

Dr. R. Bell
Geol. survey dept.

Maritime Mining Record

March 23 1910

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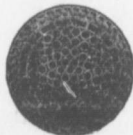
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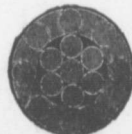
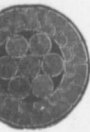
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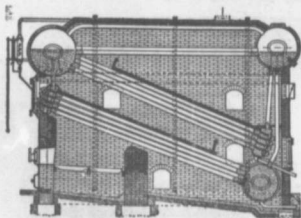
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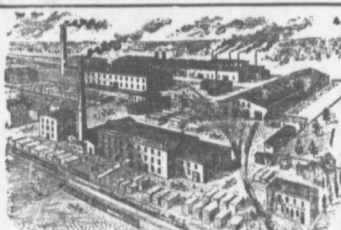
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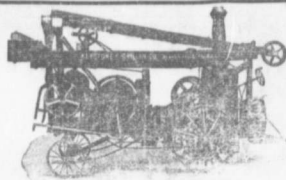
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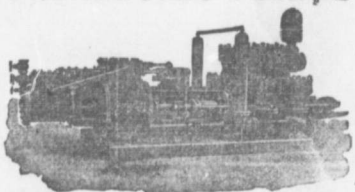
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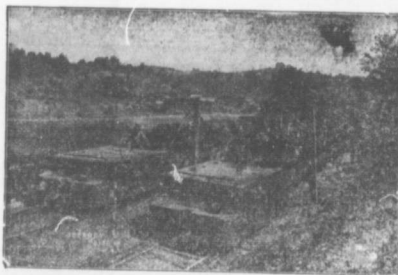
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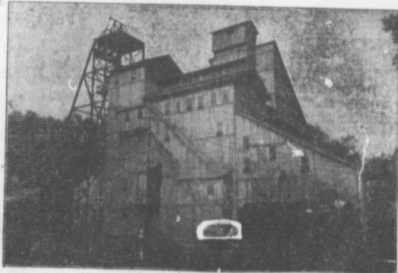
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Descriptive Bulletin I to 22

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To the...
MARITIME MINING RECORD

Vol. 12, No. 18 Stellarton, N. S., March 23, 1910. New Series

SHALES OF PICTOU COUNTY.

(Dr. Ellis.)

"If we compare in the next place the oil-shales of Nova Scotia with those of New Brunswick, just described, it will be seen that the shales from the two provinces are on the whole of different types. Those from Nova Scotia are on the whole much more carbonaceous, and by no means so rich in hydrocarbons as those of Albert and Westmorland counties. A somewhat full description of the shale areas of Pictou County was given by Sir W. E. Logan and Edward Hartley in the Geological Survey report for 1866-9, which more especially relates to the oil-shales of Stellarton and McLellan's brook. The Stellarton deposits were worked quite extensively in 1860, shortly after their discovery in the previous year, and the output was partly shipped to distillation works in Boston and Portland, and in part was used for mixing with bituminous coals in the manufacture of illuminating gas. For the same reasons apparently that so disastrously affected the mining of the shale deposits of New Brunswick and the Utica shales of western Ontario, viz. the discovery of the native oils in that province and in the United States, the mining of Stellarton was soon after suspended, and has never been resumed.

This description of the deposits in the vicinity of Stellarton are such as to show that in the present stage of enquiry for oil-shales there are of sufficient importance to be again investigated and more thoroughly than before. In connection with this it may be said that a couple of years ago, samples of the Stellarite mined in 1860, were collected after being exposed on the dumps for nearly half a century. They were analyzed in the Department at Ottawa, the result being a yield of 44.8 gallons crude oil with 14½ pounds ammon. sulphate per ton. Samples taken from Patrick's old dump near the old fulling mill on McLellan's brook mined about the same date, gave by similar tests in Ottawa, crude oil 42 gallons, and ammonium sulphate 41 pounds per ton. This analysis indicates a shale of sufficient value to be worthy of further examination, especially in view of the statement made by Sir W. Logan in his description of the section given of this part of McLellan's brook, that the section originally opened by Mr. Patrick had in places a thickness of eight feet, and the measures at this place were affected by faulting, by which the original thickness was so reduced as to render the further working impossible at that time. The thickness of the deposit at Stellarton as given by Logan and which was quoted in the paper of last year, is in one place five feet, of which the upper part of 16 inches is bituminous coal, the middle portion of 22 inches is Stellarite, and the bottom bench, also of 22 inches is oil-

shale.

