at the pins. Connecting rods are of steel of the solid end type with bronze boxes



View from Right Hand Crank End, Single Drum 7x10" Hoist

has to be taken apart and transported long distances by horses or mules. The valves used are of the plain slide type fitted with an adjusting device which compensates automatically for wear without changing the original alignment of the valve rods. The valve guide blocks are of finished cast iron accurately fitted to babbitted guides cast on the side frames.

in both crank and crosshead ends which are adjustable for wear by means of screws and wedges. The screws are adjustable in opposite directions so as to insure approximately the same length in each rod. The crank pins and crankshaft are made of the highest grade of open hearth hammered steel fitted to cranks of the counter-balanced disc type by hydraulic pres-



Drum, Drumshaft and Friction Device

sure. The crank discs are finished all over and to insure accuracy they are turned and the holes for the crank pins bored after the discs have been pressed on the crank shaft.

The usual practice of casting the drum shaft bearings integral with the side frames has been departed from by casting them separately and bolting them to the frames. A high grade of babbitt is used in these bearings, which are adjustable for any wear which may occur. The drum is made from a tough, close grained, grey iron casting, turned, bored, and tested for balance, and a good running fit on its shaft. The drum bearings being bolted to the frames, permit accurate alignment of the drum and engine shafts, and ensure easy running gears. A heavy brake ring is cast on one end of the drum and on the other is a friction of the heavy "V" type, which has demonstrated its efficiency for this class of service. The brakes are proportioned so as to have a holding capacity considerably in excess of the maximum load which the hoist is capable of lifting; a feature which should be of value in emergencies, or should the hoist be accidentally or intentionally overloaded. The drum driving gear and shrouded pinion are made from semi-steel, a material which has been found well suited for this purpose. The pinion is fastened to the crank shaft by a large key allowing it to be easily removed when necessary.

When reversible engines are desired the hoists are fitted with a Stephenson reverse gear, operated by a hand lever with quadrant and locking latch which is placed near the clutch and brake levers in a bank at the operator's stand within convenient reach of the throttle facilitating the easy operation of the hoist.

The Canadian Ingersoll-Rand Company, also build two styles of hoists of smaller capacities than their new "CIRCO" hoists, known as the "Little Tugger," and the Special. The former is of the Dake or square piston type, and the latter is of the diagonal reciprocating type with trunk pistons. Either of these hoists may be arranged for operation on steam or compressed air. Being of simple rugged construction, and requiring no special foundation, they may be readily moved from place to place, are easily handled by unskilled labor, and are particularly adapted to light hoisting and hauling jobs in winzes raises and prospect shafts, such as handling drills, mountings, steels, timber, muck, or for hauling small ore cars up a grade, and similar classes of work within range of their capacity, which in the case of the Special is 1,400 pounds and 1,000 pounds in the "Little Tugger."

INSTITUTION OF MINING AND METALLURGY OPPOSED TO NATIONALIZATION OF COAL MINES.

The following resolutions were adopted by the council of the Institution of Mining and Metallurgy at a meeting specially convened for the purpose held on the 23rd ult.:—"That the council of the Institution of Mining and Metallurgy, as representing the technical interests of important national industries consuming large quantities of coal, view with grave concern the serious diminution in production and increase in the cost of British coal, which have developed since the present trend of Government intervention became operative." "That the council consider that the published evidence given before the Coal Industry Commission has failed to establish either the necessity for, or the expediency of, the nationalization of the coal

mining industry." "That the council are strongly opposed to the State ownership of the coal mining industry, as they are of the opinion that there is no evidence to support the assumption that nationalization would result in an increased output or in a reduction of labor stoppages." "That the council are prepared to acquiesce in the recommendation embodied in the Report of the Chairman of the Commission for the acquisition by the State of coal royalties, with the proviso that "fair and just compensation to the owners" be paid." "That a copy of the foregoing resolutions be sent to the Prime Minister."

