CANADIAN MINING JOURNAL

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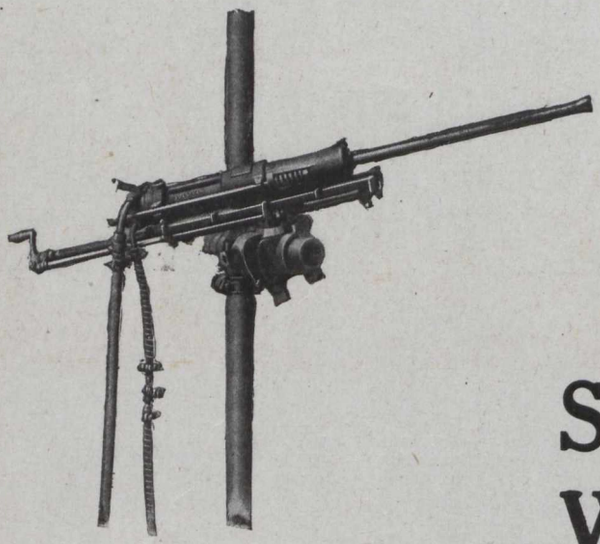

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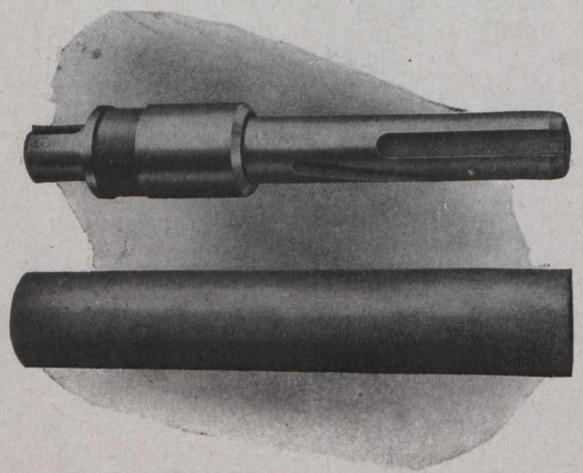

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To Users of the Callow Pneumatic Flotation Cell

THE recent decision in the Butte & Superior Suit with Minerals Separation has an important bearing upon the use of the Pneumatic, or Callow method of flotation.

The Appellate Court's decision at Philadelphia, in the Miami case, had already made clear the distinction between (1) froth produced by violent mechanical agitation of the Minerals Separation process, and (2) simple levitation by air bubbles, as practised in the Callow or pneumatic cell, without such agitation.

Now the Appellate Court at San Francisco has interpreted the United States Supreme Court's opinion in the Hyde case, whereby the Minerals Separation Patent was restricted to the use of a minimum, or 'critical' proportion of oil, in combination with violent mechanical agitation.

This latest decision of the Appellate Court in the Butte & Superior case, restricts the Minerals Separation basic patent to the use of a quantity of oil *not in excess of ten pounds (0.5%) per ton of ore, in combination with violent agitation:* it is a logical sequel to the Supreme Court's opinion and confirms the status of the Callow or Pneumatic method of flotation as distinct from the agitation-froth process.

Both the use (1) of oil in excess of ten pounds (0.5%) in combination with violent agitation, and (2) the use of the Callow system of aeration with any quantity of oil, appear therefore to be immune from any charge of infringement.

(Signed) J. M. CALLOW
159 Pierpoint St.
Salt Lake City, Utah

THE FLOTATION PROCESS

MINERALS SEPARATION NORTH AMERICAN CORPORATION

Is the registered owner of the following Canadian patents: Nos. 76,621; 87,700; 94,332; 129,819; 94,516; 96,182; 96,183; 99,743; 127,397; 129,820; 134,271; 135,089; 137,404; 142,607; 147,431; 147,432; 148,275; 151,479; 151,480; 151,619; 151,810; 157,488; 157,603; 157,604; **160,692; 160,693; 160,694; 160,846; 160,847; 160,848; 160,849; 160,850;** 160,937; **163,608; 163,707; 163,936;** 164,587; 165,390; 166,415; 167,474; 167,475; 167,476; 167,603; 187,263.

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

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

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

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

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

Minerals Separation North American Corporation

Head Office:
61 Broadway,
New York, N. Y.

Engineering Office:
220 Battery Street,
San Francisco, California.

Canadian Attorneys.

Messrs. Ridout & Maybee, Patent Solicitors, 156 Yonge Street, Toronto, Canada.

International Mining Convention

VANCOUVER, B.C.

March 17, 18 and 19

Prominent Mining Men and Leading Geologists and Mining Engineers from all over Canada and the United States will be in attendance and the addresres and discussions will be of a highly practical character.

Every person whether interested or not should attend this Convention, the first of its kind to be held in Vancouver.

Addresses will be given by the six district engineers of British Columbia on past development work and projected undertakings in their districts. The subjects to be discussed will be as follows:

Gold Mining in B.C.

Legislation to make possible the Reduction of B.C. Ores within the Province.

Possibility of establishing a Smelter and Refinery on the Southern Coast of B.C.

Taxation of Mining Properties.

The Prospector and How to Encourage Him.

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EDITORIAL

NOVA SCOTIA'S SUBMARINE COAL MINING PROBLEM.

A question of considerable interest, both from an engineering and a legal viewpoint has arisen in relation to the undersea extension of the Sydney (Cape Breton) coalfield. The system under which, during many years past, the undersea coal areas have been leased for operation and the mining of the coal contained therein, has permitted the "blanketing" of the leases of one lessee by those of another lessee, and a situation has now developed which calls for some remedial and corrective action by the Province, which is the lessor of the coal areas. The speech from the Throne at the opening of the local Legislature recently forecasted the intention of the local Government to enact legislation designed to correct the existing condition and "to protect local industries."

In this connection, the following remarks by Mr. F. W. Gray, which formed part of a review of coal-mining affairs in Nova Scotia during 1918 contributed to the "Halifax Chronicle" may be of interest to readers of the Journal:

The recommendation of the Fuel Controller that the Nova Scotia Steel & Coal Company should be allowed to mine certain areas leased by the Dominion Coal Company from the Province which abut upon the present workings of the Princess and Florence Collieries in such a manner as to prevent the seaward extension of these collieries, has brought prominently to public attention another deterrent factor in the future of the coal industry not hitherto disclosed.

It is not proposed here to enter into the merits of the controversy, which would be an invidious and delicate task, nor to deal with the causes that have created the present tangle of the submarine coal areas, because they have operated over a hundred years of the past, and as they form part of the history of the growth of responsible government in Nova Scotia, they bristle with controversial possibilities.

Be that as it may, the lease plan of the Cape Breton submarine coal areas as it exists today shows a checker board of conflicting and interfering leases that absolutely inhibit the extraction of the submarine coal by the methods which would commend themselves to a mining engineer interested in the best; the most complete and the most economical extraction of the submarine coalfield.

If some mischievous imp, some Teuton brownie from the Ehzgebirge, had set to work to "queer" the future of the submarine coalfield, it could not have been more thoroughly accomplished than is actually the case.

The lease lines that crisscross the submarine coalfield violate every physical and geological consideration, and this is what might be expected, because they were not designed to conform to natural limitations, but were arbitrarily drawn to further disconnected and often conflicting private and corporate interests during many generations. The last and the least consideration that has governed the framing of the inextricable maze of submarine leases has been the preservation of the coalfield for economical and lasting operation.

One can only say of the lease plan that, like Topsy, "it growed." No person living is to blame for the tangle, but the remedy is within the power of those who administer the coal areas as stewards for the people of Nova Scotia.

It is not realised that the Cape Breton submarine coalfield is a unique deposit of coal. Its exact extent is unknown, but we know enough of its probable extent to state confidently that it can provide millions of tons of coal per year for hundreds of years to come if—and here is the rub—if it is conceived as one vast mining operation, as a field in which one false or unwise operation may depreciate the value of the whole, and even impair its accessibility.

In a Memoir on "The Coalfields of Eastern Canada" written for the Federal Department of Mines three years ago, the writer in summarising the mining laws of the Province in relation to the unworked submarine coalfield, hinted at the state of affairs which has now been revealed by the Fuel Controller by remarking that it was the obvious duty of the present generation:

> "so to prosecute the work of extraction as not to imperil the accessibility of the remaining submarine coal."

This is precisely what the present arrangement of the submarine leases will not permit of being done, and if the future mining operations under the sea essay the thankless task of adherence to existing lease lines, it will result in imperilling the greatest single asset of this Province.

The extraction of the submarine coal under the most natural conditions is equivalent to their extraction under the least costly conditions.

This means everything to the Province as landlord of the leased areas.

In discussing the limitations to working the submarine coalfield, in the Memoir just referred to, the writer ventured to predict that the cost of mining would be the first limiting factor to make itself felt. If this is the case, it is extremely desirable that no artificially difficult conditions of extraction should be unnecessarily imposed on mining coal from submarine territory, because this will cause the limit of profitable mining to be reached sooner than would otherwise be the case, and the Province will the earlier lose its revenues and all the other advantages that accompany the production of coal.

If it had been possible that the leasing submarine areas could have been governed by previous experience in their operation, it would have been realised that a submarine coal area is not comparable to a land area, because a land area can be reached by shaft or slope from the surface at any point, but access to submarine areas is limited to certain parts of the shore, and it would have been seen that no submarine leases should have been granted, unless their accessibility was secured by the terms of the lease itself. Of course, hindsight is distinctly better than foresight.

The conflicting interests of the coal operators—or rather their supposedly conflicting interests—have hith-

erto prevented them from making an unprejudiced survey of the future of the submarine coal areas. It has not been realized that submarine coal extraction in this Province is as yet only an economic experiment, and the success of that experiment is not any too clearly demonstrated.

In view of the gloomy outlook for the coal industry in Nova Scotia, it would be well if it might be seen that a persistence in the present unscientific and mutually destructive policy with regard to submarine coal areas may involve in general disaster all concerned, operators, miners and the country generally. The industry is admittedly going to have sufficiently hard work to keep its head above water without the addition of unnecessary duplication of expenditure and effort, and without the totally unnecessary addition to the cost of extraction which adherence to existing lease lines will inevitably cause.

The truth is that the whole submarine coal question is due for review.

A plan should be made of the whole coalfield from Cape Dauphin to Mira Bay showing the existing submarine workings, the course of the land and submarine outcrops, the course and nature so far as known of the parallel folds and faults that traverse the coal field. Due consideration should be given to the facts disclosed by soundings at sea, the nature of the sea-bottom, the depth of superincumbent strata, the spacing of the coal seams, and the probable extent of the submarine coalfield.

This plan should be viewed as a whole by competent mining engineers, who should disabuse their minds of any questions concerning lease lines, and it should be conceived as one operation, from the viewpoint of the owners of the coal, not the viewpoint of the leaseholders.

The conservation of the submarine coal, its protection from inundation, creep, incompetent mining, and the preservation of its accessibility over the maximum period of operation, should be the guiding ideas; and, if this were done, it is certain that a radical re-arrangement of the submarine leases would result that would benefit everybody concerned, even those competing coal operators who do not today apprehend the true significance of the signs of the decadence of the local coal industry, and the necessity for compromise and reasonableness unless all alike are to be involved in a common future disaster.

THE DOLLY VARDEN RAILROAD.

An investigation is in progress before a special committee of the Legislature of British Columbia of vital importance to the mining industry of the Alice Arm Section of the province, which is believed to be one of the richest mineral bearing areas of the north-west coast of America.