In a section given by Logan along Marsh brook mention is made of a bed of oil shale, the thickness of which is not clearly defined but is said to be four feet. A small pit was sunk on this seam by a Mr. Haliburton. During our examination of this area last year this pit could not be definitely located, but several tests were made of shales along Marsh brook, though no deposits as rich as those found on McLellan's brook were seen. The analyses of three samples of the shales from this area will be found in the list given of analyses made from samples taken along McLellan's brook.

On a map issued by the Geological Survey of the Pictou Coal-fields, in 1904, which is largely the work of Dr. H. S. Poole, the locations of several outcrops of oil-shale are given. It was however found somewhat difficult to locate these outcrops on the ground so as to secure specimens for analysis. A number of locations were however selected at various points along McLellan's brook and in the vicinity, including Marsh and Shale brooks, and samples were taken from what were regarded as the most promising outcrops. These have been analyzed by the Department of Mines at Ottawa, to determine the contents in crude oil and ammonium sulphate.

In all eight samples were selected for this analysis, the results of which are as follows:—

McLellan's brook; New Glasgow, a branch of East river of Pictou; from Patrick's old slope, 27 chains below the old fulling mill.

Crude oil, imp. gallons, 42; Sulp. am. pounds 41, per ton.

McLellan's brook, Black's old mill site.

Crude oil, imp. gals. 14½; Amm. sulp. 35 pounds.

Marsh brook, the lower end at the forks with McLellan's Br.

Crude oil, imp. gals. 8. Amm. sulp. undt.

Marsh brook, 150 feet above McKay's house.

Crude oil, imp. gal. 3. Sulp. amm. undt.

Marsh brook, 300 feet above McKay's house from area blasted;

Crude oil, imp. gals 14; Sulp. amm. undt.

Shale Brook, upper end,

Crude oil, imp. gals. 4 Sulp. amm. undt.

Shale brook, near forks with McLellan's brook

Crude oil, 9. Sulp. amm. undt.

From bed of black shale, one mile west of Woodburn station, in small brook 500 feet north of railway track, from bed 10 feet thick.

Crude oil, imp. gals. 14.3; sulp. amm. undt.

It will be seen from the above list of analyses that most of the samples selected are not sufficiently rich in hydrocarbons to repay any attempt at development, but that in the case of the Stellarite found at Stellar-

ton and at Patrek's slope on McLellan's brook, the results of the several analyses made would appear to warrant further investigation, sufficient at least to prove conclusively the extent and thickness of the oil-shale deposits at these places.

ANTIGONISH COUNTY.

Of the shale deposits of Antigonish county, it may be said that several of the tests recently made showed a sufficiently high percentage of crude oil and sulphate of ammonia to warrant the expenditure of capital in the development or further testing of certain portions. This remark applies more particularly to outcrops seen in Hall-well Grant along Sawmill brook, which is about ten miles north of the town of Antigonish. Other areas in the vicinity do not seem, from the test recently made in Ottawa, to contain sufficient hydrocarbons to warrant much expenditure in development work. The shales, while black and highly carbonaceous, resemble much of those seen along the lower part of the Avon river, and are too poor in hydrocarbons to render the extraction of the crude oil or sulphate of ammonia profitable under the most favorable circumstances.