MANITOBA

The Pas, Aug., 6.—Mr. J. P. Gordon returned from his claims north of Copper Lake bringing with him samples of quartz. These consist of lumps of quartz, some of them weighing many pounds, matted by string and leaf gold that form fully 50 per cent. of the mass. The gold is as massive in the quartz as the silver in calcite at Cobalt. The vein is said to be six feet wide and parallels the big dike.

The original discovery was made by an Indian prospector, Jacob Cook, some time ago, and it was while investigating this that Mr. J. P. Gordon made a further and richer discovery.

Other prospectors took up the hunt, and now the vein has been traced for 6,000 feet, the samples shown being taken from a depth of three feet.

A considerable number of claims have been staked in the locality, the best known being the Peterson group which lie a little to the north of the Gordon discovery.

The new discovery is only some 70 miles from The Pas as the crow flies, but owing to lack of transportation facilities prospectors are compelled to travel nearly twice that distance by following the waterways to reach the gold fields.

John W. Callinan, of the Flin-Flon properties headed for the new find yesterday in his own motor boat. He thinks the discovery is a big thing.

Messrs. Hassett, Owens and quite a number of others interested in mining matters, left for the Gordon-Peterson claims, north of Copper Lake on Tuesday night's Ross boat.—From the "Herald."

BEATRICE MINE, CAMBORNE, B.C., TO RE-OPEN.

The "Journal" is officially informed that R. R. Christie, of the New Era Mining Company, bondholder for the Beatrice Mine, has left for Camborne with a crew of men to re-open this well-known silver mine, and that it is the intention of the company to keep a fair-sized crew on the ground all winter.

Hazelton, B. C.

The Rocher de Boule Mine has been closed down and it is doubtful whether development will be continued this season.

Nelson, B. C.

After a period of idleness of some years the McAllister mine on the north fork of Carpenter Creek, near Three Forks, is resuming operations. It has been taken over by the Slocan Silver Mines, Limited, F. W. McDonell being foreman. This is a well-known property. It has been developed on three levels, and has a dry silver ore.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS.

Mr. Charles Schwab will be a speaker at the banquet of the American Institute of Mining & Metallurgical Engineers to be held in Chicago September 22nd to 26th, inclusive. Elaborate plans for both the technical and social side of the meeting have been perfected. Engineers who take the trip to Chicago for this meeting are assured of one of the most interesting annual meetings which the Institute has held. In addition to some hundred and fifty papers which have been prepared for the meeting, trips to the zinc smelting districts, the steel works at Gary and the refineries at Whiting and East Chicago are included. A boat trip on the lake together with numerous social events have been arranged for the ladies. The Fifth Annual Exposition of the Chemical

Industries will be held in Chicago at the same time as the meeting of the American Institute of Mining & Metallurgical Engineers and members of the Institute are cordially invited to attend the exposition and become better acquainted with the allied industries.

