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E. R. Fairbairn,
Geological Survey

MARITIME MINING RECORD.

JANUARY 28, 1920.

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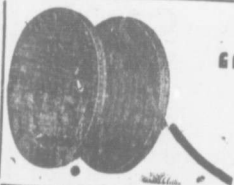
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436		437
A M		P M
10 40	POINT TUPPER	8 40
10 50	INVERNESS JUDGE	8 45
10 14	PORT HAWKESBURY	8 50
9 57		
9 55	PORT HASTINGS	4 55
9 42		4 58
9 30	TROY	4 58
9 15	CREIGNISH	4 55
9 02	GRAIGMORE	4 52
8 40	JUDIQUE	4 45
	MARYVILLE	4 40
		4 35
8 25	PORT HOOD	4 30
		4 25
8 05	GLENDOE	4 25
7 55	MAROU	4 11
7 30	GLENDYER	4 05
7 15	BLACK RIVER	4 00
7 02	STRATHLORE	3 55
6 45	INVERNESS	3 50
A M		P M

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MARITIME MINING RECORD

Vol. 22

Stellarton, N. S., January 28th., 1920

No. 14

THE SCOTTISH SHALE OIL INDUSTRY.

The Scottish shale oil industry is not in the bad position reported, as may be gathered from the following from a Scottish paper:—

Negotiations appear to have been entered into by the Anglo-Persian Oil Company, with the result that an offer was made to the shareholders of the Scotch companies to sell their Ordinary shares to a new company called Scottish Oils (Limited). The offer was accepted, thus giving the various works a new lease of existence. This new development is likely to lead to a largely increased quantity of crude oil being dealt with in the Scottish refineries as, while the refining of shale oil will continue, it is expected that imported crude oil will be used to supplement the shale oil supplies. A very regrettable threatened strike of the workpeople developed in September, and although an actual strike was averted at the eleventh hour all arrangements had already been of necessity made to close down the works. It was found quite impossible to restart again at a moment's notice, and even yet we understand it has not been found possible for all the workers to resume full employment. It should be noted that the new company took over the business in Scotland of the British Petroleum Company (Limited) and the Homelight Oil Company (Limited), whose marketing depots and equipment are now worked by the Scottish Oil Agency (Limited).

The market for all products has been of a steady character, and while there have been severe fluctuations in values the level at which they are standing to-day is perhaps rather better than might have been expected. The Petroleum Pool Board was dissolved on October 31 last, since when no serious changes have taken place. It may be that the firmness of the American exchange may cause the expected decline in prices to be slower than would otherwise be the case; but in any case, if oil is to seriously compete with coal in the world's markets, it will require to be sold at a competitive level of values. The important product, sulphate of ammonia, is in great demand for home consumption. The quality made by the Scotch oil companies is probably the best in the world; indeed if all other makers in the United Kingdom were to produce an equally good salt there should be little fear of nitrate of soda regaining the hold it used to have before the war for agricultural purposes in the United Kingdom.

Two of the Scotch oil companies are well known as candle manufacturers, and are influential members of the Paraffin Candle Association. It is perhaps not out of place to remark that a general absorption of individual candle makers has been going on during the past years. Several firms have been absorbed by larger ones, the most important being

cord being that of Price's Company, of London and Liverpool, now allied with Lever Bros. (Limited.)

It is to be hoped that under the new auspices the Scotch mineral oil trade may be entering into largely increased activities, and that the results may be profitable and satisfactory to all concerned. The outlines of a vigorous and world-wide development of the use of petroleum and kindred products was very forcibly stated by Sir Charles Greenway in his recent speech to the shareholders of the Anglo-Persian Oil Company. It would appear that when their new refineries now in course of erection at Swansea in conjunction with the Scotch oil companies being worked at their maximum, the requirements of the United Kingdom will be well looked after by this all-British company. Their activities, however, are not to be confined to Great Britain, so that the Scotch oil trade is now allied to a strong and important factor in the petroleum trade of the world. We think therefore the various works may face the future with perhaps more equanimity at the present time than was possible in times not very remote.

SUGAR.

The sugar ration in Britain has been reduced to six ounces per week. The sugar commission say this is necessary in order to combat the "ring." Commenting on this the Christian World says:—

It is interesting to see of whom this sugar "ring" is composed. They are apparently all Cubans. Cuba is the only country that is now exporting sugar. The price the Cubans are asking at this moment is from 12 to 15 cents a pound as compared with 2 cents in 1914. That shows what the absence of competition does. In 1914 a good deal of sugar was being produced from beet in European countries. The falling-off in Continental production since 1914 is 4,200,000 tons. The cane sugar producers could not meet this deficiency but they have produced about 1,800,000 tons more than they were producing in 1914. That explains the shortage. The demand has grown since the Armistice, because Continental countries which used to produce their own sugar are now trying to import it, and the producers are taking advantage of the situation. We are asked to moderate our demands for a few weeks until the position clears, so that our Sugar Commission will not be compelled to buy while the present situation holds. Perhaps that is the only way to beat the ring, and if so we must help. But we tremble for the children. Their craving for sweet things is Nature's way of crying out for a necessity. As we get older we substitute fats for sweet things as "body-warmers," but if children cannot do that and we must let all the available sugar go to them.

MARITIME MINING RECORD.

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R. DRUMMOND, PUBLISHER.

STELLARTON, N. S.

January 28, 1920.