Hallowell Grant or Big Marsh, includes a number of outcrops of shale. They are alluded to in the report of Mr. J. Campbell already referred to, in How's Mineralogy of Nova Scotia, 1868. From the description there given, it was at one time hoped that large and valuable deposits of hydrocarbons would be found. Black carbonaceous shales outcrop along the post-road, extending north from the town of Antigonish to Big Marsh Post office. They cross the road in several well defined bands, have a generally east and west strike, and near the post-office certain irregular beds of a dirty bituminous coal, associated with black and grey shales and greyish sandstone. These have been opened up to some extent in search of a fuel supply. The analyses of the coal was made by the Mines Branch, Ottawa, several years ago, but the results, as then published, were such as to discourage further development at the time. The percentage of ash in the coal ranged from 27% to 40%, being such as to render the coal practically valueless as a fuel. The volatile combustible ranged from 21½% to 29%. A careful examination of a number of outcrops of shale, supposed to be of the oil-bearing series, was made during the past season.

Attempts were made in the field to test the value of several of these outcrops by ignition in stoves, forges, and even by the blowpipe, but in some cases even the last named test failed to produce a flame. As a last resort a number of samples carefully selected from the most promising looking beds, were sent to the laboratory of the Mines Department to ascertain the exact value of these in crude oil and ammonium sulphate.

In all, samples from eight localities were chosen, in order to give the shales as fair a test as possible over a considerable area. It was found that the black matter of the shales themselves was almost entirely carbonaceous and not due to the presence of hydrocarbons. In fact as regards the shales of New Brunswick it has been observed that the shales, richest in hydrocarbons, were grey rather than black, as can be seen in the case of the grey shales of Turtle creek, Albert county.

The first test of the Antigonish shales was made from a deposit of black shales, including both the plain and curly varieties, located on a farm of Mr. Dan. McDonald, near the forks of the road going east a short distance north of the Big Marsh post office. Here a pit had been sunk many years ago, referred to in Campbell's paper, 1868, to a depth of 60 feet, of which the upper 40 feet seemed to be a plain black carbonaceous shale. This appeared to be almost incapable of ignition by ordinary test. The lower 20 feet was of the curly variety, and when tested in the forge kindled with difficulty. In the laboratory at Ottawa, the test by Mr. Leverin gave of crude oil 4.8 in p.p.gals. and of ammonium sulphate 8.7 pounds per ton, the yields in both cases being insufficient to render the mineral of value for economic use.

A short distance east of the forks of this road a small brook, known as McLellan's, crosses the road to the south. On this both varieties of shale, the curly and the plain occur. Samples selected and analyzed at Ottawa gave for the curly variety six gallons crude oil, but the ammon. sulph. was undetermined. The samples of plain black shale gave neither oil nor ammonia. The next brook, going east, crosses this road a short distance beyond the house of John Boyd. From the presence of a saw-mill at the road crossing near Boyd's house the stream was named saw-mill brook for convenience of reference. The banks are frequently steep and in many places are composed of black and grey shales, some of which is of the curly variety, other parts are plain, as stated by Mr. Campbell, 1868.

A number of these shale beds were tested in the field by the application of heat. Some portions kindled fairly readily and burned quite freely. Several outcrops of both varieties, both black and brown, are seen, and at one place, known locally as the "Banks", the shale forms cliffs of 100 feet or more in height. Much of this is quite bare of vegetation, the forest growth having been destroyed some years ago by fires, which in places burned to a considerable depth in the shale itself. This fire is reported as having burned in the shale for some months before it could be extinguished. The shale deposits at this place appear to possess considerable value. A number of samples were taken, representing the several varieties and were analyzed in Ottawa with fairly satisfactory results, as follows:—

Samples of shale from the surface at the Banks, gave:—Curly variety, crude oil, 11 gals. Amm. sulph 22 pound. From bed of sawmill brook near by, gave:—Curly shale, Crude oil, 10 gals; Amm. sulph. 38 pounds.

Plain shales, Crude oil, 10; Amm. sulph 34 pounds.

From branch of sawmill brook adjacent,

Sample of freshly mined shale,

Crude oil 10 gals; Amm. Sulp. 17 pounds.