The trouble is over an eighteen mile narrow guage railroad which was constructed from the coast into the mountains for a distance of eighteen miles, its purpose being to provide transportation facilities for the Dolly Varden mine and for other promising properties along its route. The road is almost complete. When within a very short distance of its goal work ceased. The Taylor Engineering Company, the contractors, were short of funds. Workmen found themselves laid off without pay and without notice. Since then a mining district which was being rapidly developed, and the promise of which became brighter as time went on, has lacked most of the signs of industry. The workmen are waiting for their wages and mine operators and prospectors are waiting for the tangle to be straightened out.

Since what has been detailed occurred, various things have happened. The property of the Dolly Varden Mining Company, which includes the road, has been sold to the Temiskaming Mining Company of Toronto, the consideration being $700,000. Mr. A. J. T. Taylor, president of the now defunct Taylor Engineering Company, has applied to the Legislature of British Columbia asking that the Dolly Varden Mining Company, former owners of the property, be compelled to meet what he claims to be its liability to the constructors of the road. He has given testimony that the work was started on a ten per cent plus basis on a written estimate that the road would cost not more than $175,000 and a "gentleman's agreement" with Mr. J. D. Hubbard, president of the Dolly Varden company, that he would see that any cost above that amount would be met. The enterprise, however, cost considerable more than the mentioned figure, apparently, as Mr. Taylor's claim is for $467,000 although he states that he offered to reduce this to $375,000 if the company would pay it from the $700,000 received, or to be received, by virture of the sale of the property. His petition to the Legislature is that a renewal of the charter, under which the railroad is being built, be refused, thus preventing the finishing of the several hundred yards of steel yet to be laid, pending the satisfaction of his demands. The Dolly Varden Company takes the position that the petitioner should share with them in the general loss, it being their assertion that the sale, at the price given, has meant a loss to them.

In support of Mr. Taylor's position interesting evidence has been given by Mr. J. S. Connell, C.E., who was the engineer in charge of construction. The original estimate of $175,000, he said, was for a rough road which would follow the centre of a pack trail in order to enable thirty tons of concentrates to be brought to tidewater daily. No surveys were made, as the Mining Company wanted speedy action. After work was commenced, unexpected difficulties were encountered. The road in some places had to be cut out of solid rock on the walls of gorges and canyons so precipitous that the men were lowered down with ropes to start a foothold. After the road had been partly made, Mr. Connell said, the cost had been greatly increased because it had to be cut out two feet wider and the curves made to conform to the requirements of the expected buyer, the Granby Consolidated Mining & Smelting Company, which proposed to take out 400 tons of ore daily. It may be said incidentally that the statement has been made in the course of the inquiry that the Granby Company actually made an offer of $850,000 for the property, which was declined owing to objection being taken to the terms of the proposed agreement.

It is likely that the Committee of the House having the investigation in hand will be in a position in the course of a few days to submit a recommendation to the Legislative Assembly. Pending this and some disposal of the petition by the members of the house, the railroad is tied up and mining operations in the district at a standstill.

An amendment to the Mineral Survey and Development Act of British Columbia, giving the resident mining engineers of the Province power to enter into mines and plants in connection therewith for inspection purposes, has passed the Provincial Legislature and will become law on receiving the assent of the Lieut.-Governor.

The Wealth of the Hinterland of Ontario

By J. A. McRAE.

Scanning the hills of the North who can estimate their potential riches? To those not familiar with the North we would say: Vision these hills, ridge upon ridge, row upon row and almost endless, stretching hundreds and even thousands of miles through the wild. During the past few years a world of men made purblind in the mad rush of war and war industries, have been passing along the main highway —have passed our very threshold, and have failed to see. They have seemed to overlook the fact that in a brief span of the opening years of this twentieth century, the precious metal mines alone have yielded nearly one-quarter of a billion dollars. Perhaps they also fail to realize that in a lesser space of time it will yield as many more. Other veins, moss-covered, or perhaps exposed to the sun, await discovery. Other mines, possibly, the richest of them all, are to be developed.

In recent times the old-time prospector has been considered a back number who has largely outlived his usefulness, and considered out of place among modern surroundings. Now, however, his importance is becoming better realized than ever before. Modern mining machinery and modern ore treatment methods are resulting in intensive mining, which shortens the lives of the mines. As a consequence, far sighted men are pointing toward the urgent need for a greater amount of prospecting and the opening of new producing properties.

There is only one way in which mineral deposits are to be found, and that is to search for them. This, clearly, is the logical task of the prospector and he should be encouraged to put forth his best efforts in the exploration for additional mining fields, and in being adequately rewarded for his discoveries. The Ontario Bureau of Mines is paying particular attention to the prospector. Anything that will tend to promote greater activity among the prospectors, and anything that will prove beneficial to them finds ready recognition. His burdens are still heavy, but in order to keep the wildcatters and claim blanketers from getting too strong a foothold in the mineralized area, these burdens cannot be removed. Therefore, in a sense, these very burdens afford protection to the legitimate prospector. Despite burdens, the genuine prospector has refused and still refuses to be downed. He continues to trudge over the hills in search of hidden millions which he invariably feels certain he will ultimately find. And in many instances his most resplendent dreams come true. He it is who discovered all the mines that are now making the shareholders of the mining companies rich and which gives labor to a veritable army of men. To him the world is indebted for the discovery of its most profitable mining areas. He is entitled to liberal legislative recognition; and, as producing mines grow fewer, while the metal demands grows larger, he is, at last, coming into his own. The Mining laws of Ontario have been designed to encourage him.

Favored with thousands of square miles of undeveloped mineral lands where the geological conditions point toward the likelihood of numerous great precious metal mining camps; favored with unlimited water, which from babbling brook to broad rivers afford arteries along which the seeker of mines may roam with ease and when finally harnessed would generate abundant power to drive industrial wheels; favored with timber lands, unlimited as far as the use of the pioneer is concerned, and under Great Britain's flag of freedom where laws are made for those who try; favored with the protection of an Anglo-Saxon race, this country, this Northern Ontario on the fringe of which we live, offers to mining men the world's greatest promise.

The North values highly its man of creative genius — that is to say, its optimists. Had it not been for such men there would perhaps have been no Cobalt, no Porcupine, no Kirkland Lake, and no Boston Creek. The prospector is an optimist. It should also be pointed out that there is another optimist — the man with money and with sufficient courage to apply it efficiently in the development of promising mining areas.

A few years ago the great majority of people frowned upon the narrow veins of Cobalt. In the early days the surface discoveries of Porcupine, looked dubious, and were often referred to pessimistically. At first the veins of Kirkland Lake appeared narrow and inconsistent. In a word, in each case, the opinion of many people was one of grave uncertainty. Yet, in each case the optimists came to the rescue, and, with courage commensurate to their optimism, applied their finances lavishly but efficiently and made the north country the great mining centre that it is to-day. To these men of creative genius the Dominion of Canada owes a debt of gratitude, and to them Northern Ontario owes its present great prosperity. It was they who laid the foundation for the rapid progress now taking place.

Therefore, when some day historians will write the closing lines of the mining era of Northern Ontario, let them not forget the part played by the prospector and those who have backed his efforts with their finances.

In Temiskaming less than twenty years ago the moon rose and set, and old Sol spent his sunny smile on a land bedecked with stalwart pines that moaned with the fragrant breezes and where murmuring brooks rippled their way like silver threads through valleys clothed in forest shadow. On every hand was the verdant sweep of unbroken timberlands, the hunting ground of Indians. Little did they think that beneath the ground—perhaps beneath their vedy camp-fires — lay the world's richest deposits of silver or veins of virgin gold.

The fabulously rich deposits of silver at Cobalt, for more than a century lay in the very shadow of old Fort Temiskamingue. Throughout the days and the nights, the months and the years, no sentinel kept vigil over this vast storehouse of precious metal. Nature itself flung its camouflage of moss over the weathered and jagged outcrops. The question is often heard: 'will history repeat'? From farther north comes the answer, emphatic, and in the affirmative.

Less than 100 miles north of Cobalt, where less than ten years ago was naught else known to man but unbroken wilderness, now lies the world's greatest gold

mine. Round about it are being developed other gold mines of greater proportions. Up until ten years ago an Indian trail wound its way over "Hollinger Hill" from which in the past few years has been mined some $26,000,000 in gold with at least $41,000,000 more blocked out and ready to mine. It is perhaps a revelation to many to learn that within the memory of the youngest of full grown Indians whose haunts were the Porcupine regions, is the picture of Indian tee-pees sitting squat and picturesque on the very brow of that now famous hill. Down over that old trail the Redskins have trekked to and fro, fleet of foot, down through the centuries. Over its winding way had tripped smiling Indian maidens at the heels of their braves. And all the while on either side lay great quartz veins containing scores of millions in gold. Readers may say: Yes, but all this is past! To what avail is this fact in history! How are we to win a share? Are we not too late?

Round about is spread a land pregnant with the answer. At the discovered mines the great whistles that call to toil a veritable army of men, send out their echoes and re-echoes through the valleys and the hills. Farther away comes the faint ring of the prospector's pick on the hillsides as though whispering back an answer from the mines that may yet be born.

Will history again repeat? The probabilities appear to be that it will, not only once, but time and time again—so vast is the precious metal bearing zone as yet practically unexplored.

JUALIN ALASKA MINES.

Work will be resumed at once on the property of the Jualin Alaska Mines Co., at Jualin, Alaska. This property was taken over in 1912 by The Algunican Development Co., a Belgian-French company, with head office at 16 Rue de Turin, Brussels, Belgium. At that time a 7,800 foot tunnel was started, intended to crosscut the vein system at a lower depth and also to drain the mine water. This tunnel, which had advanced 2,000 feet, was discontinued when war broke out and attention confined to the actual production of the mine. All work was suspended in November, 1917, owing to the labor shortage and extreme operating conditions. During the last operating year this mine produced nearly $200,000 in gold from a ten stamp mill.

It is now proposed to complete the tunnel and at the same time carry out an active programme of development from the present workings. Until the completion of the tunnel no ore will be milled except that obtained from developing headings.

Jean Vanophem, Brussels, Belgium, is president. Chas. G. Titus, Juneau, Alaska, is general manager.

Ore receipts at Trail in gross tons for the week from 1st February to the 7th of the same month totalled 8,402, which makes an aggregate for the year of 43,685 tons. Of the latter total the Boundary District contributed 3,321 tons; East Kootenay, 22,704; Nelson and Salmo, 353; Rossland, 14,275; and Slocan and Ainsworth, 1,761 tons.

Slocan, B.C.—The Noble Five and the Ivanhoe Mines of the Slocan District, which were practically closed down during the influenza epidemic, have resumed operations with full crews.

WAGES, HOURS AND UNION CONDITIONS AT THE NOVA SCOTIA COLLIERIES.

In October 1918 the Amalgamated Mine Workers of Nova Scotia met in convention in Sydney and formulated a schedule of wage rates and working conditions constituting the proposed basis of a new arrangement with the coal operators at those collieries where the workmen were represented by the A. M. W. of N. S., to follow the expiry of the wage agreement which terminated at the end of 1918. The demands contained in the schedule were very large, and involved some radical innovations in working conditions, such for example as an eight hours day, and the substitution of the short ton as the basis of payment for the long ton with the retention of former or increased tonnage rates. The increases contemplated by the schedule, if applied, would have meant an addition of three dollars per ton to the cost of mining coal.