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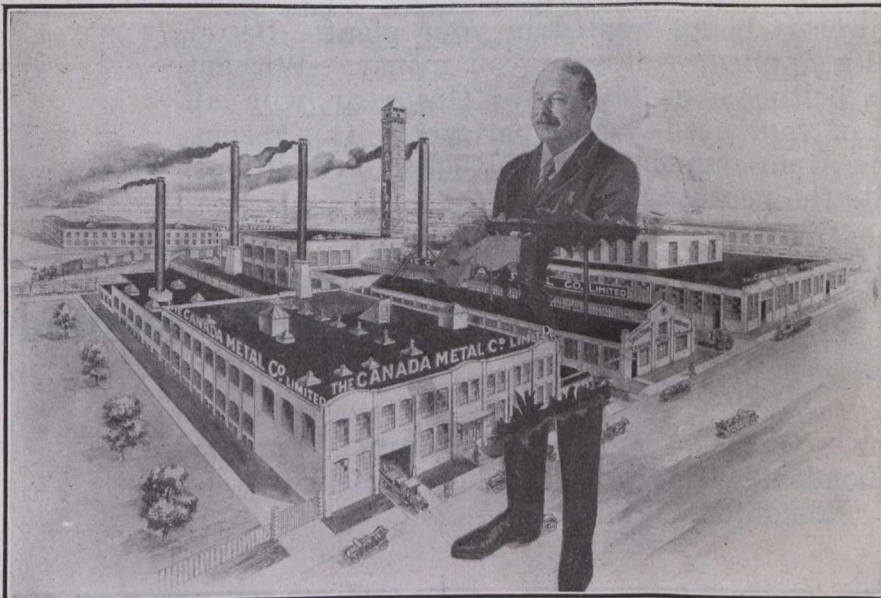
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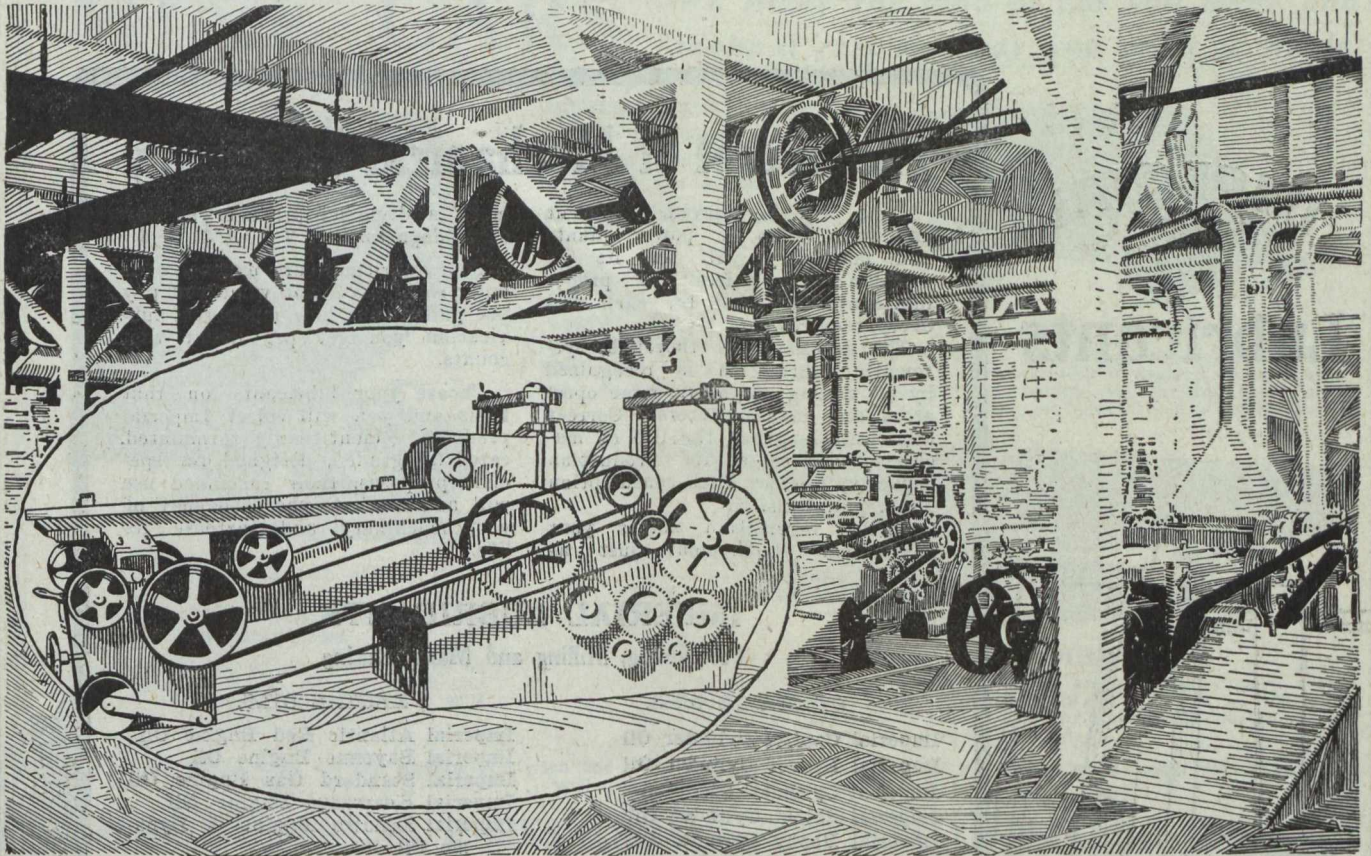
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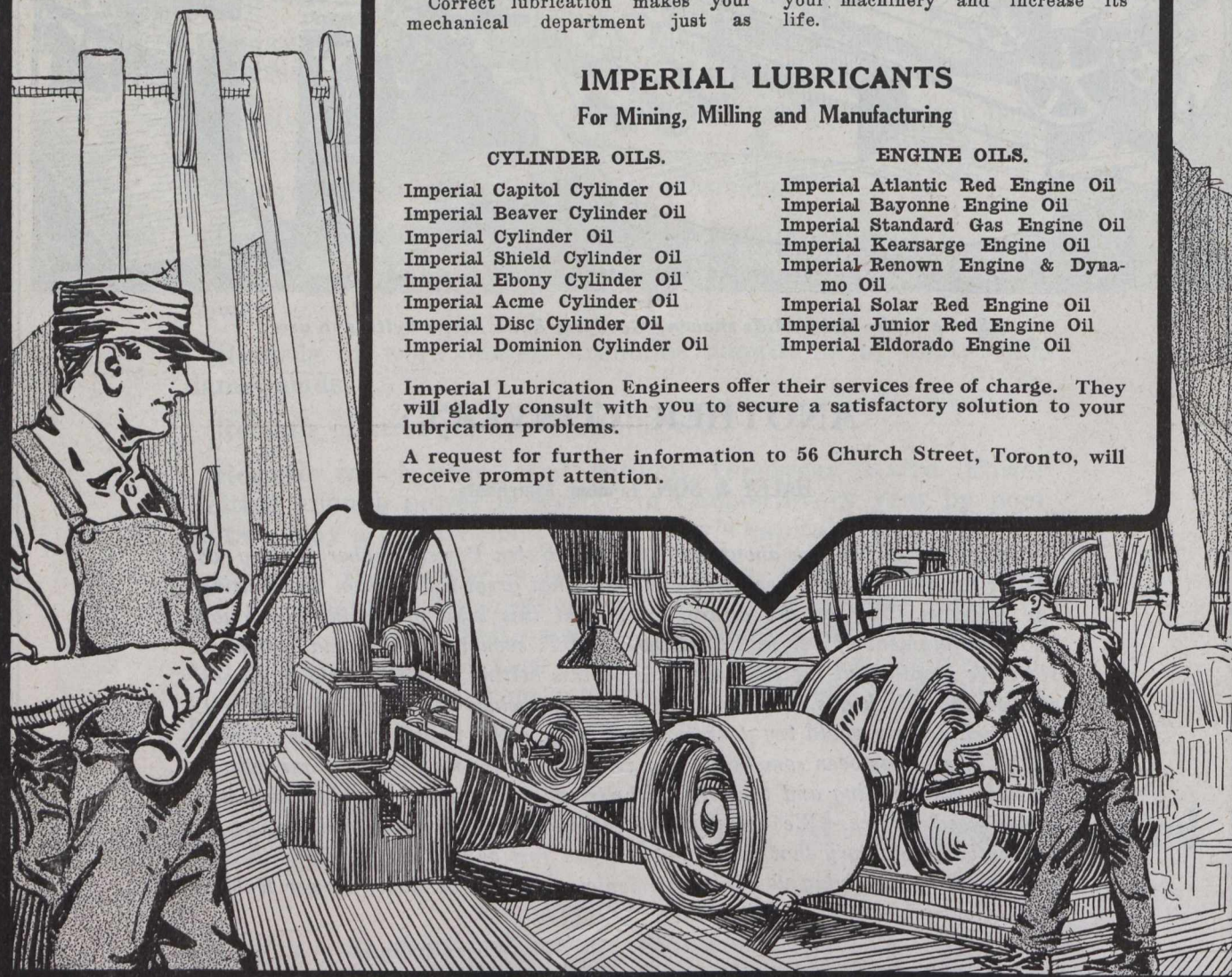