It would appear from these tests, which include the shales over a considerable area, that much of the material so tested is not sufficiently rich in hydrocarbons to give profitable returns either in crude oil or in sulphate of ammonia, though the percentage of the latter is fairly high in several cases.

The unit of power commonly used by engineers is an arbitrary unit established by Watt, i. e., a horsepower, which is 33,000 foot-pounds of work done per minute.

MARITIME MINING RECORD.

The MARITIME MINING RECORD is published the second and fourth Wednesday in each month.

The RECORD is devoted to the Mining—particularly Coal Mining—Industries of the Maritime Provinces.

Advertising rates, which are moderate, may be had on application. Subscription \$1.00 a year. Single Copies 5 cents.

R. DRUMMOND, PUBLISHER.

STELLARTON, N. S.

March 23

DR. McMILLAN, M. P. P. AND THE P. W. A.

In fulfilment of a promise made last issue we make further reference to certain statements of the M. P. P. for Inverness:

The relations between capital and labor, or the relation of the employer to his employees, or vice versa, have been prominent in the public mind for some time past and have not only seized upon the minds of students of political economy, but as well the minds of our legislators. Though the subject is one demanding the most delicate while diversified treatment, there are, we fear, a surprising number prepared to propound a perfect panacea, and prescribe an instantaneous cure. A wave of a wand, as it were, and the trick is done. To thoughtful minds the subject of "capital and labor" presents innumerable and perplexing difficulties, while to others, it seems, it is very easy of solution. We do not run away with the idea that our views will hasten a solution, but they may serve to expose some statements that might retard it.

We are told of the strained relations existing between employers and employees in this province and have been told of the supposed causes leading to the estrangement. We mean now, as concisely as possible, to criticise some things that have been told us, and to demur for the conclusions founded thereupon. The labor trouble in Glace Bay has furnished the occasion for bringing out many varied views on the labor question. If this trouble was asked: 'What has caused all this trouble in Glace Bay', Dr. McMillan would hold out his hand and cracking his fingers, shout, 'I can tell you,' and forthwith take out a much thumbed paper named the Industrial Banner. The views of the Banner would scarcely demand attention were they not endorsed by a member of the local legislature. The views or statements of the Banner, as to the causes of the trouble, are condensed, as follows:

- 1.—The P. W. A. had outlived its usefulness.
- 2.—It had lost the confidence of a majority of its members.
- 3.—The Gd. Officers were forced to submit the question to a referendum, with the agreement that the minority would loyally abide with the decision of the majority.
- 4.—The Gd. Officers refused to carry out the wishes of the majority, secured by the refer-

endum and declared the vote unconstitutional.

5.—Later, at a packed convention, from which many organizations favorable to the U. M. W. were excluded, they decided to maintain the dying P. W. A.

6.—The Coal company began a movement for the destruction of the U. M. W. by discriminating against its members.

These worse than misleading statements were heartily endorsed by Dr. McMillan. In answer to the first we assert with emphasis that the P. W. A. had not out-grown its usefulness, and that it was as capable of securing betterments for its members as at any previous period.

2.—The referendum vote afforded no proof that it had lost the confidence of a majority of its members, because that vote did not to a very large extent, bring out the full vote of its members, nor the strength of its membership. At the time of the referendum there were 6,500 members in good standing in the order, exclusive of 500 who could not be so classed. The total membership may be put at 7,000, that is the membership for the purposes of the referendum, as it had been agreed upon that the names of all on the rolls of the lodges should be afforded the opportunity to vote. The total vote cast, including 97 spoiled ballots, was 5,405. The U. M. W. had a majority of 412 of the votes cast, and the presumption is that a large majority of that number were P. W. A. men. Why? Because a number of delegates who had been at the convention not only refused to vote, but persuaded other members to abstain from voting on the ground that the whole proceedings were illegal; and these delegates are still loyal members of the P. W. A. At the convention at which it was decided to have a referendum, the Grand Master was asked not to put the motion on the ground that it was illegal, as the special meeting had been called for a special purpose, namely, the 'perfecting of methods of offsetting U. M. W. organizers.' The Grand Master put the motion, declaring that the result would not affect the P. W. A. It will thus be seen that there was no agreement to abide by the decision of a majority; any such agreement was wholly ultra vires, even of the Grand Council, for the Constitution plainly asserts:

"This Association cannot be dissolved so long as one lodge with forty members objects thereto."