THE NEW CONCILIATION

The "new way,"—it may as well be told at once—is the "McKinnon" way, and like all great reforms its charm lies in its simplicity. Indeed it is so simple that people are furiously pounding their heads because they never before thought of it. The "McKinnon way" has demonstrated that when the Lemieux Act is rightly administered it can be classed as a triumphant success in cases at least, of disputes between mine operators and mine workers, and in such other industries as the awards, increasing rates, can be passed along to a passive public. The "McKinnon way," is so easy that any tyro can play at it. Concisely put the manner of operating is as follows:—

The Board hied to Sydney. The members were at home only to representatives of the operators and the head officials of the U.M.W. The host—the chairman—having welcomed the guests delivered in dulcet tones the following short address the while he gazed on the culprits benignly. "Really I am astonished that so well set and comely gentlemen should be at sixes and sevens over so ludicrously small a matter as a fourteen per cent increase in rates. I am a telepathist and reading your cheerful countenances am convinced that all that is necessary is for you to meet together in friendly intercourse and come to a wise and amicable agreement. Retire by yourselves and when an agreement is reached notify the Board and your findings will be O. K'd." Eagerly the suggestion was acted upon—the result, as foretold, being a happy agreement. The announcement was made in this form: "Mr. Chairman, we've done it." "And how did you do it so easily?" asked the Chairman, "Oh, said Watters, as he audaciously winked at the Chairman, "we said to the coal company: 'grant the increase and pass it along.'" Queried the chairman: "How pass it along." "Oh," came the reply, "pass the increase to the public for payment." "Well done" said the Chairman, "I myself could not have hit on an easier process." And then the conciliators dispersed, priding themselves on the outcome of their heavy labors. The new panacea is not in any sense "proprietary." The formula is free and therefore when a "Board" met in Stellarton and the individual members and the opposing representa-

tives had shaken hands, adjournment was made for a week so that the contestants could come together, and pass any increase granted along. Moral—The public must demand representation on all conciliation Boards, that is unless they are willing to cheerfully honor all increased rates that are passed along."

WILL IT WORK?

A while ago, when labor unrest was prevalent in all countries more so than it is at this writing, the opinion was expressed, by a large employer of labor in Nova Scotia, that the increasing demand for increased wages must sooner or later be met, and that it might as well be met soon as late. He expressed the opinion that there must be a fight to a finish. It was pointed out to him that this might mean violence and his reply was: "Yes, there may be bloodshed before things are made nearly right." Now it is to be hoped that he was mistaken, and that a way out may be found for quieting the unrest without recourse to extreme measures. A similar sentiment is held by many in Britain, but it is not as yet generally entertained. It is declared that a solution of the unrest may be found in giving the workers a share in the control of industry. The British government is willing to give the workers a share in the management of the mines, the railways and transportation generally. Of course this may not be a sure cure, merely a temporary palliative, but as it has never been tried judgment cannot be passed upon it. People lacking in imagination may take sides at once. Some may say: "The workers should have share of control." While others may declare, "The workers should not as they did not contribute to the capital without which industries would be non-existent." Could one with a keen and well regulated imagination put himself first in the workers' place, and thereafter in the place of the capitalist? If he could what would his conclusions be? The question bristles with difficulties and therefore it is that a host of panaceas are put forward, most of them unpalatable to one side or the other. A sort of share in control, whatever that may mean, could be made as an experiment, and then endorsed if found practicable. Speaking of the unrest a British paper says:—

Probably in none of the chief industrial countries of the world is labour unrest less revolutionary than it is in England. But labour unrest, though it may not spell violence and revolution, does necessarily imply diminished production. The better organised labour is, the less revolutionary it becomes, and at the same time the better able to curtail or extend output. Just because labour in England is, compared with other countries, very highly organised, it possesses an industrial weapon of great power and uses it in preference to any kind of political weapon, constitutional or unconstitutional. That is a source of political stability but of industrial weakness. During the war, and even more since the war, labour has been organising itself with unex-

amplified rapidly, more especially among the lower grades of workers. It is as certain as anything can be that the movement will continue. The process has already gone so far as to make almost any local dispute in any trade a possible occasion for a national strike. The relations between capital and labour at the present moment recall the relations of European States to one another before 1914. There is a growing perfection of armament on both sides which makes the maintenance of peace a perpetual miracle. Crisis succeeds crisis and is only staved off by the common fear of bringing on the final catastrophe. But the final catastrophe will come some day all the same unless a policy of reconciliation is found in time. Those who believed that rational greed or self-interest was the sole basis of political action argued, logically enough, that European war was inevitable. In the same way those who now believe that the employers and workers are animated by nothing but motives of immediate personal gain may argue that the conflict between capital and labour must ultimately be settled by force. If it is true, there is nothing to be done. We may as well get the battle over now as later. But we do not believe that it is true. A policy of conciliation is always open to those who wish to find it. Profit-sharing and other experiments have been tried. They have not, on the whole, worked well. There remains the one thing which has not been tried, and which the workers for their part declare with growing vehemence is the one thing that will satisfy them—a share in the control of industry. Until the thing has been tried it cannot be said that it will not work.

FRUGAL TO A FAULT

The Nova Scotia correspondent of the Canadian Mining Institute Bulletin is, evidently, inclined to the belief that the Nova Scotia Mines Department is a trifle sparing in expenditures necessary to place the department in a position where it can best administer the purposes for which it is supposedly instituted. These purposes are not solely for the collection of royalties and the supervision of mining operations, but also for the purpose of disseminating information as to the province's mineral resources and to give encouragement in the exploitation of these. No one can find much fault with the Department as a collector of taxes, while it may be chargeable with penuriousness in respect to judicious expenditures. The following is a portion of the article which forms a basis for the foregoing introduction and may serve for some comments:—

"The writer can look back to the time when the minerals of Ontario attracted comparatively little attention. Ontario was looked upon, par excellence, as a purely agricultural country, and though farming may still be looked upon as its backbone, her minerals are playing, and point to continue playing, a not unimportant part. If its people have reason to be gratified at the increase in the province's mineral wealth, it is largely due, so many mining men in this part of the Dominion think, to the intelligent interest and broad-minded policy of her successive gov-

ernments. Nova Scotia has always been looked upon and spoken of as a province rich in minerals. We all profess to think that, but if asked to dilate on that subject we can only, I fear, point confidently to coal and gypsum, as the basis of our belief. Evidently the Ontario legislators took to heart the authoritative statement, "There is that scattereth as I yet increaseth." While our successive Nova Scotia governments have contentedly sat at the receipt of royalties and imagined they were doing all that might be expected from them in chortling the solitary refrain "give, give." Our governments, I fear, cannot lay claim to having, by their intelligent generosity, stimulated the development of the province's alleged great mineral wealth. I cheerfully admit that our governments have done right nobly by the comfort and general uplift of our mining population in localities where coal is produced, but beyond this they have done comparatively little to stimulate mineral exploitation. Though we have many advanced mining men, unexcelled, I may safely say, as practical, everyday mining engineers, who have not had the privilege of a collegiate education, yet one is constrained to admit that technical education is a present necessity. We have new in Nova Scotia a fairly well equipped school or college, but we have neither a provincial geologist, nor an assayer, under government control. This is a real disadvantage. Specimens or samples of what many believed to be economic minerals have been thrown away by persevering, but indigent prospectors, simply because there were no ready means of appraising their value, without an outlay beyond the ordinary prospector's means. Our governments have had no scruples in profiting by and copying many acts of the Ontario governments, but so far they have looked askance at any Ontario acts involving the expenditures of moneys in determining what minerals the province has, that can be made of real value, if intelligently exploited. Those interested in mining trust that our legislators may soon realize that the wise King was not far off when he unhesitatingly declared "There is that withholdeth and it tendeth to poverty."