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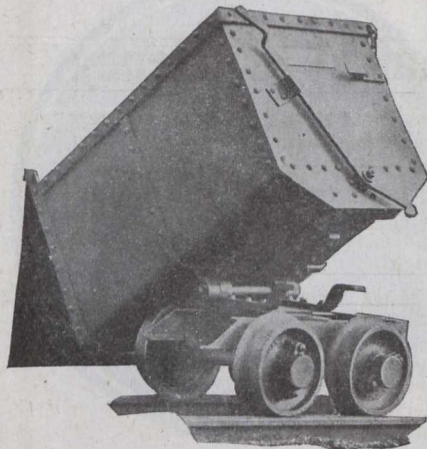
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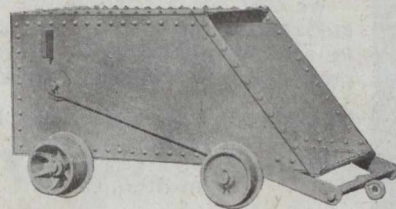
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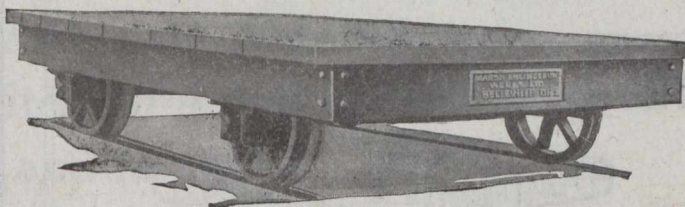
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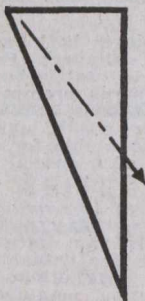
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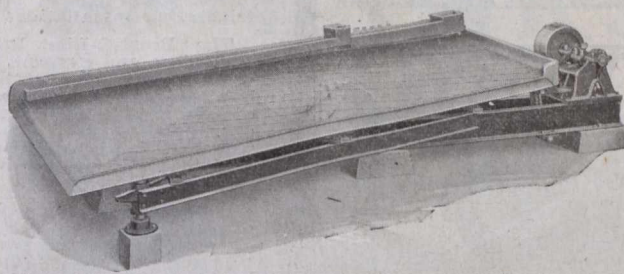
Deister-Overstrom Diagonal Deck Concentrating Tables