At the call of the Minister of Labour the union representatives were asked to meet the coal operators in Montreal, and a meeting of a preliminary character was held there in January, which was adjourned after arranging for a further meeting in Sydney to be held in February. At the meeting in Montreal the workmen of the Pictou and Inverness Fields were not represented, these districts being organized under the American Federation of Labour, but invitations were issued asking that these districts should be represented at the meeting in Sydney.

On the 19th February, delegates from all the collieries of the Province assembled in Sydney and met in joint conference representatives of practically all the coal companies in Nova Scotia. The joint conference brought together a very large gathering, there being almost two hundred union delegates present and about twenty representatives of the operators. From the main conference a sub-Committee was appointed to examine and report in detail on the matters in question which were chiefly three, namely, the request of the workmen for an increase in wages and the formulation of a new wage agreement, the granting of an eight hour day, bank to bank; and the assent of the operators to the intention of the Amalgamated Mine Workers to join the United Mine Workers of America.

The sub-Committee continued in session throughout the remaining portion of the week, and made recommendations, which were afterwards accepted by the workmen, of a most important and far-reaching character.

On the matter of wages the operators stated from the outset that the condition of the coal trade, the already greatly increased and unprecedented cost of mining, the reduction in production and the competition from outside fields, would not permit of the granting of any increase in wages. It was pointed out, and was of course well known to the delegates present, that many of the mines in the Province were either entirely idle or were working intermittently because of the slackening of demand for coal in the Province and the temporary inaccessibility of the Montreal market of Nova Scotian coal, so long as the shipping shortage continued and high freighting rates prevailed. An increase in wages could only result in a greater amount of idleness, and as there was a disposition on the part of the operators to consider some modification of the working hours — which in itself is equivalent to a large increase in wages — the sub-Committee reported in favour of allowing the matter of wages to

stand untouched, subject to notice of adjustment by either of the parties upon thirty days notice. Provision was made for adjustment of local conditions which might arise.

On the matter of the Eight Hour Day, the sub-Committee reported as follows:

"The operators have carefully considered the proposal of their employees for an eight hour day, and being most desirous as far as possible to meet their wishes, would submit the following offer:

1. The collieries will commence to hoist coal at 7 a.m., at which time all the men must be in the mine.
2. The day's work will cease at three o'clock, when all arrangements will be available for conveying the men to the surface.
3. The surface men around the bankhead and screens associated with the handling of coal are to be on duty betwen the hours of 7 a.m. and 3 p.m., and for a short time after if necessary for the purpose of attending to such duties as will facilitate their own work, such time not to exceed half an hour.
4. The standards of other surface labor around the collieries to be from 7 a.m. to 4 p.m. with half an hour for dinner.
5. Where continuous attendance is required, the shifts will be eight hours instead of twelve, both surface and underground, at the same pay.
6. The conditions peculiar to certain localities will be adjusted locally.
7. To become effective March 15th, 16th or 17th, according to the date of making up the payrolls.

NOTE.—Explanation of Clause One means that the mine will run continuously between the hours named without any stop whatever.

The management of the Dominion Coal Company promise to meet the Executive at an early date, in connection with other departments such as the machine shop and section men, and it is expected that other companies with similar work will do likewise."

In regard to the announced intention of the A. M. W. of N. S. to join the United Mine Workers of America, the sub-Committee reported as under:

"After having had the assurance of the Executive of the Amalgamated Mine Workers of Nova Scotia and the representatives of the Federation of Labour, confirming the statements made in Montreal by Mr. Harlin of the United Mine Workers of America, that the desire of the A. M. W. of N. S. to have the U. M. W. of America extend its jurisdiction to Nova Scotia does not arise from any intention to make the wage rates and working conditions of Nova Scotia conform to those obtaining in other districts of the U. M. W. of America, and that local districts will receive complete autonomy, and also that the limitations of Nova Scotia in regard to outside competition in the sale of coal and recognized by the incoming U. M. W. of America, and will always be borne in mind in the future, the operators agree to the extension of the U. M. W. of America into Nova Scotia, if that should be the desire of the majority of the mine-workers."

The net result of the Convention therefore was an agreement to leave the matter of wages and a new working agreement in abeyance until the changing conditions of the coal trade permit of accurate views as to the future of trade conditions; the granting of a modified eight hour day, and the extension of the jurisdiction of the United Mine Workers of America over the whole of the collieries in Nova Scotia.

The holding of the Convention and its outcome, is one of the signs of the times, and your correspondent is reluctant to add words of comment at a time when the world generally is tired of opinions and theories, and when events are taking place quicker than the average scribe can describe them.

One might comment however that the agreement upon an eight hour day contains the germ of much that is yet to occur in connection with the coal trade of Nova Scotia and its future progress. It is not conceivable that it will long be regarded as good business to have the entire development of a large colliery and its costly equipment producing coal only eight hours out of every twenty-four, and possibly working only five days per week. If business acumen should allow this, or the attitude of the workmen should attempt to compel a retention of the single shift system, the competition of outside sources operating under conditions of more complete and continuous utilisation of the mine equipment, will compell Nova Scotia to conform to more modern methods of concentrating the working forces, or go out of business as a coal-producing province. In other words the necessary accompaniment of an eight hour day is the double or triple-shift system.

The compelling factor in Nova Scotia is the large percentage of the untouched coal reserves of the Province which lie under the sea. These deposits are large, but the points where access can be obtained are few and the outlet, or the "bottle-neck" is limited. Practically continuous hoisting up large shafts is the only way in which large bodies of workmen can be employed in mining coal from under the sea, and it can easily be seen that the adoption of an eight hour day, which if rigidly enforced would limit the hours of hoisting within a small and rigid compass, will take a great deal of working out unless the production of the collieries working under the sea is to be distinctly limited and shortened from now onwards. Other results which must follow are more intensive production during the prescribed hours of labor, the tremendously increased utilisation of mechanical devices, and arrangements for production on a large scale. This in turn will involve capital expenditures beyond the capacity of the existing coal companies, and above all, the future of the industry will be conditioned to the fact that coal-mining in Nova Scotia must always cost relatively more than in the United States and in other coalfields that do not come so directly into competition with the product of Nova Scotia.

The further working out of the hours problem at the collieries in Nova Scotia will be interesting to follow, but a casual consideration of the problems involved will indicate that while it is one thing to agree to a principle it is quite another matter to work it out in practice.

One very pleasing feature of the Convention was the consistently high level of the discussion, and the fair open and considerate manner in which both sides thrashed out their difficulties and endeavoured to merge their differing viewpoints. The whole Convention was significant, in view of much that has passed, and much that is still to take place, but from this point of view, distinctly hopeful and of good augury for the future.

New Legislation Affecting Coal Mines of British Columbia

Regulations of first importance to the coal mining industry of the Province have been laid before the British Columbia Legislature by Hon. Wm. Sloan, Minister of Mines, in a Bill entitled "An Act to Amend the 'Coal Mines Regulation Act' ". They will radically change for the better the present system of conducting examinations for 1st, 2nd, and 3rd class coal mining certificates, removing much of the present superfluous administrative machinery by placing the now widely distributed authority in the hands of one competent and responsible board of examiners. The same applied to the existing methods of examining and issuing certificates of competency to coal miners, and it is being proposed that one travelling board of examiners shall have charge of this important work, the duties of which shall be to go from colliery to colliery throughout the province for the purpose of passing upon the proficiency of coal miners applying for certificates. Various other changes are provided for, having in view making the mines safer and removing, as far as possible, the chief dangers with which the underground workers have to contend. In some of the latter legislation British Columbia is setting the pace for America, notably in respect of the proposal that all wire cables shall be given hot oil baths at regular intervals and that amendment which in its application, will practically eliminate all but safety lamps in underground coal workings.

Minimum Wage Board.

The initial provision of the Bill is under the sub-title, "Constitution of Coal-Miners' Minimum Wage Board." The text of this section is clear in itself. The said board is to consist of the chief inspector of mines as chairman and "two other members to be appointed by the minister, one of whom shall be appointed to represent the mine-owners and one to represent the coal-miners." The duties of this board shall be to "define and redefine any portion of the province as a minimum wage district for the purposes of this section; to improve conditions and exceptions to which the application of the minimum wage in any district shall be subject; and to regulate the time and manner of giving notice of the sittings of the board and the conduct of business thereat." Having fixed a district to which a minimum wage shall apply, its duty, naturally, shall be to decide what the minimum wage, within the bounds of the area, shall be, proper consideration being given to general conditions as may be shown by evidence or representations made by the parties affected. For the latter purpose a full opportunity is to be given for hearing at a public sitting of the board of all interested. Any order made shall come into effect on the minister's approval and its publication in the Provincial Gazette "at least thirty days before the day named for its coming into operation." If any coal-miner is paid less than the minimum wage to which he is entitled he may recover from his employer in civil action that which is justly due him. This will commend itself to all miners of British Columbia, and, in any event, it cannot but be considered as a step in the right direction, evidencing on the part of the government an active and direct interest in the question of the remuneration received by underground workers.

Board of Examiners.

The appointment of a board of examiners "to conduct the examination in any part of the province of applicants for certificates of competency," is another important innovation. At present this Board consists of three coal mine managers and three representatives of the men from different parts of the province, together with the chief inspector of mines. Its headquarters are in Nanaimo, B.C. Two of the men's representatives are of the Crowsnest Pass coal district, and in the past five years, on one occasion only has one of these representatives been able to attend a board meeting. While provision is made to pay the travelling expenses of those who have come from a distance this reimbursement by no means covered the loss of time which trips from various parts of the province to the coast entailed. The result has been that the board often found it difficult to obtain a quorum. Its duties, too, have been merely of a supervisory character in connection with examinations. It called a meeting, set a date for examinations, appointed outside parties to prepare examination papers forwarded these on their receipts, and passed upon by the appointed examiners forwarded the results to the Ministers of Mines. It is felt that much of this procedure is useless and besides has had the effect of leaving functions of vital importance in the hands of a few, it being impossible in many instances, as has been shown, for the men's representatives to be in attendance, at regularly called meetings. The proposal now is that the new board, shall be composed of three members only, one being the chief inspector of mines, as chairman, and two others to be appointed by the Minister, "one of whom shall be appointed as representing the coal owners and one as representing the coal miners." It will be the duty of this body, which will be small and by reason of that able to move easily from point to point if necessary, to conduct the examinations.

Conduct of Examinations.