They tell us that "misery likes company." The Canadian Mining Journal evidently had the saying in view when it relates the miserable miserliness—or vice versa—of the Federal Department of Mines. The Journal makes it appear that the Nova Scotia Department is not the only offender in the matter of penuriousness.

THE VETERANS' STAND ON LABOR.

The Halifax Herald, of some twelve days ago, contained a number of resolutions passed at a meeting of the provincial command of the G.W.V.A. If the resolutions were published in other of the papers of the province, we failed to notice it. This is so somewhat surprising as to our mind the resolutions were of great importance. We reprint the resolutions in order to show that the Record attaches much importance to them. Omitting all the whereases but one, we quote:—

AND WHEREAS the people of Canada view with an increasing alarm the revolutionary methods promulgated and adopted by the ultra-radical wing of organized labor in Canada.

THEREFORE BE IT RESOLVED that this Provincial Council and of the G. W. V. A., placed itself on record as favoring the recognition of organized labor in Canada by an enactment of the Dominion Parliament, and that such an enactment should contain at least the following provisions:—

- 1.—The right of labor to organize.
- 2.—The recognition of organized labor and its right to negotiate with its employer.
- 3.—The right to strike within the constitutional authority of the Dominion of Canada.
- 4.—That all labor organizations be incorporated.
- 5.—That all contracts entered into between employers and organized labor organizations when within the constitution of the Dominion of Canada shall be legal and binding upon the contracting parties or organizations.
- 6.—Reasonable trade tests for candidates to trades unions, so as to protect employers and the general public from "inecompetents" and "inefficients."
- 7.—That in order for a "strike" to be lawful, it shall be necessary that a majority of the employees effected thereby shall have declared by ballot in favor of such a strike.
- 8.—That such organizations should not in anyway circumscribe the objects of labor or dictate its policies, but should regulate only its methods.

AND BE IT FURTHER RESOLVED that so long as organized labor in Canada pursues its aims and objects by constitutional methods, that the G. W. V. A. may aid, assist and support their legitimate undertakings for the improvement and advancement of labor as a class.

AND BE IT FURTHER RESOLVED that in the event of organized labor pursuing illegal and unconstitutional methods, the G. W. V. A. will consider it their right and duty as Canadian citizens to oppose and assist to repress such illegal and unconstitutional methods.

For nigh two score years we have advocated the incorporation of Trades Unions, and are accordingly pleased that this opinion is having endorsement from many quarters, and particularly pleased that the Provincial Council G. W. V. A. have come out boldly in its advocacy. The Provincial Workmen's Association, with which the writer has had intimate connection, was incorporated in 1882. Why? Because it was necessary at that time to make it plain to the public who generally thought ill of Trades Unions, that the P. W. A. was willing to be made amenable to common law, and subject to penalties for its breach. Indeed, it served a double purpose; it showed the public that its members were opposed to breaches of the law, and it warned any extremist in its ranks that any resort to old line tactics, when trouble arose between them and their employers, would be hazardous, and that resort to firing guns at the managers' bed room windows, or resorting to violence in any form would not be tolerated. And surely it had that desirable effect, for in one instance only were any of its members charged with assault, and in that instance they were not the aggressors.

When the P. W. A. was merged into the A. M. W. of N. S. the question was discussed, "shall the amalgamation be incorporated?" The decision was in the negative. Why? Because, presumably, certain of the leaders might be compelled to "kiss to the line," a thing they never had been accustomed to and did not wish to be compelled to do in the future. The L. Mieux Act may have accomplished some good, but on the whole it is a failure, for there is no penalty attached, if the men reject the findings of the Board. The Government ought to ponder this resolution of the Provincial Command and give it practical effect.

THE QUALITY OF NOVA SCOTIA COAL

The "Coal Age" has the following on the quality etc., of our coal:—

"In view of a threatened coal shortage in this country this winter, Canadian importers have speculated on the possibility of getting their supply from the Nova Scotia bituminous coal centers. There is a strong feeling, however, in Canadian manufacturing centers opposed to the quality of the maritime provinces coal, and it has been reported through official channels that it is doubtful whether such a change will be made.

"In addition to the superior quality of bituminous coal from certain American districts over the Nova Scotia bituminous coal, freight charges from Nova Scotia are reported to be unusually high, and manufacturers in Quebec have found it more profitable to use American coal. The quality of bituminous coal from Nova Scotia, according to a report, would not relieve the domestic heating problem in Ontario."

The general run of Nova Scotia coals are as good as those of the United States, in quality, though possibly not so good in looks, as they may not be so well prepared for market, and are also possibly a little more friable. It may be admitted that we have no coals equal to those of the Pochontas brand. These coals on coming to market do not possess one, as they are as friable as the Nova Scotia article, but the quality is there and quality counts. There need be no lengthy reply to the strictures of the American paper. If our coals were not good steamers then there would not be an increasing bunker demand. During the war transports, and passenger steamers were bunkered at large numbers and it is not on record that there were delays in making voyages from Nova Scotia to Britain on account of the inferior quality of the coal. If they have stood well for bunkering purposes then they must be suitable for manufacturers and industries in general.

CHEER UP BRAINS!

"The brains of the country don't know their power. The existence of the country and its future life depends wholly on brains. Capital is merely the coal that the stoker shovels into the fire-box. Did the coal devise the engine?"—Sketch.