Which has the greater area, one triangle or two?

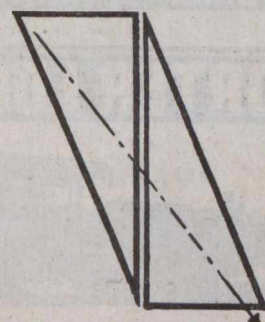
The arrows represent direction of pulp flow. Note the greater length of travel, and the greater percentage of table surface utilized on Deister-Overstrom Diagonal Deck Tables.



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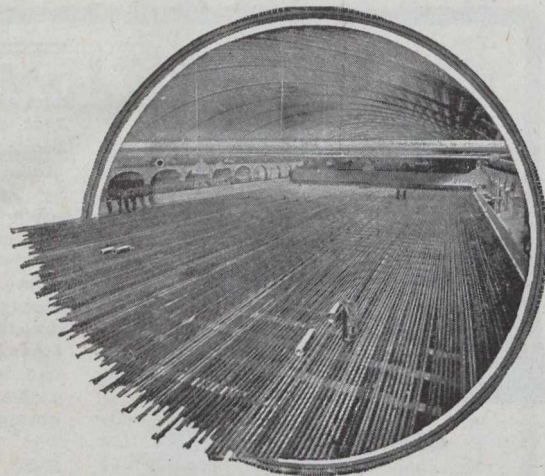
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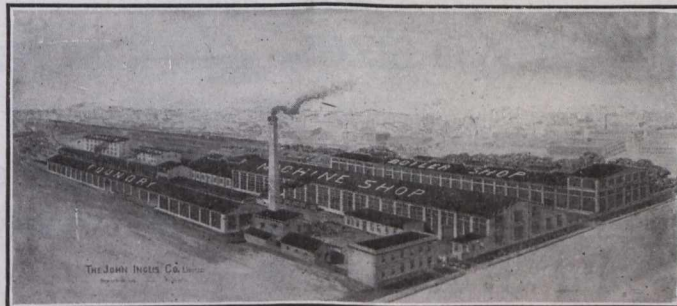
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Canadian Ingersoll-Rand Co., Ltd., Montreal, Que.
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Standard Diamond Drill Co.
Sullivan Machinery Co.
- Drills—Diamond:**
Sullivan Machinery Co.
Northern Canada Supply Co.
E. J. Longyear Company.
- Drill Steel—Mining:**
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Canadian Rock Drill Co.
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Northern Electric Co., Ltd.,
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Fraser & Chalmers of Canada, Ltd.
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- Hydraulic Machinery:**
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MacGovern & Co., Inc.
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Northern Canada Supply Co.
- Laboratory Machinery:**
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Northern Electric Co., Ltd.,
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R. T. Gilman & Co.
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Jones & Glassco.
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Hadfields Ltd.
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Canada Metal Co.
C. L. Constant Co.
Everitt & Co.