The bill makes provision for another alteration in respect of the conduct of examinations of miners applying for certificates of competency. Under the Coal Mines Regulation Act as it stands most of the collieries have their own boards for this purpose, the membership of which consists of a secretary appointed by the Lieutenant-Governor-in-Council, a representative of the mine management and a representative of the men. This arrangement, it is pointed out, was satisfactory so long as there were only a few large operating mines in the province. Conditions, however, are changed. There are now a considerable number of small collieries, and, if each of these were given a board to which they are entitled under the Act, there might be almost as many members of examining boards as there are miners come up for examinations monthly. The situation at the moment is that there are small mines such as that at Telkwa, Northern British Columbia; Coalmont and Princeton in the Interior, and Granby and Nanoose on Vancouver Island which are without boards. Consequently miners applying for certificates to work in any of the latter mines must travel considerable distance, in many cases, to take their examinations. Telkwa miners, for instance, must come to Nanaimo; those of Coalmont to Merritt; and

those of Nanoose to Nanaimo. In other words, if the methods now in vogue were continued, it would be necessary to appoint at least five boards in addition to the nine now organized and some of these would have to be maintained in camps where the number of miners employed is exceedingly small. The board proposed to handle all examinations for miners' certificates of competency, will eliminate this cumbersome machinery. Its personnel will be fixed in the same way as that of the board of examiners for "managers of mines, overmen, shift bosses, shotlighters and mine surveyors, except that the inspector of mines, for the district in which the examination is held," will be the chairman instead of the chief inspector of mines. The other two will be named by the Minister of Mines, one as representing the operators and the other the men. The two latter will have jurisdiction throughout the province and will move from colliery to colliery at frequent intervals in order to facilitate the issuance of certificates to those who can show that they are properly qualified. This will have the effect of fixing a standard of knowledge for coal mines throughout British Columbia. It will obviate the present difficulty of too much board representation at one point and too little at another; and it will be an added convenience, both to the men and the management of collieries. Another improvement in this connection is that no man will be admitted to a mine to work as a coal miner for a temporary period, pending his examination, as is now allowed. If a man applied for work as a miner and an examination immediately is impracticable he must go before the inspector of mines of the district who, having satisfied himself of the man's qualification, will issue him a temporary certificate. In such cases, however, those affected must go before the regularly constituted board at the first opportunity. The position taken by Mr. Sloan here is that it is a manifest absurdity to allow an uncertificated man to assume the responsibilities of a miner for thirty days without his knowledge being tested, it being possible in that period for an incompetent person to endanger, not only his own life, but that of hundreds of others. ...

Besides such a system, it is considered, will facilitate the control of the practice, where it has been followed, of permitting aliens to work underground. This is a matter on which Mr. Sloan feels strongly and he is confident that, when it is necessary that every man going to work as a miner for any period, no matter how brief its duration, shall prove his qualifications the employment of this class will be effectively checked.

Duties of Fireboss.

A clear definition of the duties of a fireboss in a coal mine also is given by the amending measure, it being set out that "the district of a mine assigned to any fireman shall not be of such size as to prevent him from carrying out his inspection duties under this rule in a thorough manner." It has been a standing complaint on the part of men holding this position, and coal miners generally, that firebosses are handicapped in the faithful discharge of their responsible and important duties by being required, in addition, to attend to haulage, pumps, and various other matters with the result that often their duties at the working face have been neglected. It now is to be made law that this official shall "devote his whole time to his inspections duties," the exceptions being only "where the duties assigned to or undertaken by him in addition to his inspection duties are not such as prevent him carrying out his inspection duties in a thorough manner." It is laid down too that this "shall not prevent the fireman being employed in measuring the work done by persons in his district, or in firing shots in his district, nor shall this provision apply in respect of any mine in which the total number of persons employed underground at one time does not exceed thirty." It further is provided that "where any question arises as to whether any additional duties are such as to prevent a fireman carrying out his inspection duties in a thorough manner, the inspector of the district shall decide the question, and his decision shall be final."

Dangerous Gas.

One of the most vital of the amendments from the viewpoint of the mines and of the miners is that which states that, where the mine air in any working placing is found to contain from 2½ per cent. and upwards of inflammable gas it shall be deemed dangerous and the men forthwith withdrawn. The Coal Mines Regulation Act now reads that at any time that the air is found by the person for the time being in charge to be dangerous the miners shall be withdrawn. Thus, it is left to the individual judgment of one person to decide what is, or what is not the danger point. That is considered to be too indefinite and to leave too great responsibility on the shoulders of an official. Therefore, it is proposed, as has been done in Great Britain, to fix a definite withdrawal point. It may be said, incidentally, that the percentage named as that at which danger commences has been applied by the Department of mines, under agreement with the Crowsnest Pass Collieries, to the latter coal field for some time.

Safety Lamps.

Then comes the amendment which, it is thought, will mean the introduction of safety lamps in practically all the coal mines of the province. Such lamps, it is stated, shall be used, and none other, "in any mine where the air current in the return airway from any ventilating district in the mine is found normally to contain more than one-half of one per cent of inflammable gas." The wording then goes on to take in that of the Coal Mines Regulation Act as it now reads to the effect that such lamps must be used in every approach to any places where there is likely to be an accumulation of gas. The method to be adopted in fixing the percentage of inflammable gas in this case is the same as that already detailed.

In addition to this provision is made against any possibility of argument or misunderstanding as to how the percentage of gas in mine air is to be arrived at by the following sub-section: "The average percentage of inflammable gas found in six samples of air taken in the air-current in the return airway from the ventilating district at intervals of not less than two weeks shall, for the purpose of this section, be deemed to be the percentage of inflammable gas normally contained in the air current."

Care of Winding Ropes.

The provision that "every winding-rope shall be given a bath in hot oil before being installed; that every winding-rope shall be re-capped at intervals of not more than six months, and that no winding-rope which has been in use for more than two years or which has been spliced shall be used for raising or lowering persons" no doubt is the direct result of the lamentable accident of last September at Protection shaft, Western Fuel Company, Nanaimo, when a number of miners lost their lives through the breaking of a cable. The verdict of the Coroner's jury, it will be recalled, was that

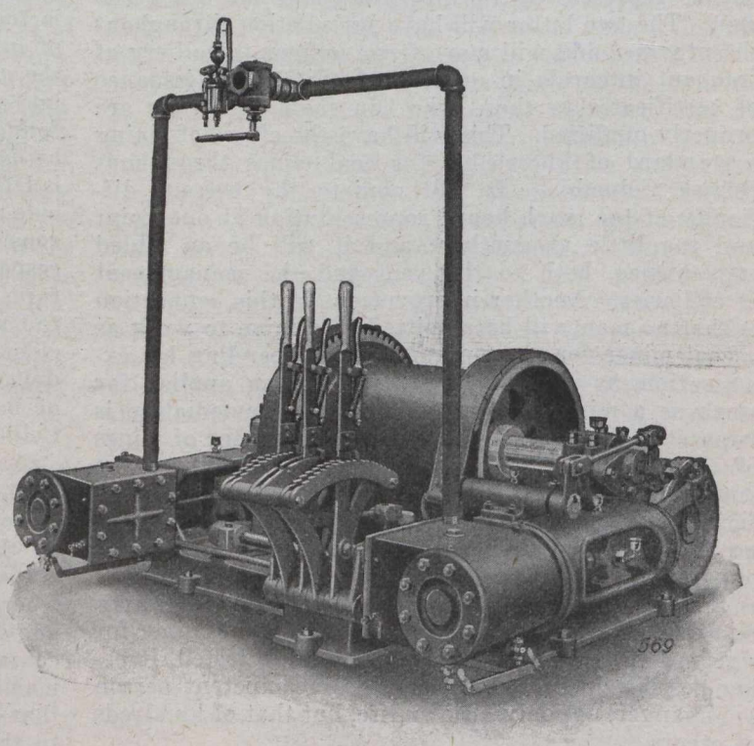
the evidence indicated that the cause of this break was internal corrosion, the primary cause of which was lack of lubrication. It is proposed, therefore, that no cable shall be without proper attention in this respect hereafter. Not only is this safeguard to be provided, but no cable is to be used for more than two years for raising or lowering persons. The question of the life of a steel cable is a matter which has been under discussion with no result for many years. Men of the highest technical qualifications have made investigation, but there is no fixed standard as to the life of such cables yet arrived at. In Great Britain they may be used for three years and six months, so that British Columbia is increasing what is considered an adequate margin of safety there by one and one-half years.

To try and prevent crystalization of chains it also is provided that "all cage-chains in general use shall be annealed once at least in every six months, and detaching hooks shall be cleansed and refitted once in every three months."

THE CIRCO HOISTING ENGINE.

The Canadian Ingersoll-Rand Company has recently re-designed its line of hoisting engines, taking advantage of its winch engine experience to incorporate in hoisting engine some of the features found to be of advantage in winch engine design.

One of the principal features borrowed from winch engine practice, and applied to the hoisting engine is the frame, having cylinders cast separately. With this construction, cylinders are now made interchangeable right and left, and one spare only need be carried for either side. The frame has been strengthened, and is neater and more compact than the older designs. Cylinders are provided with top and bottom exhaust; for steam drive either top or bottom is used as may be more convenient. Each cylinder is provided as usual with two drain valves; a little convenience that will be appreciated being a centrally located quadrant lever operating the four drain valves together.



As will be seen from the illustration the hoisting engine has bored guides; the advantages of this construction are numerous — crosshead guides are bored and end of frame faced at the same time, giving accurate alignment, stress is more evenly distributed, lubrication is easier, etc. Crossheads have adjustable shoes, piston rods are screwed into crossheads and secured by heavy check nuts. Conecting rods are of forged steel of the solid end type, eccentrics and eccentric rods of locomotive type, gear and pinion of semi-steel. The drum-shaft bearing and pillow-block are cast separately from the frame, the advantages of this type of construction being more accurate alignment and greater ease in lifting out the drum when necessary. The cranks are of the counterbalanced disc type, pressed on the shaft, discs being finished and pin holes bored after the discs are pressed on.

SAINT LOUIS FUR EXCHANGE BUYS DIRECT FROM TRAPPER.

Due to certain complaints being brought to the notice of the St. Louis Fur Exchange, 7th and Chestnut Streets, St. Louis, Missouri, U.S.A., of unsatisfactory grading of furs as made by some of the advertising fur houses of that market, where in January over ten million dollars worth of furs were sold, they are now also receiving shipments of furs from the trapper direct, and are recognized and registered under license P.B.F. 30 with the U. S. War Trade Board and all of the Collectors of Customs, thus insuring free passage of furs when addressed to them with the words, "Raw furs of Canadian Origin" on the package or shipping tag. Their advertisement appears on page 17.

TO ASK DOMINION GOVERNMENT.

At a meeting of Associated Boards of Trade of Eastern British Columbia, held at Revelstoke, B.C., the Nelson Board of Trade introduced the following resolution, which was endorsed by the Convention:

"That the Dominion Government be requested to erect and operate plants for testing and concentrating mineral ores."

This is a good movement to get behind and push.—F. E. Payson.

Trail, B.C.—New shippers this year to the Trail Smeltery are the B.C. Mine, of Eholt, with 60 tons and the Silver Standard of New Hazelton, with 80 tons.

Convention Exhibition

As will be seen from the following the public will have a chance to see some exhibits in connection with the Mining industry which have never been placed on exhibition in Vancouver before:

Apart from mining operators and those who are otherwise identified with mining, few persons have ever seen a flotation plant or a concentrator in actual operation. These two pieces of machinery will be on exhibition at the display of ores and other things in connection with the International Mining convention which will be held in Vancouver on March 17, 18 and 19 next. The exhibition, as has already been stated, will be in the basement of the Vancouver building which will be brilliantly illuminated and in which there are over 5,000 square feet of floor space.

Arrangements have been completed for the installation of these machines and delegates to the convention will be given the unique opportunity of seeing them at work on the three days that convention is sitting. Considerable expense is being incurred by the Chamber to make this display the most comprehensive and up-to-date that it is possible to do. Applications for the display of exhibits must be made to Mr. S. J. Crocker of the B. C. Equipment Company, Vancouver or to the Secretary of the Chamber of Mines.

While the list of exhibits is not ready yet, it can be said that everything essential to the mining industry will be on view. This will include specimens of ore from gold to iron, bars of pig-iron, samples of galens and every ore indigenous to British Columbia. In addition to the ores and machinery there will be a large display of trucks suitable for mining purposes. Inquiries that have been received would indicate that the exhibits will not be confined to B. C. though preference will be given to the local articles.