THE UNIQUE JOGGINS FIELD

Mr. Burns Mining Engineer of the Maritime Coal Railway and Power Co. contributed a readable and nicely written article to the New Years edition of the Morning Chronicle, from which we clip the following:—

In the Cumberland Coal Field there are two areas of productive coal measures, separated by a large tract of newer rocks. One of these is the Springhill area, situated almost in the centre of the country and immediately north of the Cobequid range of mountains. It has an area of approximately 21 sq. miles and is connected with the port of Parrsboro and the mainline of the C.N., at Springhill Junction by rail.

The Unique Joggins Field

The other productive area is the Joggins. It extends from the shores of Chignecto Bay inland some twenty miles to the old Economy Road. Between seventy and eighty seams of coal outcrop along the northern side of a cylindrical basin of carboniferous measures, the axis of which passes through Shulee, about twelve miles south of Joggins, on an east and west direction. The seams dip to the south under newer strata at angles varying from 17 degrees at Joggins to about 50 degrees on the eastern end of the area. The width of the area across the outcrops of the productive strata is about two miles, but as mentioned before, the seams all extend southerly under the newer rocks giving the basin a much greater width. The main line of the C.N.R., between Macean Junction and Athol, crosses this area about midway between its extreme ends and taps the area on either side by the Joggins Railway on the West and the Chignecto and Fenwick lines on the east.

This Joggins field is unique in comparison with the other coal fields of the Province. As they are noted for their thick seams this field is noted for the very large number of thin seams which it possesses. Of the eighty seams exposed only five or six are considered workable at a profit. These range from 2½ to 4 ft. in thickness. Nevertheless, a conservative estimate of the amount of coal in these six seams, as far as they have already been proved, is several billion tons.

Although this field was probably the first in America to be investigated, being mentioned in the "Relations of the Jesuits" as early as 1612, it has not grown in importance as have the other fields of the Province, due alone to the thinness of its seams. When pressed by the Government of Nova Scotia in the early fifties to do more work on their areas in this district, the old General Mining Association complained that they had spent over a hundred thousand dollars and had not realized forty-five thousand. The mistake was that they were trying to apply the same methods of mining to these thin seams that had proved a success in much thicker seams. One company followed another with but indifferent success. None of the mining was deep, one slope after another being opened along the outcrop; long underground hauls with the equipment which they had made the cost of production prohibitive. The result is that this large field has only

been scratched along the surface. But in late years the Maritime Coal, Railway & Power Company has come into this field and been pioneers in the profitable working of these thin seams. They now control large areas, and by the introduction of machine longwall working, mechanical haulage, underground and univocal electrical equipment throughout its mines and surface plants, has succeeded in bringing the cost of production appreciably below the market price of coal. They have proved that with proper methods of working and the economical handling of large outputs, the thin seam can compare favorably with the thick one. There is one drawback, which as yet has not been overcome. The coal has to be "mined," and since the mining is approximately the same for any seam, the percentage of fine coal is much higher in the thin seam than in the thick one, which of course is always harder to market than round coal.

Disposal of Fine Coal.

In the early days of coal mining in Cape Breton and before the advent of the steel industry, the disposal of this fine coal became a serious problem, so much so, that at one time it was seriously advocated to use it on the sea beach to evaporate sea water in the production of salt. Now, however, their larger markets and the steel industry absorb it all.

Unfortunately the coal of the Joggins field is not a good coking coal and the fire coal cannot be used for metallurgical purposes. This, however, is a very strong argument for encouraging the working of these thin seams for steaming purposes now and conserve the large beds of good metallurgical coal to supply the demands of the future. The idea advanced heretofore has been to work the thick beds now at a profit and fall back on the thin ones as a matter of necessity when prices will be higher. This is human nature, but is it sound common sense? If the industrial life of Nova Scotia, which is part of the Dominion, is to continue permanently, the coal industry must be maintained for as long a period as possible, and to accomplish this, the thin beds should be worked contemporaneously with the larger beds.

To profitably work these thin seams then, some market must be found for the fine coal, which in a great many cases runs as high as fifty per cent of the output. Evidently, the only market accessible is for steam purposes. The most obvious method of utilizing a particularly small fuel is to burn it. Here again we strike a snag. Most of the individual steam plants, scattered over the country, and locomotives, are not equipped to economically use fine coal. To do so requires a study of the fuel and furnace designed for it. This, of course, could not be attempted by the plant using a few cars of coal a year. It must be done by the coal operator if he is to dispose of his coal. The only solution of the problem then, seems to be for him to erect and equip such a plant and turn this unmarketable fine coal into a marketable product in the form of electricity.

THE COAL PROBLEM

"We cannot believe that the miners have an easy task before them. The feeling against Government control of industry in any direction becomes more intense with the evidences of its ineptitude."—
Westminster Gazette.

AROUND THE COLLIERIES.

The Acadia mine at Thorburn is doing well for a comparatively thin seam, the output being about 300 tons daily.

A slant is being driven from the east to the west slope of Dom. No. 24 for the purpose of having the coal of both deeps drawn by one way only.

Both tracks are being used in Dom. No. 12. This will insure better outputs, as all coal will be handled more rapidly, such a complaint as not getting coal taken away will not be heard from this out at Dom. No. 12.

The Joggins mines suffered in the war years from a scarcity of labor, and thereby a lack of leading places. Things are in fairly good shape at present, and the Record will be disappointed if the shipments this year do not exceed those of 1919 by fifty thousand tons.

The manager of one of the Albion collieries aspires to contribute about half the quantity, by Dec. 31st, 1920, required to put the Acadia on easy street, in the 600,000 tons production competition. Give him a fair show, and plenty of rope, and test his metal.

The Clyde is the greatest shipbuilding river in Great Britain by long odds. It produced twice the tonnage of the Tyne which comes second, and some 300,000 tons more than all the others—the Tyne, the Wear, the Tees, and the Laggan combined. Many large passenger steamers will be built in Britain this year; cargo steamers will not have first place as in 1919.

The slopes of Dominion No. 24 are down about 330 feet and progressing downward at the rate of six feet and a half daily, or say 39 feet weekly. The seam is regular, the roof firmer, and gradually becoming more solid, and this, it is expected, will continue as the slopes advance. A foot of falling stone follows the displacement of the coal, but this in time will get harder and remain up.