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Hadfields Ltd.
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- Nickel:**
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- Ore Testing Works:**
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Hoyt Metal Co.
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Consolidated Mining and Smelting
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- Orford Copper Co.**
Canada Metal Co.
Hoyt Metal Co.
Everitt & Co.
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Hoyt Metal Co.
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Canada Metal Co., Ltd.
Hoyt Metal Co.
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Canada Metal Co., Ltd.
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Northern Canada Supply Co.
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- Pipe—Wood Stave:**
Pacific Coast Pipe Co., Ltd.
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Mussens, Limited.
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Northern Canada Supply Co.
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Fraser & Chalmers of Canada, Ltd.
- Pumps—Centrifugal:**
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Mine & Smelter Supply Co.
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Hadfields Ltd.
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C. L. Constant Co.
Ledoux & Co.
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Mine & Smelter Supply Co.
Fraser & Chalmers of Canada, Ltd.
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Hendrick Mfg. Co.
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- Screens—Cross Patent Flanged Lip:**
Hendrick Mfg. Co.
- Separators:**
Smart-Turner Machine Co.
- Sheet Lead:**
Canada Metal Co., Ltd.
- Sheets—Genuine Manganese Bronze:**
Hendrick Mfg. Co.
- Shoes and Dies:**
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- Shovels—Steam:**
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- Smoke Stacks:**
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Hendrick Mfg. Co.
MacKinnon Steel Co., Ltd.
Marsh Engineering Works.
- Special Machinery:**
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John Inglis Co., Ltd.
- Spring Coil & Clips Electric:**
Canadian Steel Foundries, Ltd.
- Steel Barrels:**
Smart-Turner Machine Co.
Fraser & Chalmers of Canada, Ltd.
- Steel Castings:**
Canadian Brakeshoe Co., Ltd.
Canadian Steel Foundries, Ltd.
Hadfields Ltd.
- Steel Drills:**
Northern Canada Supply Co.
Can. Ingersoll-Rand Co., Ltd.
- Steel Drums:**
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- Tables—Concentrating:**
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Pacific Coast Pipe Co., Ltd.
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Marsh Engineering Works.
Fraser & Chalmers of Canada, Ltd.
- Wire:**
Canada Wire & Cable Co., Ltd.
- Wire Cloth:**
Northern Canada Supply Co.
Greening, B., Wire Co.
- Wire (Bare and Insulated):**
Standard Underground Cable Co.
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Northern Electric Co., Ltd.
- Zinc Spelter:**
Canada Metal Co., Ltd.
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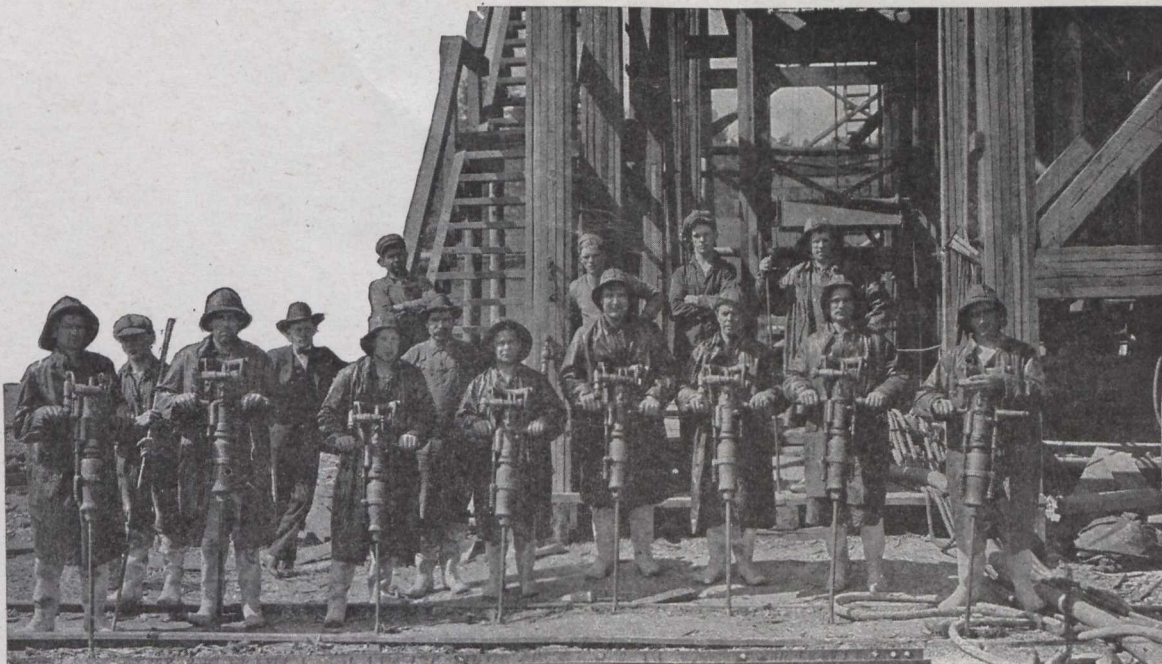
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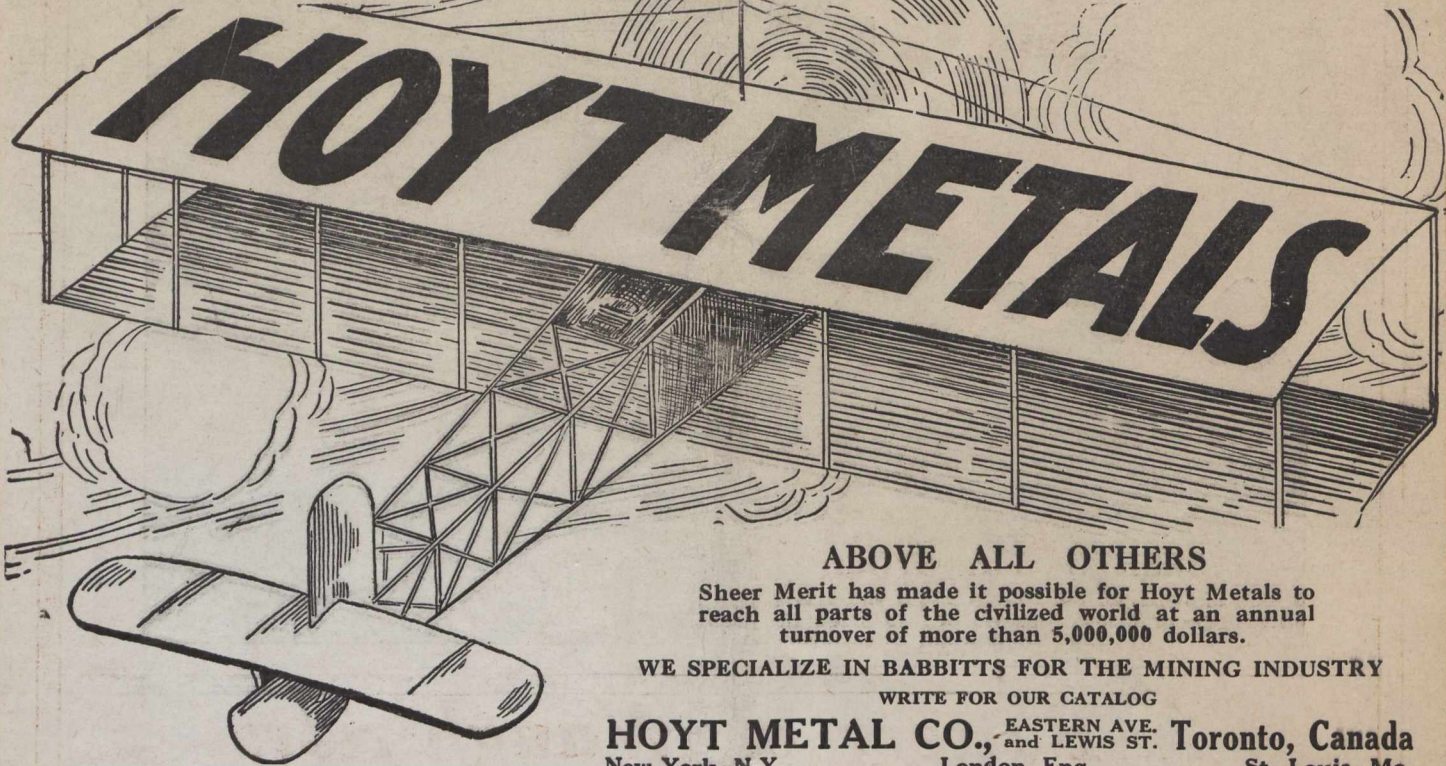
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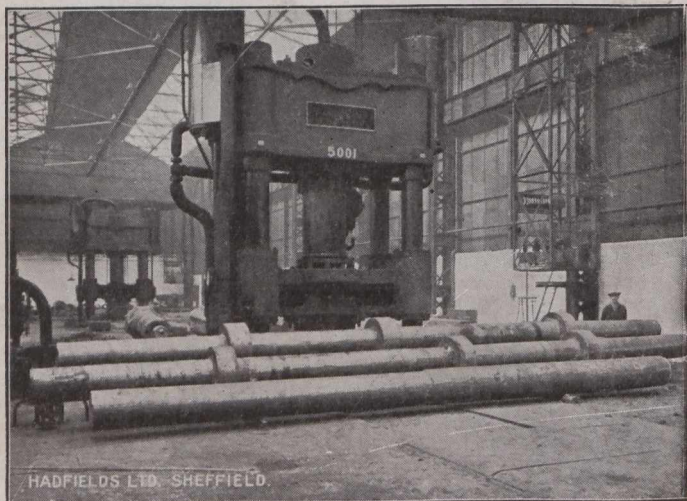
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