The chairman of the exhibition committee hopes to be in a position to give a complete list of the exhibits within a week or ten days, so that delegates coming from a distance will have an opportunity of becoming acquainted in a measure with what they are going to see when they arrive in Vancouver. It is sufficient to make this exhibition the success it is certain to be, and that nothing will be missing that will tend to place it in the front ranks of exhibitions, if not the premier position of similar displays in British Columbia or Canada for that matter.

We Are After Them. — They Are Coming.

The reports that are being received from the members of the committee who have undertaken extensive itineraries throughout various parts of the Province and down south are of most encouraging character. All of them point to the attendance being on an unprecedented scale, embracing representatives of some of the largest mining corporations in the United States and Eastern Canada as well as the most eminent engineers and geologists. Mining men from B. C. who have been as far south as California and have gone into Colorado and Montana have brought back reports to the effect that in every center they visited, British Columbia's International Mining Convention was the one theme of conversation among the mining men. It is clear therefore that the efforts that have been made to embrace as large an area of country as possible in the convention have met with unqualified success.

There Will Be a Programme Worth While.

Dr. Edwin T. Hodge, chairman of the programme committee, is busy arranging the details of the various sessions and the subjects that will be discussed. Dr. Hodge, who is one of the foremost geologists and mineralogists in British Columbia, is in close touch with the men best qualified to speak on the different topics that will be scheduled for consideration and is hopeful of securing the services of men whose names are household words in the mining world both in Canada and the United States. As a matter of fact from invitation which has been extended to these men to visit Vancouver in the third week of March and, combined with the fact that the six Government District engineers of B. C. will be on the list of speakers, it will be seen that the quality of the information will be of a very high order indeed.

The fact that the district engineers will give reports on their districts should possess an unusual attraction for the up-country and interior delegates, any of whom will be put into personal contact with those officials on request, so that, if necessary, they can secure information which may not be publicly given, concerning their claims or other claims in which they may have an interest. This is a matter which those delegates should not lose sight of and make their arrangements accordingly.

A new Bill introduced in the B. C. Legislature on February 20th by the Honorable William Sloane, Minister of Mines, contemplates the creation of a Board comprising the chief inspector of mines, a representative of the mine owners and one of the coal miners.

This board will have power to apportion the Province into minimum wage Districts, to fix the wage in each District and set various conditions. All board orders will be subject to the approval of the Minister.

The abolishment of the present Board of Examiners for Mine Officials is contemplated and a Board comprising the chief inspector of mines with representatives of men and owners who will deal with the examination, not only of the mine official, but also the working miners; examinations to be held every two months. It is said this provision is made to watch more closely the employment of aliens.

The duties of fire boss are more closely defined and the protection of mines is also dealt with in the new Bill. It is to be considered dangerous if a place in a mine is found to have more than two and a half percent. of inflammable gas. Every six months every cage chains must be annealed, every three months detaching hooks must be cleaned. A hot oil bath must be given the winding ropes before installation and must be recapped every three months and must not be used more than three years for the raising and lowering of persons.

The Bill had its first reading.

VISITORS TO THE CONVENTION.

The Canadian Mining Journal, Pacific Coast Branch, F. E. Payson, Pacific Coast Manager, 507 Board of Trade Building, wishes to extend to you a hearty invitation to make every use of our office.

You will find telephone, comfortable chairs, stationary and a stenographer and we want you to make yourselves right at home.

We are doing our part to make this Convention a great succes and we hope that you will make every use of our hospitality.

PREPARATIONS RAPIDLY CRYSTALLIZED FOR THE INTERNATIONAL MINING CONVENTION AT VANCOUVER.

On March the 17, 18, 19, there will be a real live International Mining Convention held in Vancouver. There will be present at the Convention Mining Engineers and Geologists of great prominence from both Canada and the United States. There is a bare possibility that Dean Frank H. Probert of the University of California will be present. Dean Probert is now looking over mines in France and Belgium, but if he returns in time his secretary writes that he will be glad to take part in the proceedings.

President A. M. Whiteside of the Chamber of Mines, has been to Spokane to arrange for the sending of a large delegation from that District and it is expected that the Spokane District will be well represented.

The Committee in charge of the arrangements for the Convention are as follows: Advisory council, A. M. Whiteside, N. Thompson, E. T. Hodge, J. M. Lay and H. P. McCraney, Programme, E. T. Hodge, Ald. Woodside, H. P. McCraney, W. E. Bland and H. A. Turner. Exhibition, S. J. Crocker, R. H. Stewart, G. W. Pettapiece, E. T. Hodge and T. H. Crosby. Entertainment, A. Erskin Smith. Trip, I. Thomas, S. W. Miller and G. S. Craddock. Transportation, B. G. Hawkins and G. S. Eldridge. Publicity director, T. J. McIlveen. Resolutions, A. M. Whiteside, J. M. Turnbull, C. K. Campbell, Jas. Anderson (Kaslo), J. J. Warren (Trail), G. W. Wooster (Granby), and J. W. D. Moody (Britannia). Co-operation, A. M. Whiteside, Sidney (Spokane), Editor Alaska Mining Journal (Seattle), F. Starkey (Nelson), T. K. Rickard (San Francisco), and R. P. Whittaker (Denver).

VANCOUVER B. C. THE MECCA.

Seattle men are coming to the Convention about one hundred and fifty strong. President Sazullo of the University of Washington will be here. Any mining man that can get to Vancouver for March 17, 18, 19 and does not do so will miss something worth while.

Come if you can and get in touch with the big men in the mining world.

THE PAS RECORDING OFFICE.

(From "The Pas Herald.")

The Pas, Feb. 15.—The following is a copy of the wire sent to Hon. Arthur Meighen by ex-Governor Charles R. Miller of Delaware, and vice-president of the Mandy Mining company. The wire is self-explanatory:

572 Bullitt Building,
Philadelphia, Pa., Feb. 3, 1919.

Hon. Arthur Meighen, Minister of the Interior, Dominion of Canada, Ottawa, Ontario, Canada:

We are advised of contemplated removal of mining recording office from The Pas to Dauphin, Manitoba. As The Pas is situated at the extreme southern limit of mining territory in Manitoba, removing this office to Dauphin would place it three hundred miles still further away from the mining to a section where there is absolutely no possibility of mining. This would impose delays in recording, great increase in travelling expenses, and serious inconvenience. We, therefore, most respectfully and earnestly request that the office be permitted to remain located at The Pas.

MANDY MINING COMPANY,
CHAS. R. MILLER,
Vice-President.

Mayor Finger and President Jacobsen sent a joint wire to Mr. Meighen in reply to his letter, received on Saturday last, wherein he says that a sub-agency at The Pas will prove very satisfactory, because it will have direct communication with the department. This joint wire was vigorously worded, and emphasized the absolute necessity of leaving the mining books here.

Mr. Meighen's letter to the Mayor reads:

Ottawa, Ontario,
Feb. 3rd, 1919.

Dear Mayor Finger:

Your telegram has just reached me regarding the agency of Dominion Lands at The Pas.

While the agency office at The Pas is being discontinued, it is not my intention to close up the office altogether. It will be in the future a sub-agency, and the sub-agent will be the medium of approach to the department, with the result that the people of that district will not be very greatly handicapped.

I might state that the closing of many of the agency offices in Western Canada was only done after careful consideration of the matter, and on the recommendations of the officers of the department from whom reports were received.

I feel confident that, in view of what has occurred in other districts similarly affected, the people will, before long, be quite satisfied with the action taken.

Yours very truly,
ARTHUR MEIGHEN.

The Pas, February 8th, 1919.

Hon. Arthur Meighen, Minister of the Interior, Ottawa:

Sir,—Your letter of the 3rd inst. We again protest against closing of agency of public lands at The Pas. The whole population of New Manitoba consider such action as a rank injustice to the district, as seriously detrimental to the development of the rich mineral resources. A sub-agency will not serve the prospector. He cannot afford to travel 600 miles whenever necessary to examine record. Your action in closing the office is reactionary in the highest degree. It will mean no development here, and is in direct contradiction of the government's avowed policy of reconstruction.

O. H. FINGER,
Mayor of The Pas.
J. P. JACOBSEN,
President of the Board of Trade.

Nelson, B.C., Ore Testing Plant for British Columbia.

That an effort will be made at the forthcoming session of the Dominion House of Commons to induce the Government to vote a sufficient sum to enable the establishment in British Columbia of an ore testing plant was announced by R. F. Green, M.P., for Nelson, B.C., at a meeting held in the latter city before he left for the Capital. He said that he was convinced of the need for such a plant, and he believed that it should be established at or near Nelson because, in his opinion, the Kootenays were the chief mining districts of the Province. Whether he would be able to convince the authorities on the latter point, however, was a question. The argument used in favor of Vancouver was that it could be reached by both rail and water and that, therefore, from the transportation point of view a plant in that city or in the adjacent district would best serve the whole of the Province. Mr. Green asked the support of Kootenay mining men in the effort to secure the plant for that part of British Columbia.

Special Correspondence

NORTHERN ONTARIO.

Porcupine V. N. T. Development Program.

Announcement has just been made that arrangements were recently completed for the carrying out of the development program outlined just prior to the outbreak of war, and which have been held in abeyance since that time, on the Porcupine V. N. T. Property. The company was formed by the amalgamation of the Porcupine Vipond and North Thompson, each of which had a capitalization of one and a half million shares of par value of one dollar per share. After the transfer of the old stock issue was made, approximately 750,000 shares of the capital stock of the company remained in the treasury. The development plans of the company included the sinking of the main shaft at the mine from its present depth of 600-ft. to 800-ft., with provision being made for the continuing of this working to a depth of 1,000 ft. Enlargement of the present 100-ton mill was also under consideration and plans have been prepared for increasing the capacity of the milling plant to 300 tons per day. The site chosen for the new mill is on the North Thompson side of the property. The average grade of the ore developed in the mine has shown a tendency to increase as depth is attained and, it is estimated, the ore so far blocked out will average around $10 per ton. The vein at the 600-ft. level was found to have a width of about twenty feet in places and some of the richest ore in the mine has been obtained at this level. The property is bounded on the north by the Hollinger and on the west by the Porcupine Crown mine. The outlook for the future of the mine is exceedingly bright.

Another 40 Stamps at Hollinger.

A striking example of the speeding up of operations in the production of gold in the Porcupine camp is the fact that on the first of March the Hollinger-Consolidated mining company added another forty stamps to the already large battery of ore crushers. Each stamp crushes fifteen and a half tons of ore every twenty-four hours, thus the capacity of the plant will be increased by about 620 tons per day. During 1918 the mill treated 1,900 tons daily while only running at 64 per cent. of the possible running time. It is estimated that with the pressing into use of the additional forty stamps the output of the mine will be increased about $170,000 per month. Large additional working forces are being taken on at the property and an extensive resumption of development work at the lower levels of the mine is said to be contemplated for the near future. Among other additions scheduled to be made to the plant is the installation of a 1,000 horse-power hoist and an additional 9,000-ft. compressor. During the year 1918, in spite of the great shortage of labor and high costs of production, the Hollinger-Consolidated turned out about $6,000,000 in gold bullion and developed upwards of six and a half million dollars worth of new ore, thus increasing the ore reserves by the end of the year by upwards of half a million dollars. Thus with operations making rapid headway to soon exceed the pre-war rate, it is probable the current year's production will greatly exceed that of any other similar period in the history of the great mine. It is freely predicted that many surprises are in store for the shareholders of the premier gold mine of the Dominion.