In renewing his subscription for the Record Mr. P. L. Naismith, who was for several years, after the advent of the Dominion Coal Co., superintendent of transportation and now fills the important position of Manager in the C. P. Office at Calgary, among other things says:—

I want to take this opportunity of congratulating you on the completion of your fortieth year as a Publisher in Nova Scotia. I have been a subscriber to your Maritime Mining Record ever since it was published and read it with a great deal of interest even yet, after a long absence from Nova Scotia.

Mr. Naismith's many friends and former business associates, will be pleased to hear of his success out West.

Mr. A. D. Matheson has been appointed Manager of Caledonia Colliery, C. B. in room of J. Casey, deceased. Mr. Matheson, prior to the change, was an U.G.M. at Dominion No. 1.

The deeps of Dom. No. 17 (Victoria) have advanced over 400 feet since the mine was re-started. This is good progress. The present output is fifty tons a day, but increases must follow.

There were returns from three collieries worked by the Dominion Coal Company at Springhill. No. 2 was not a large producer and the Record has not been told what may be expected of it, but No. 6 which went by the name of 'Workman' at its inception, ought considerably to add to the output and be a real help to No. 1. It is to be hoped Springhill will not allow some of the other mining districts to attain too great a lead. Springhill is advantageously situated for large shipments.

Shortly after the explosion of the Foord pit, forty years ago, Mr. John Douglas, then underground manager, was sent forth to look for, and locate, a seam of coal which rumor, or a stray reference of some geologist, said existed west of the cage pit. Mr. Douglas did not take long to find it; indeed, if the writer remembers he found it the same day it was sought for. Owing to the loss of the Cage and Foord pits the Halifax company was shipping the little coal it could obtain from the McGregor pit, the opening being at the side of the brook near the Acadia machine shop. No sooner was the seam—called Third—discovered than sinking operations began. Two slopes were sunk at a respectable distance from each other. Intentionally they were kept farther apart than usual, as the two were not to be connected, but kept separate, so that if one slope went up in an explosion the other would be intact. That was in Rutherford's time. In nine months time there were being hoisted 300 boxes a day. The slopes were called Nos. 1 and 2. Time passed and the Halifax company went into what was called the "amalgamation" and a new manager took Mr. Rutherford's place.

Shortly after his initiation he issued orders that the two slopes be connected—going directly contrary to his predecessor's determination that never again should it be said that a connection between two workings was the destruction of both. Then what Rutherford expected, or tried to guard against, took place. A fall of fire from the cage pit caused an explosion in the south westerly slope, and this slope being connected with the other, both were lost, one for all time, the other for a season, and this slope, known as the Albion, is now the main producer though it has had a somewhat chequered career through fires. In nine months the slopes had attained a depth of 375 feet, which was termed the first lift. The present working depth, or length, is 3476, gross length 4200 feet.

AROUND THE COLLIERIES

The railway department must be keeping the mainland collieries well supplied with cars, as no grumbling is heard from the collieries officials.

A pipe line is being laid from Dom. No. 11 to Dom. No. 24 to supply compressed air for the mining machines to be installed when the temporary compressor which is now under construction is completed.

The mines this year so far are not suffering so much for lack of labor as during the past four years. Unskilled labor is plentiful, and of skilled labor, while there may not be an abundance, there is no inconveniencing dearth.

Acaia No. 1, Stellarton, has resumed operations after having been idle for several months. The output should add considerably to the total, but Acaia No. 1 will not be a large producer until development work is considerably extended.

A section of the Cage pit worked from the Albion slope was lost by fire in 1916. It was recovered in 1917, but immediately on its recovery a heavy fall occurred in the Albion or Third seam, again shutting off the section, as well as weakening the output capacity of the slope. The fall has been repaired and access is now had to the Cage pit and the lower part of the Third seam. This will have a steadying effect on Albion mine output.

The Port Morien people are to call upon the Federal authorities to do necessary repair to wharves and breakwater there, and intend to impress the Dominion Coal Company with the advisability of re-opening one of the disused mines in that locality. There ought to me a large quantity of coal in the pillars of the old Blockhouse mine. Somebody has missed a chance of procuring liberty to work out these pillars. The question the Record presumes is "Will it pay" to re-open the mine which the Atlantic Coal Co. was forced to abandon after it had bled those foolish enough to take shares in the enterprise.

Boring operations at Thorburn, which were interrupted during the war, are about to be resumed. Enough is not known about the seams in Pictou County, and this is an attempt to learn more. Mr. Notebaert was successful in the discovery of several seams in the Stellarton district and it is earnestly hoped that he will be equally successful in ascertaining the existence of hitherto unknown or unverified seams, in the Thorburn district. The Thorburn people in the past have experienced much anxiety, as to the permanence of coal mining in that district. The sinking in the McBean seam and the hope of discovery of unlocated seams, should put needed heart into them.

In some of the collieries Saturday is an off production day, while at others Monday is short in production, as compared with other days. This may be largely due to the loss of a night shift one day a week.

So far this year the collieries of the provinces have had no storms to contend with of snow or of sleet. The weather has been trying on the outside workers, but they have manfully stood up to it. The fellow who said, and it was declared he was a truer prophet than the weather bureau, that the back of winter would be broken on the 3rd of January, deserves to have his own back broken for having raised the hopes on thin-blooded people and then have them dashed to the ground.

In one, or possibly two, of the Stellarton collieries there is a band or layer of Cannel coal, say 18 inches thick. Should anyone unfamiliar with the coal receive a few lumps in his purchase he might, owing to the pieces being lustreless, class it as stone coal, and cast it aside. That would be a mistake as it really might be the best coal in the load. A neighbor to the Record received some pieces of Cannel and presented a piece for testing purposes. It lights quickly, burns very freely and leaves, in comparison, a small quantity of ash. This Cannel coal is not the "Stellarite" though to appearance it is similar. Being high in volatile matter it contains a lot of oil. It is shipped with the other coal and evidently serves general purposes as no questioning of its quality has been heard.