Dome.

According to late information regarding Dome Mines, it is planned to resume operations early in April, however, operations at full capacity will not be under way until the middle of May. A number of new men are being taken on at the property and underground development work on a fairly extensive scale is being proceeded with underground, being centralized in the connecting of the eight hundred and seven hundred foot levels. The financial situation of the company may be summarized as follows: — At the close of 1917 the company had a surplus of $531,948. At the end of October, 1918, the surplus was given as $265,-018, thus showing a decrease of $266,930 for the ten months. This decrease in the cash reserve was caused by the large amount of development work carried out during the period in which the mill has remained closed. It is thought the present cash surplus will be sufficient to carry the company over until the mill is again in full operations.

Silver Alliance.

The syndicate now in control of the Silver Alliance property, near Elk Lake is installing a steam plant, and it is expected mining operations will be under way in the next two weeks. A small shaft has been sunk on a vein uncovered some time ago and drifting will be proceeded with as soon as possible.

Will Improve Gowganda Road.

The Ontario Provincial Government has officially announced its intention of improving the Gowganda road, as soon as weather conditions will permit. The work will be taken up from the point where it was left off last fall, and the plans call for the expenditure of a considerable sum.

T. & N. O. Extensions.

It is reported the situation regarding the Kirkland Lake district is also being inquired into by the Government. It is stated in well-informed circles that there is a strong probability of an extension of the T. & N. O. being built this summer from Swastika to the centre of activity at Kirkland Lake, a distance of about five miles.

At the same time announcement is forthcoming to the effect that the T. & N. O. railway will push the Porcupine branch through to Mattagami Heights on the Mattagami river, at which point the Commission will construct a dock and storehouses. A steel bridge is being built over the river at the point, which will provide through traffic from Timmins to the township of Mount Joy, and the splendid country beyond.

The Government will also proceed with the construction of a roadway from the Boston Creek station to the centre of activity in the district. The Boston Creek district appears to be in line for extensive new activities during the coming spring and summer months, and the properties in an advanced stage of development are more than meeting the expectations of their interested owners.

Alexo.

During the third week in February the Alexo Mining company shipped 400,000 pounds of nickel ore. This brings the shipments for the month of February up to 1,080,000 pounds and with another week to go, it is expected the month's record will be big.

Miller-Independence.

The plans of development of the Miller-Independence property the main operation of the Boston camp to date has undergone a considerable change during the past week or ten days. In place of continuing the in-

cline shaft to a depth of 500-ft. it has been arranged to sink the central shaft some distance south of the vein. This shaft will be driven vertically to a depth of 550 or 600 ft., at which point it should encounter the vein, which is dipping at an angle of between fifty and sixty degrees. At a depth of 300-ft. a station will be cut and a crosscut driven north to the ore body, while at the 600-ft. level the vein will probably have dipped sufficiently to necessitate a crosscut to the south, later on as the shaft attains greater depth cross-cutting will be carried on to tap the vein at the various levels. Sinking operations on the new central shaft were commenced to-day, and it is expected rapid headway will be made with the working.

Diamond Drilling Cotter Property.

The official figures given out on the results of diamond drilling on the Cotter property at Boston Creek, show that in a hole driven a distance of about 720-ft., dipping in an angle to the north, an orebody measuring over twenty-eight feet in width was cut at a vertical depth of 492 feet. The average gold content of vein matte amounted to $12.40 per ton. It is firmly believed this orebody is the eastward continuation of the main vein of the Miller-Independence property, and very strongly indicates that the orebody is increasing in width as depth is attained.

Boston Creek Properties Sold.

Two important mining deals were closed this week in the Boston Creek district. The McCrea-O'Neil property and the Charlebois-Authier were the ones figuring in the deals. The former property was sold for cash, the full purchase price being paid this week through the Royal Bank at Haileybury. The vendor retains a small interest in the property. A substantial cash payment was made on the Charlebois-Authier.

The McCrea-O'Neil property adjoins the Miller-Independence on the northwest. The Charlebois-Authier property adjoins the Cullen-Renaud on the North, lying between the latter property and the Boston Gold Leaf mine.

Working forces are being engaged at once and the erection of camp buildings will be completed before the spring arrives, which will be followed by an aggressive campaign of development. The purchasers of both properties George Morris of Allan and Morris, Building Contractors of Buffalo. It is also understood that E. L. Wettalufer of Buffalo is associated with the purchasers.

Canadian Kirkland.

A small steam plant is being taken in to the Canadian Kirkland Gold Mines property, preparatory to the commencement of more extensive development work. Owing to the death of Mr. George E. Drummond of Montreal, the date of commencing mining operations has been temporarily deferred, but the delay is expected to be of short duration. An interesting feature in connection with the Canadian Kirkland property is the fact that where commercial ore has been developed, the ore has been found to contain greater values in silver than in gold. While each of the mines in Kirkland Lake camp produce a good deal of silver, sometimes amounting to as much as ten per cent., there appears to be no other instance on record in the camp where such a high percentage of silver is contained in the ore.

Adanac.

The Adanac Mining company has just completed the shipment of another 100 tons of ore to the Dominion Reduction plant at Cobalt for treatment, this shipment is just double the size of the one recently made. As the ore was broken a good deal of high grade was bagged and the shipment just made is expected to be of a medium grade, the former shipment of very similar ore having averaged close to $50 per ton. The high grade bagged, of which there was a considerable quantity will be disposed of later. In the meantime the ore deposition is being found to be more extensive than was at first supposed and as stopping operations are continued it is becoming more and more apparent that a big future is opening up for the Adanac.

BRITISH COLUMBIA.

The Vancouver Convention.

Dean Frank H. Probert, of the University of California, is mentioned as likely to be one of the distinguished visitors to Vancouver, B.C., on the occasion of the International Mining Convention which takes place from the 17th to the 19th of March next. Dean Probert now is making a tour of the devastated areas of France and Belgium and, if he is back in time, will be among the delegates to this Province from the United States. His reputation as a mining authority and the information he will have obtained of conditions in Europe with reference to the problems that must be faced in regard to reconstruction are two reasons why his attendance is most earnestly sought. Burr Evans, of Placerville, Cal., also has consented to be present. He has stated in a letter to the Convention management that "it is just such Conventions as these that assist the ancient and honorable industry of mining." D. M. Riordan, of San Francisco, Cal., says that he will attend if it is at all possible and, in fact, the word, generally speaking, from California, Oregon and Washington is, that representative mining men of these States intend making a point of coming to the Vancouver Convention in force. Mr. A. M. Whiteside, chairman of the B. C. Chamber of Mines, has returned from a trip to Spokane, Wn., and reports that the Convention to have been held at that city has been called off in order that the mining fraternity of that district, as well of all the neighboring states, may throw their considerable influence into making the Conventions of Vancouver and of Nelson, B.C., a success. John D. Kearns, one of the management committee, has left for California in order to get in personal touch with the mining men of the South and of the Northwest, to the end that strong delegations may be assured and also to arrange for mineral exhibits. Nichol Thompson, another member of the committee, is going North to see that a representative assortment of exhibits are sent from Northern British Columbia districts and to enlist the support of those connected with the mining industry in those sections. In the Provincial Interior H. P. McCraney is engaged on the same business. Approximately five thousand feet of floor space is being devoted to exhibition uses. The intention is that the exhibits shall include samples of every species of British Columbia ore as well as of as complete a display of machinery incidental to mining as possible.

Ask British Columbia Government to Develop Water Power.

The effort to secure the establishment of an iron and steel industry in British Columbia has been stimulated by the report of Dr. Alfred Stansfield, of McGill University, on the feasibility of electrically treating the

magnetite ores of the Province. It has been pointed out by the members of the Legislative Assembly, as well as by local organizations formed solely for the purpose of bringing about the foundation of the industry, that the one difficulty in the way is the securing of an adequate supply of power at a rate that will make the economic treatment of the ores practicable. The answer to this is that British Columbia has plenty of water power, and that some of it should be reserved by the Government without loss of time pending the obtaining of sufficient financial backing to permit the harnessing of some of it.

This is the sum and substance of a resolution recently passed by what is known as the Victoria Re-Construction Group of the Board of Trade and the Central Iron Committee, and which follows:

"Whereas the greatest handicap in the securing of new industries for the Province of British Columbia is the difficulty of obtaining adequate power at reasonable cost;

"And whereas in the Province of British Columbia are water power capable of development for the purpose of electrical energy;

"And whereas the development and control of water powers in the Province of Ontario has been a great financial success;

"Therefore be it resolved by this joint meeting of the Victoria Reconstruction Group and the Central Iron Committee that the Government be asked to immediately place reserves upon some of the existing water powers in the Province and that they take steps for the immediate development of at least one of these water powers, having in view the absolute necessity for cheap electrical power, if a great iron and steel industry is to be developed in this Province."

The matter of providing for the development of the ore is dealt with in the following resolution:

"Whereas the Government of the Province of British Columbia has passed an Act granting a bounty upon pig iron manufactured in the Province from ores produced in said Province;

"And whereas most of the iron deposits are held in the hands of private owners, many of whom are unwilling, or owing to financial conditions, are unable to develop the same;

"And whereas it is essential in order to get an iron industry established that an adequate supply of ore should be obtainable on a reasonable basis so as to prevent the failure of such plants or plant on account of shortage of ore;

Therefore be it resolved by this joint meeting of the Victoria Re-construction Group and the Central Iron Committe, that the Government of the Province of British Columbia be asked to take measures at the present session of the Legislature to assure an adequate supply of ore to any iron plants that may be established and to take power to enter into mines and to remove iron ore from any claim in the Province, safeguarding the owners of such claims by payment of an adequate per ton royalty and further safeguarding them against the possibilities of labor liens or other indebtedness not contracted by the said owners."

Hon. Wm. Sloan, Minister of Mines, is giving the matters thus dealt with his consideration and also is giving attention to other representations made with a view to facilitating the early inauguration of the iron industry in the Northwest.

Exemption from Regulations.

"An Act to Amend the Allied Forces Exemption Act" has been presented to the British Columbia Legislature by Hon. Wm. Sloan, Minister of Mines. It provides for a further extension of the privileges of exemption from certain of the mining regulations of the Province, to members of the allied forces. Protection under the present Act is furnished soldiers and sailors who are with the colors "during the continuance of the present war and for a period of six months thereafter." The amendment the Minister proposes will change this to read "until the 31st day of March, 1920." The reason for this is simple. If a formal peace treaty were to be signed in April or May, protection to mining men of the Province would continue only until the month of October or November following. It would be impossible to extend the provisions of the Act then because the legislature does not meet until the next January and February. Thus it might be that many cases would develop where men, properly entitled to exemption, would not be returned to civil life in time to take up their mining obligations and it would be outside the power of the Government, without the endorsation of the Legislature, to provide the necessary relief. The further extension, therefore, is proposed with a view to anticipating any such possibility. It may be said by way of explanation that the Allied Forces Act of British Columbia applies to any person who, since August 1914, has joined for service in the present war, whether by voluntary enlistment or through being mobilized; it provides that the man's Free Miner's License, the legal rock upon which all his mining holdings stand, shall be continued in force; that the soldier's assessment work on any claims he may possess shall be deemed to have been done; and that it provides for the laying over of Placer Mining Claims and Placer Mining Leases or interests therein held by members of the Allied Forces, In short, it stipulates that there shall be a general suspension of the ordinary mining regulations insofar as the interests of men who left to fight the battles of the country are concerned.

Ainsworth and Slocan. — The Standard Mine is maintaining about 25 men on development. The Standard Mill is operating on one shift basis and is handling ore from the Echo Mine. The Silver Bell Mine situated on the south fork of Kaslo Creek has made an initial shipment of high grade ore. Reports from the Silversmith Mine, Sandon, are that the ore, which gave signs of pinching out, is showing up again and prospects are brighter. The concentrating plant at Alamo, which has been re-built by Clarence Cunningham, is expected to be ready for operation by the 1st of March. Development proceeds on the Wakefield Mine above Silverton, recently acquired by Mr. Cunningham. Some high grade galena is said to have been shown up, and a shipment of one car of ore has been made. Armstrong & Casey, who have a lease on the Galena Farm Mine, have developed some good ore and the intention is to re-open the mill as soon as it is overhauled and water becomes available. F. R. Wolfe, president of the Florence Silver Mining Co., recently paid one of his regular visits to the Florence Mine, Princess Creek. He is quoted as saying that the future of the property commercially depends altogether on the price of lead. The values of the ore are almost entirely lead, but if the price remains as it is, notwithstanding that it is very low in comparison with production costs, he thinks

there will be no difficulty in maintaining operations, production and dividends. Any further drop, however, would mean a curtailment in production. The re-built Ivanhoe Mill, which has been steadily operated for some time by the Rosebery-Surprise Mining Co., has been closed and the mill at Rosebery will be used for concentration of the ores of both the Bosun and Surprise properties. About three cars a month are being taken from the Bosun, but this apparently is not sufficient to keep the Rosebery mill going. There is not a large tonnage of milling ore at the Ivanhoe Mine at present and considerable development must be done on both the Canadian and Odams groups before regular shipments may be looked for from these sources.

NEW BRUNSWICK COAL MINES CLOSED.

Fredericton, February 21.—Practically all the coal mines in the Grand Lake mining field have been closed because of the unsatisfactory condition of the coal market.

Some 500 or more men have been thrown out of work in the vicinity of Minto alone, and the only mines that are now running are those of the Minto Coal Company.

All that keeps the Minto Coal Company's mines in operation is the fact that the company has large contracts with the Canadian Pacific Railway. The Provincial Government has asked the Federal Labor Department to arrange to have the output of other mines used on the Canadian National Railways in order to make it possible for them to operate.

COST OF COAL ON PACIFIC COAST.

Interrogated in the British Columbia Legislature as to the reason for what was alleged to be the excessive price of coal on the Pacific Coast, and particularly in this Province, Hon. Wm. Sloan, Minister of Mines, retorted a few days ago that, while the cost of coal in the Canadian West might be higher now than in past years, it had become so for reasons over which the Provincial Government had no control. Production charges had risen, and the collieries, he understood, had been forced to advance prices in order to avoid making a loss on their operations. The Provincial Government, however, have no jurisdiction in the matter. Prices to the consumer was a matter which the Dominion Government, through the Fuel Control Department, had dealt with during the War, and, as a result of an investigation into the affairs of the collieries of Vancouver Island, the latter had been given authority, in all save one case, to increase their selling rates in order that they might obtain that reasonable profit to which the investment represented by their plants entitled them. Even as conditions were, however, British Columbians and residents of the Pacific Coast generally were not badly off when quotations from other countries were considered, and in elaborating this point Mr. Sloan quoted some interesting comparative figures which follow:

Grade.	Vancouver Island.	Newcastle on Tyne.	Seaham England.	Cardiff, Wales.	Fife, Scotland.	Cumberland, England.	Dublin, Ireland.	Belfast, Ireland.
Domestic lump, best	$7.16	$20.85	$21.87	$7.98	$19.44	$7.91	$18.75	$13.44
Do., nut, second	5.40	15.80	18.22	7.74	8.50	6.82	12.96	13.20
Steam bunker, lump	7.20	24.30	21.87	9.72	19.44	7.91	....	....
Do., nut	5.97	17.58	19.44	9.32	9.18	....	....	....

BRITISH COLUMBIA COAL PRODUCTION.

The total coal production of the coal mines of British Columbia for the month of January, 1919, was 243,516 tons, which represents an increase of 31,509 tons over the production of the month of December, 1918. There was a drop in output tonnage at the Corbin (B.C.) Colliery, and Princeton (B.C.), Collieries, which was due in the former case to weather conditions, and in the latter to a fire in the mine. The loss would amount to approximately 3,000 tons.

The tonnages produced by districts follows:

	tons.
Vancouver Island	158,327
Crow's Nest Pass	72,128
Nicola-Princeton	12,811
Northern (estimated)	250
	243,516

The tonnages produced by the various collieries are as follows:—

Crow's Nest Pass.

	tons.
Coal Creek Colliery	43,335
Michel Colliery	23,839
Corbin Colliery	4,954
	72,128

Nicola-Princeton .

	tons.
Middlesboro Collieries	7,305
Fleming Coal Company	4,098
Princeton Colliery	983
Coalmont Colliery	425
	12,811
Telkwa, estimated	250

Vancouver Island.

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

Grand Forks, B.C.—The aerial tramway, being built from the Rock Candy group (fluorspar), to the spur extension of the Kettle Valley Railway, is almost completed. When it is finished, and the last spike is driven on the railway branch, the transportation of the products of this property, which is being developed by the Consolidated Mining & Smelting Company of Canada, will be materially facilitated.

Use of Cripples in Industry

By JAMES P. MUNROE.*

(A paper presented at New York Meeting, American Institute of Mining Engineers, February, 1919.)

Appalling as has been the loss of life in the last 51 months, there is one slight compensation: no longer will there be in the world a cripple, in the old meaning of the term. Men handicapped by wounds or disease, there will be, unfortunately, and in numbers beyond what the world has known since the wars of Napoleon; but neither they nor the industries from which they were called off to war will be "crippled" in the sense in which both would have been had mankind not learned the lesson of conservation and come to understand that the most important field for such conservation is not in the forests and the mines but among men and women.

From the beginning of the Great War, France, Great Britain, Belgium and most of the other Allies have studied the problem of restoring the soldiers and sailors injured through war to physical and economic efficiency; and from their experiences, especially from that of Canada, the United States has learned much. Consequently, our task of preparing for the return of our disabled men has been easier and, in some ways, more comprehensive than theirs. Complex as are the details of the machinery which the United States has set in motion to take care of the men injured by wounds or disease, the plan itself is simple. Taught by European experience, the Surgeon-General of the Army and the Bureau of Medicine and Surgery of the Navy have provided, on both sides of the Atlantic, every known surgical and medical facility for restoring the injured or diseased man to a physical condition as nearly normal as possible. While in the hospital in France or England, on the transport coming to America, and in the hospital here, the disabled man is incited in every way to believe in his future efficiency, to want to be a normal worker, to desire to retake his place in that society of workers from which he went, temporarily, to do the greater work of preserving civilization. Furthermore, since purposeful occupation is now regarded as an essential form of treatment with most men in the hospital, especially in the convalescing stage, many of these men will have been actually started on the road to earning before they are discharged from the army surgeon's care.

As soon as it is decided that a patient is ready for discharge from the hospital—and, now that hostilities have ceased, from the Army and Navy itself—his case is certified to two bodies: the War Risk Insurance Bureau, which is to determine the amount, if any, of his compensation under the War Risk Act, and the Federal Board for Vocational Education, which stands ready to help him to get back into employment and, if he needs it, to secure a preliminary training that will enable him to make the most of himself, under the conditions of his handicap, in that employment.

The Federal Board has no authority over the man thus placed under its care; it is for him to decide whether or not he wishes to avail himself of the help that the Federal Government thus offers. But if he chooses to use the facilities tendered by the Board, there is almost no limit, within reason, to what that organization may undertake for him. Its simplest task is, of course, to assist him in getting back into his old employment; but if he has ambition to get something better or if it is apparent that, by training, he can be more efficient in what he did before, the Board has authority to give him, at Government expense, as much education as, in its opinion, it is worth while for him to have. Every endeavor will be made to train the disabled man so that not only may his handicap be overcome, but that he may be carried, through an education perhaps denied to him before going to war, to a plane of efficiency which, without this opportunity, he could not have reached. Experience in other countries has shown that, in many instances, the disabled man is, after training and despite his handicap, a much more effective man than he was before the war.

While the disabled soldier or sailor is under no compulsion to take training, there are certain incentives, besides that of ambition, which the Government puts before him. If he desires to be trained and the Federal Board believes that he will profit by it, he is so certified to the War Risk Insurance Bureau, which at once classes him as entitled, during training, to the compensation provided for cases of temporary total disability, and, during the period of training, makes specified allotments to his dependents, should he have them. If he does not pursue the course of training with due diligence, these extra compensations, on representation of the Federal Board, may be withdrawn.

Training will be carried on in public and private schools and colleges and in industrial plants under contracts made between them and the Federal Board. The period of training will be determined to meet the needs of each case, but in every instance the disabled man is to be regarded as a special problem and the instructional work given him will be fitted to his needs. It will be attempted, as far as possible, to obtain for him a position in advance of his being ready for it, so that his training may be focused upon a specific goal. Should it prove, after employment, that his choice was unwise, the Board has authority to give him further training along that, or some new line. Moreover, after placement, whether with or without training, the Board will keep closely in touch with the man until it feels certain that he is firmly established in his industrial, commercial, or professional life.

To carry out the duty placed on it by Congress, the Federal Board has established, or is establishing, headquarters in Washington and thirteen of the other leading cities of the country. As far as possible, the disabled man will be placed and trained in his own State and locality. Every effort will be made to put him into occupations that are growing, and so to train him that, when hard times come and the fervor of patriotism has passed, he will be retained, not because he is a former soldier or sailor but because he is a workman necessary to the work. Care will be taken, moreover, that he is not exploited and that he is not used as an instrument to disturb the labor situation. The complicated problems that might arise, in many States, in connection with employer's liability laws will not come up, since the number of disabled men is happily much less than it seemed probable that the United States would have.

*Vice-chairman, Federal Board for Vocational Education.

The comparative smallness of the problem in the case of men injured in the pursuit of war serves but to emphasize the greatness of the number of men and women injured every year in the pursuit of the activities of peace. By the hundreds of thousands they meet with accident and injury in every degree and form. Heretofore, most of these injured persons, so far as their economic usefulness is concerned, have been thrown on the scrap-heap of society, with anguish to themselves and their relatives, with incalculable loss to the community. The war has taught us that this waste is needless and wrong; and if a bill now before the Congress becomes law, the Federal Board will be charged with providing, in co-operation with the several States, facilities for training and retraining these victims of industry along the same general lines as those followed with the victims of war. The task will be far greater than in the case of the disabled soldiers and sailors; it will not be, as with them, a comparatively temporary responsibility. It will go on forever, as long as there are machines, carelessness, and the inevitable lapses in human minds and senses, and the problem will have many complications that do not arise with those disabled in war. But the effects of rehabilitation in the field of industry will be as much broader in their final results as the scope of the permanent and normal arts of peace is greater than that of the temporary and abnormal art of war.

Employment of Mine Labour

By HERBERT M. WILSON.*

(A paper presented at New York Meeting, American Institute of Mining Engineers, February, 1919.)