The Cape Breton mining community was shocked to learn of the sudden death of John Casey, manager of Dom. No. 4, better known as Caledonia, colliery, which occurred on Jan'y 14th. Having grown up in the village, Mr. Casey was known by all and held in specially high respect by his workmen. His admirable qualities made him many warm friends, who regret his going out so early in life. As a mine manager his motto was always "Safety First." On nearing the entrance to his colliery one is struck by giant placards giving instructions and warnings on safety first methods. Here and there over the colliery wherever there is danger these rude but eloquent sentinels voice warnings and arrest the attention of the workmen. Through them one was led to think of the mind behind them and they disclosed that the uppermost thought was safety of the workers. Manager Casey's colliery, in many other ways reflects the composition of the man. Everything was in its place and a place for everything. It did one good to walk around the colliery; like going into a well ordered house, clean and carefully looked after. The discipline in the colliery was good and pointed to tact and decision. It is sometimes said that men, who have lived long in a mining village, working almost a life time in the same colliery,

THE KANSAS PLAN

are easy to manage, because they have come to look on themselves as an indispensable part of the machinery of the colliery. Experience teaches the opposite to be nearer the truth, and when a young man arises out of the community and begins to manage, trouble usually begins. There was no such trouble at Caledonia mines. Mr. Casey knew his men and the mine and managed both with more than average ability. He was a keen mining student and on his desk could be found many mining periodicals. He had a wide knowledge of the mining methods of Canadian and American coal fields. All too soon he passed away and Cape Breton is the poorer for his passing. The Mining Record extends its sympathy to his family.

CAPITAL.

Mr. Barron, a forcible writer on questions affecting labor, wrote an article some time ago to the Financial Post, of which the following is part:—

The readjustment of the labor situation will not come by the destruction of capital or the reappropriation of the fortunes of capitalists. It will come by education with enough suffering to make these truths universally recognized:

First, that labor must advance itself by joining work of brain with labor of hand.

Second, that there are wages for labor and rewards for thought and not rewards for labor and wages for thought.

Third, as labor consumes 95 p. c. of what it produces, restricted production enhancing prices is suicide. The food of the world can not be raised by present eight-hour day labor without taking workers from other lines of industry supplying human wants.

Fourth, that capital and capital accumulation is the best friend of labor and the only friend for the labor of the future, insuring its employment and production.

Fifth, when wages are suddenly doubled as in time of war, the fruitage may be soon found in costs of living more than doubled because there is disorganization and sharp advance in insurance rates.

Sixth, the consumer has no partnership in the matter except as a customer demanding honest goods and public safety, but in that labor of the living and in that labor of the dead represented by capital, he has no proprietary right.

Seventh, the true partnership between capital, labor and consumers is in an honest understanding each of the functions of the other; that capital is only labor saved and, as capital, works at lower wages and for the benefit of labor, increasing its wages and enhancing its efforts. Without accumulated capital in the form of machinery, hand labor would live here as formerly, by the fish of the stream and the game of the forest, and there would have to be starvation and reduction of population to the limits of the food of forest and stream.

The state of Kansas desires to have a plan of its own for the settlement of Labor disputes. For the following abstract of the proposed plan we are indebted to the Halifax Herald:—

The settlement of labor disputes has been a matter of "dielkering" between the employer and employee without regard to the interest of any one else. The Kansas scheme is founded upon the proposition that the public is more directly and vitally interested in the uninterrupted operation of essentials than either the employer or the employee; that the public is as directly interested in good wages, decent hours, clean, sanitary and healthful working conditions as the laboring man, and that the public is as interested in the successful, profitable and economical operation of any essential industry as the employer.

That is the point from which the Kansas court of industrial relations starts, and it is the point of variation from all other labor and industry plans so far presented in this country.

The bill provides for a special court of three members to be named by the governor. They are to receive the same salaries as the governor and justices of the supreme court and are not to be directly concerned with either labor or industry. As near as may be it is proposed to have the court composed of three men who are big enough to grasp the fundamentals of the industrial situation and study them from a strictly unbiassed standpoint, without prejudice toward either side of the matter in dispute. This court is to present both sides of the dispute and act for the general public. The bill as drawn affects only industries concerned with the production of food, clothing, fuel and public utilities, but there is a disposition among members to include all industries.

The general provisions of the law apply equally to the unions and the employers. The unions are required to take out state charters and establish definite responsibility to the state, and are under state regulation. It may be that bonds may be required from each union for the enforcement of the fulfillment of contracts. Or the union may be ousted and the agitators put in jail or fined and the state may take over its books and effects.

The bill also authorizes the state to take control of any industry thru a receivership, as was done in the coal mine strike. Whenever an employer refuses to do the decent thing, refuses to obey the orders of the court, refuses to meet his employees and threatens a lockout, the state may step in, put the employer in jail, fine him and take charge of his property; and run it thru receivers.

Either side to a labor controversy may lay its cause before the industrial court, regardless of whether or not the industry is classed as an essential. If it is an essential industry, like milling, coal mining or railroad operation, then the dispute must be laid before the court as soon as both sides cannot reach an agreement. And there must be no strike or lock-out while the court is considering the dispute. When the court makes its decision, it can enforce it by receivership, ouster, criminal proceedings or such other proceedings as may be necessary or legal.

The court may go anywhere in Kansas and hold sessions. It is to have engineers and attorneys to make investigations and handle its legal matters. It may summon any one to come before it or take the books of any industry or union and examine them. In fact, the powers of the court, under the proposed law, are practically unlimited when it comes to investigating any feature of any industrial dispute, and it is believed that when the court gets the exact facts in any matter and makes its decision, public opinion on the justice of the decision will force acceptance, and the full powers of the state will actually never be required to enforce the rulings of the court of industrial relations so long as the public generally has confidence in the fidelity of the court and the honesty of the investigators.

OIL VERSUS COAL.

The following is part of a long article in the weekly edition of the Glasgow Herald, by A. Scott Gouzier. The conclusion of the article may appear new issue, as the subject is interesting:—

For many years after its first use as fuel on steamers the development of oil for this purpose was slow, as it had to compete with cheaper and more widely distributed coal. But a very great change has taken place in this respect as a result of the oil companies arranging to have supplies at the more important stations abroad where steamers are in the habit of calling for bunkers. Again, during the war the supply of bunker coal was restricted, miners were drafted into the Army, so that its output from this country was considerably reduced. Since the war the attitude of the miners in demanding shorter hours has also reduced the output and put up the price of coal, so that in many parts of the world oil fuel is actually cheaper in first cost compared with coal. The relative cheapness of fuel oil compared with coal, in conjunction with its many other advantages, has led to the present enormous demand for fuel oil. It must be apparent in what follows that the use of fuel oil marks a great step in advance towards the adoption of labour-saving appliances. All industry shows that, as the cost of labour increases, efforts are made to find some means of doing by machines what previously had to be done by hand. With oil fuel, (1) pumps are used for bunkering; (2) trimming is eliminated; (3) the furnaces are fed by oil pumped through pipe lines; (4) handling and all labour and repairs arising from their operation are eliminated. These operations collectively largely displace what is now highly paid labour.