This topic was discussed at the meeting in St. Louis in September, 1917, and at the meeting in New York in February last, but in the interval the war has accentuated in measurable degree the necessity for considering human relationship, not only as between nations, or in the treatment of our returning soldiers, but with respect to the relations between labor and capital in industry. It is my firm conviction that no other subject will have so large a place in industrial and political life during the next decade as this.

Heretofore the employer has been so engrossed with the financial, mechanical, and technical aspects of his business that he has been willing to muddle through his relations with labor as best he might, and, on the other hand, the laborer has been so engrossed in his endeavors to secure a livelihood under whatever living and working conditions might be offered him that he has given little thought to his relations to his employer, until some misunderstanding has ended in disagreement and strike. No thinking man doubts that were the machinery available for friendly, personal, face-to-face consideration of the problems confronting employer and employee, there would be fewer disagreements, fewer strikes, and a better and more settled industrial situation.

The necessity for some such medium for exchange of views has resulted in the organiaztion of labor and, in some measure, of capital. Each party, engrossed only in defending its own viewpoint, has generally tried to gain its point by might rather than by right. Gradually, however, the representatives of both elements are beginning to appreciate that when the machinery for bringing them together in friendly communication is available their differences frequently settle themselves. There remain yet vast numbers of employers and of employees who are not organized and to whom the opportunity of friendly discussion of differences is not available; for these the machinery should be provided.

The subject, Employment of Labor, in so far as it applies to mine labor, may be considered under two headings: method of employment of labor and method of retention of labor. The method of treating each of these divisions of the subject will depend on the size of the mining operation. The method of employment for a large operation may be by the maintenance of a separate employment department; for small mines, there may be no employment department or organized method of employment. The method of retention of labor will be affected by the size of the operation, the conditions of employment, as to its possible future permanency, the opportunity for promotion, and the general working and living conditions.

Employment by a large mining operation through a separate employment department should be governed by definite rules and methods. The hiring of labor should be governed by classification, a personal method of interview, and by consideration of the appropriate working place, and other conditions that will affect the prospective employee. The employment and the retention of labor are affected not only by question of wages and chance of promotion, but by the conditions surrounding the work and the working place, and those connected with living opportunities. No aspect of the method of retention of the right kind of employee is more important than that which concerns the living and recreational opportunities offered near the place of employment. These have been generally treated under the titles of Safety Work and Welfare Work; the first deals with the place and conditions of the employment, and the latter with the place and conditions of living. A better knowledge of the effect of these considerations on labor and employment has convinced, without exception, every one of those employers and employees who have had personal experiencs in such matters that an improved condition of safety adds to the efficiency of a mine operation and to the comfort and well-being of the miner; and that good living conditions, including housing and educational and recreational facilities, add in equal measure to the efficiency of the mine operation and to the comfort and well-being of the miner. Both of these so-called activities tend to reduce the cost of production, to increase the earning capacity of the employees, and to make for the more permanent retention of labor, and consequently the preservation of a higher grade of labor.

I will not elaborate now on the effect of safe prac-

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*Director of the Department of Inspection and Safety of the Associated Companies.

tices in mining on labor employment,[1] nor on the effect of welfare work on labor employment,[2] as my views on these subjects have been given in previous meetings. Other subjects connected with the main topic of labor employment, which I hope will be discussed by those better informed respecting their details, are the methods of separation, their effect on the reduction of labor turnover, and the necessity and wisdom of medical and health examinations both at the time of and during employment, and the relation of this latter inquiry to workmen's compensation costs, which latter subject I have presented in detail before your Section of the International Engineering Congress in San Francisco in 1915.

The question of separation is often one of the most difficult and most full of opportunity for misunderstanding. When either the business conditions or the personality of the employee may require his dismissal, it is necessary to decide how this shall be done in such manner as to make clear not only to the employee but to his associates that his separation is necessary. A common method is by a brusque notice of discharge; a better way would be by giving notice of one or more weeks prior to compulsory dismissal or by a personal interview with an opportunity for voluntary withdrawal within a fixed time.

A great deal of important and constructive work has been done toward the solution of the employment problem by a hundred of the larger mining corporations scattered from the Atlantic to the Pacific, notable among which are the mining subsidiaries of the United States Steel Corporation, the Republic Iron &

[1]Trans. (1917) **57**, 557. [2]Trans, (1918), **59**, 652.

Steel Co., Nevada Consolidated Copper Co., Utah Copper Co., Cleveland Cliffs Iron Mining Co., New Jersey Zinc Co., and the Ellsworth Collieries Co. In like manner, among the smaller independent mining operations, there are many that are successfully handling this problem through the personal interest of the owner in the well-being of his employees. In this latter case the problem takes on the older paternal aspect of the subject, wherein the owner lives at his mining operation among his employees and takes a personal interest in them and in their family affairs, thereby securing to them better living and working conditions, and engendering a better spirit of friendly co-operation.

The most pretentious, and I think the most successful, recent effort to solve this problem is that begun three years ago under the personal direction of John D. Rockefeller, Jr., after the labor troubles of the Colorado Fuel & Iron Co. This effort is known as the Colorado Industrial Plan, and its success as a means of bringing about better relations between employer and employees and in securing more permanent and better labor employment conditions, appears to be amply testified to by the results of the past three years of successful operation. It is a striking example of the value of personal friendly conference, through the agency of a permanent establishment for the settlement of employees' troubles. In substance, it consists of a representative committee, selected by the miners and the owners, that meets at regular intervals to hear and inquire into the complaints of employees and the differences between employer and employee at each plant, respecting method of employment, retention, and separation. In the field of retention, this plan has adopted a most liberal attitude toward safe working conditions and satisfactory living conditions. It operates through committees on co-operation and consideration; on safety and accidents; on sanitation, health and housing; and on recreation and education. These committees have accomplished much for the betterment of the working and living conditions of the miners and their families.

THE SILVER MINES.

As the days pass and the governments of Great Britain and United States make no apparent move to lift the regulations which holds the quotations for commercial bar silver below 101½ cents per ounce, it becomes more and more apparent that the regulation is considered a necessity, but for the existence of which the quotations would go higher. Not for even a day since the time the maximum price was set has the quotations for the metal shown the slightest sign of receding, despite the fact that no minimum price has been set. Although the financial condition is so intensely complicated, subjected to influence which are not easy to distinguish in the maze of enormous problems, and although the 'wind' may blow the opposite direction to that generally expected, yet silver mine operator almost to a man can see no impediment to the continuation of the present ruling quotations, and can point out various reasons for believing the price will go higher.

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

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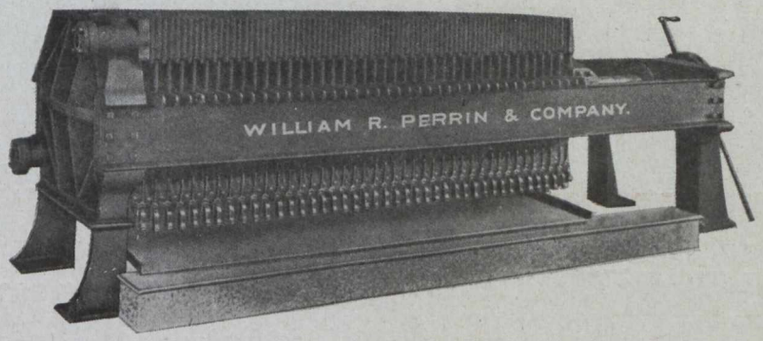

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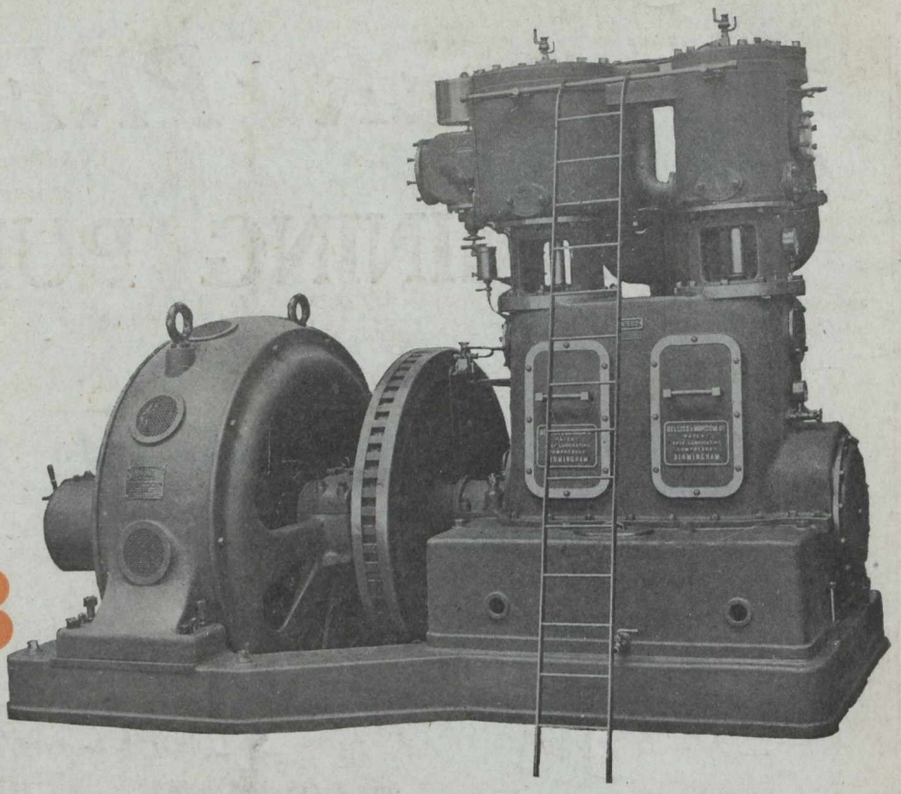

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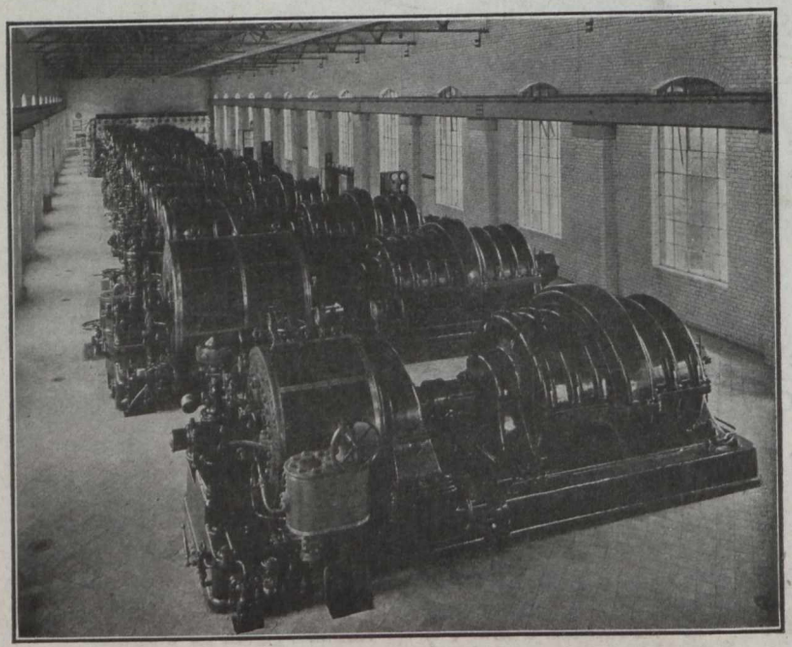

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