The most important points in connection with fuel oil are its supply and distribution. Shipowners naturally hesitate to equip their vessels with oil-burning apparatus unless they are satisfied that they can secure an adequate supply at the various bunkering stations at which these vessels call. In 1912 the world's production of petroleum was given as over 50,000,000 tons; in 1918 the total was estimated at 67,000,000 tons—an average increase of about 2.8 million tons per year. Owing to the war the supplies from Russia and European sources have

shown a great reduction. This, however, has been made up by new sources of supply, chiefly in Mexico, whose output now is about 10,000,000 tons. The United States continues to be by far the largest source of supply, its output in 1918 being above 46,000,000 tons. In view of these figures, showing a yearly progressive increase, there does not seem to be much reason for anticipating shortage of supplies.

As regards distribution, there are now at least 22 ports in the United Kingdom where fuel oil can be obtained, and in the chief of these there is competition. Abroad there are supplies in Canada, Mexico, West Indies, Brazil, River Plate, Chile, Peru, Scandinavia, France, Netherlands, Portugal, East Mediterranean, Egypt, North Africa, West Africa, Cape Town, East Africa, British India, East Indies, East Asia, Australia and Honolulu—in all about 134 chief ports outside the United States where oil can be obtained at most ports.

The price of oil, like coal, varies, being, of course, cheaper near the source of the supply, so that in the United States, Mexico, and the East Indies it will always be cheaper than in the United Kingdom, where as the production is negligible, the oil has to be imported, and so has to pay freight. The price in the United Kingdom, is about £7 15s, having risen 5s per ton since October.

Relative Costs.

The class selfishness of the miners in demanding increased wages and shorter hours, to the detriment of the nation, has raised the price of coal to four or five times its pre-war value. The price of bunker coal in the United Kingdom has risen enormously during and since the war, and today at Glasgow it is about 75s—rather less than half the cost of fuel oil in the United Kingdom—but in view of the advantages of using oil, now to be described, it is certain that oil will more and more be used in place of coal in steamers, if, indeed, it does not in the future largely displace it.

One pound of good Welsh coal has a theoretical calorific value equivalent to the evaporation of about 15lb. of water from and at 212 degrees. Good fuel oil under the same conditions can evaporate about 20 lb. of water, giving a proportion of coal to oil at 4 to 3. The best coal known, however, contains some ash, and in burning it particles of coal are lost in so complete as oil. The result is a further advantage in favour of oil, and practical experience shows that two tons of oil are equivalent to three tons of coal. The writer has examined the abstract logs of six steamers which have recently been converted from coal to oil, and the average results show that the proportion of 2 to 3 for oil and coal can readily be got, and this is frequently obtained in conjunction with an increased speed, due to the fact that there is no loss of power in cleaning fires and sweeping tubes. It is not sufficiently realised what an important loss results from the process of cleaning fires, which has to be done every watch of four hours when burning coal. The number to be cleaned depends upon the quality of coal and the demand for steam, but as a general rule one fire in three has to be cleaned every watch of four hours. It is

sometimes half an hour, or even an hour, before the steam is back to full working pressure, and the proper number of revolutions can be obtained from the engines. With a poor quality of coal, such as some kinds of Indian, it is sometimes necessary to clean very fine every watch, and it is impossible to do without shutting up the engines and reducing speed. Under these conditions, also, it becomes a difficult matter to deal with the enormous quantity of ash, which has to be heaved up from the stokehold and thrown overboard or discharged through ejectors.

Economies in Space.

A ton of coal occupies about 45 cubic feet against 36 cubic feet for oil, and as the amount of coal to oil is as 3 to 2 the relative spaces for equivalent fuel are 135 to 72. In other words, the oil fuel bunkers can be reduced by about 46 per cent. A considerable increase in deadweight and measurement is available, and can be used for carrying extra cargo. This forms a very important addition to the list of advantages in favour of oil fuel as a considerable increase in carrying power of the vessel is obtained. During the war, owing to the demand for oil in this country, it was frequently carried as cargo in the ballast tanks, and with the experience so acquired, there is no difficulty in arranging for these to be used as oil bunkers in the case of existing vessels being converted from coal to oil burning. The classification societies have issued rules dealing with such cases, and their requirements can be carried out at relatively small cost.

One of the greatest advantages consists in the large reduction in the stokehold staff, which can be cut down to about 30 per cent. of those required with coal. In some cargo vessels the number carried will depend not on the number of furnaces but on the requirements of the engineers for labour in overhauling repairs. Increased speed of bunkering is a further advantage. A steamer requiring say 1500 tons of coal would require at least 24 hours to take this quantity on board and trim into bunkers whereas the equivalent quantity of 1000 tons of oil could be pumped into the tanks in a few hours, without any of the dirt and inconvenience caused by coal. This latter point is of immense importance in the case of passenger vessels, and saves much discomfort for the passengers and great saving of labour to the crew in cleaning up. Experience also shows that there is a reduction of stokehold repairs, boiler repairs, fender plates, floor plates, ash hoists, firing tools, firebars, and no corrosion of bunkers, all of which collectively cost a good deal of money in upkeep during the life of a steamer.

Against all these advantages there is, of course, the first cost of the installation, which naturally varies with the size of the vessel. Prices recently obtained show that the cost of supplying and fitting a new intermediate passenger steamer of 11,000 tons gross was increased by about 2 per cent. In the case of an existing 10,000-ton dead-weight cargo steamer with twelve furnaces the estimated cost of converting to oil fuel, including all necessary alterations to Lloyd's requirements, amounted to £9000.

MINERALS AND MINING.

WHAT IS SAID OF IT.

"May I join my voice in the concert of eulogies that have more than consecrated the value of your work".—P. Lechian.

Dear Sir:—Accept my hearty congratulations on the production of your invaluable book, "Minerals and Mining," which I have read with intense interest, presenting, as it does a complete history of the mining industry of the Province, and from so authentic a source it should prove very helpful, to every mining student. To myself the book is especially interesting on account of our intimacy at a mining center, in the seventies, and the reminder of old and lasting recollections.—John Fraser

Thomas Cantley, Chairman of the "Socita" Board, writes: "I wish to congratulate you on your book. It is certainly creditable, well printed, good clear type, in short, the binding, the size of the volume, and general make-up leave nothing to be desired. Altogether it is a most creditable production, and I have no hesitation in saying that it will be looked on as an authoritative history of the Iron and Coal industry in this Province, the value of which as the years go by will be continually enhanced, and in it you are leaving that which will keep your name alive so long as Nova Scotia is interested in civilization's great basic industry."

Hon. E. H. Armstrong, Commissioner of Mines: "I have no hesitancy in saying that so far as I was able to glance over your book, it was very readable and I enjoyed it very much. Whilst I appreciate it would have entailed a very great deal of extra labor, I regret that an index does not accompany the book. I always miss an index. I think it would have added a great deal to the value of your very interesting book. The pains and care which you have taken to gather so much reading matter, particularly of local interest, is most praiseworthy. My wonder is that you have had the time to have collected it as well as you have done. However, I have no doubt it will supply a place in our mining literature that will redound to the credit of its author."

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CHAPTERS XXXVII to XLVII. Pages 313 to 368 respectively on: By Products of Coal—Vast Increase in Mineral Wealth—Quality of N. Scotia Coal—Mine Explosions and Fires—Government Assistance to Mining—Technical College, Mining Schools—Coal Companies of Nova Scotia—New Minas, Stellarton—Nova Scotia Coal Sales, 1811-1877—Staff of Mines Department and Some Production Comparisons.

NOTICES OF THE BOOK:

Favorable, indeed flattering notices are being received of the book issued by the editor of the Mining Record. That youthful modesty which is, as many know, a characteristic of the author, forbids a rehearsal of many of the nice things said. At the same time, that arrogance, also characteristic of youth, impels him not to hide them all in a napkin. Here is a little coincidence. With the same mail came two notices and both from Melnes's, one a former District Superintendent of the Dominion Coal Coy., and now a wholesale coal merchant in Montreal, the other from a highly respected citizen of Port Morien:

"While in Cape Breton two weeks ago I got a copy of your new book. It is very interesting—brings back the old days. The coming generations will find it an accurate story of the periods just passed, when Nova Scotia came into her own as a coal producer and as a pillar in our industrial development."—Mr. A. Melnes.

And this from Daniel McInnes: "I congratulate you on your authorship—the right man in the right place. No other man could write such a history without the knowledge you possess.

And these:

R. McDougald, Westville: . . . All that comes from your pen is always to the point, and within the limits of human knowledge, accurate. I am very glad that you undertook to conserve the acquisitions of a life time of special study and observation in a book. It will no doubt prove helpful to many a Canadian mining student.

John Moffatt, Dominion, C. B.: I have read your book and am convinced that to the great work accomplished by you in the sphere of labor, in the past, you have added another service which will endure for many years, and be often quoted from. The Province of Nova Scotia is indebted to you in many ways, and this well written book adds to that obligation.

This from another C. B. correspondent:—The book made a hit. It has proved itself a success. I have heard not a few complimentary remarks, both regarding the book and the author. I hope the 2nd and the 3rd editions will be called for before long.



Synopsis of Coal Mines Regulations.

Coal mining rights of the Dominion, in Manitoba, Saskatchewan and Alberta, the Yukon Territory, the North-West Territories and in a portion of the province of British Columbia, may be leased for a term of twenty-one years renewable for a further term of 21 years at an annual rental of \$1 an acre. Not more than 2560 acres will be leased to one applicant.

Application for a lease must be made by the applicant in person to the Agent or Sub-Agent of the district in which the rights applied for are situated.

In surveyed territory the land must be described by sections, or legal sub-divisions of sections, and in unsurveyed territory, the tract applied for shall be staked out by the applicant himself.

Each application must be accompanied by a fee of \$5 which will be refunded if the rights applied for are not available, but not otherwise. A royalty shall be paid on the merchantable output of the mine at the rate of five cents per ton.

The person operating the mine shall furnish the Agent with sworn returns, accounting for the full quantity of merchantable coal mined and pay the royalty thereon. If the coal mining rights are not being operated, such returns should be furnished at least once a year.

The lease will include the coal mining rights only, rescinded by Chap. 27 of 4-5 George V. assented to 12th June, 1914.

For full information application should be made to the Secretary of the Department of the Interior, Ottawa, or to any Agent or Sub-Agent of Dominion Lands.

W. W. CORY,
Deputy Minister of the Interior.

N. B.—Unauthorized publication of this advertisement will not be paid for.—83576.

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Mines Branch.

Recent Publications:

- 1 Summary Report of the Mines Branch for the Calendar Year 1917.
- 2 The Coal Fields and Coal Industry of Eastern Canada, by Francis W. Gray.
- 3 The Thin Coals of Eastern Canada, by J. F. K. Brown.
- 4 Annual Mineral Production Reports, by J. McLeish, B. A.
- 5 Analyses of Canadian Fuels, Parts I to V, by E. Stansfield, M. Sc., and J. H. H. Nicolls, M. Sc.

The Mines Branch maintains the following laboratories in which investigations are made with a view to assisting in the developing of the general mining industries of Canada: Fuel Testing Laboratory, Ore-Dressing Laboratory, Chemical Laboratory, Ceramic Laboratory, Structural Materials Laboratory.

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

R. G. McConnell, Deputy Minister.
Geological Survey.

Recent Publications:

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

MEMOIR 20. Gold fields of Nova Scotia, by W. Malcolm.

MEMOIR 44. Clay and shale deposits of New Brunswick, by J. Keele.

MEMOIR 59. Coal fields and coal resources of Canada, by D. B. Dowling.

MEMOIR 60. Arisaig-Antigonish district of Nova Scotia, by M. V. Williams.

MEMOIR 78. Wabana iron ore of Newfoundland, by A. O. Hayes.

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