The objection to dissolution was all but unanimous in the Pietou, and many other lodges. This clause in the Constitution stopped the Grand Officers from carrying out the wishes of the, so called, majority. One lodge of forty members could carry on business legally, as the P. W. A. could carry on business legally, and the exclusion

5. As to a packed meeting, and the exclusion of many favorable to the U. M. W., the fact is, of many favorable to the U. M. W., was thoroughly the misstatement as to packing., It was shown, exploded in the courts in Sydney. It was shown, indeed, that the Gd. Secretary did not challenge certain delegates, opposed to him, when he could have done so. At the September meeting of Council, the whole referendum proceedings were thrown out by a majority of 49 to 28, proof that the P. W. A. men who had refrained from the referendum vote had stepped in when the proper time had come.

CANADA'S WEALTH OF COAL.

It is with considerable pride that Nova Scotians refer to the fact that, not counting the smaller seams, or the coal that may be in the lower measures, the province is calculated to possess no less a quantity than eight thousand millions, or eight billion tons of coal. Great as this quantity is, it sinks into insignificance when placed alongside the quantity computed as contained in the Crow's Nest Pass district. Instead of eight billions, that region is reported to possess fifty billions, which placed in figures read 500,000,000,000 tons. To an interviewer of 'Canada' Dr. Ami lately spoke as follows: Being a leading member of the Geological Department it is to be presumed Dr. Ami was careful of his speech:

'It has been estimated that the Crow's Nest basin, on the line of the Canadian Pacific Railway, can alone supply a hundred million tons of coal a year for five thousand years, and yet be unexhausted. In the best areas of the Pacific Provinces there is an average of 10,000 tons to the square mile of coal area, the seams varying in thickness from 8 to 40 feet. While much of the coal is soft, it is good fuel, and by briquetting, in order to make it more durable and more readily transportable, the country's fuel problem will be solved. Canada possesses two excellent natural coaling stations, one on the East—Sydney, in Cape Breton—and Nanaimo, on Vancouver Island. These constitute two strategic points, from which the Atlantic or Pacific squadrons of our Navy can obtain full supplies at any time.

'It may,' said Dr. Ami, 'be expected that at any time a close examination of the Huronian belt in Ontario and Quebec will reveal rich new mineral areas, such as Cobalt and G-wganda. In British Columbia, coal, copper and iron are known to occur in many portions of the Province. The opening of new railways will contribute enormously to this development, and within the present decade Canada should produce annually upwards of \$100,000,000 in minerals. It has practically the monopoly of the world's nickel and asbestos supply, and should see that full value is obtained. In addition to these most important resources, the country has an untold supply in its rock formations of oil and gas, not only in crude petroleum and tar, but also in oil shales, which, when distilled, will produce millions of tons. These oil shales occur in New Brunswick and Nova Scotia in great abundance, and, as far back as 1895, analyses of specimens from the former Province showed upwards of 39.5 per cent. of hydro-carbons. These, along with the bituminous shales of Quebec, Ontario and the newer provinces of the West, could supply the railways of Canada and the Navy of the Empire with oil fuel for thousands of years. There are everywhere vast supplies stored up in the rock formation of Canada, only awaiting capital and enterprise to open them up.'

Dr. Ami stated, in conclusion, that science now meant accurate knowledge, and the Geological Survey, in conjunction with the Mines of economic branch, had an important work to do as a Bureau of information for investors, one of its most important objects being to furnish reliable information and to discourage rash speculation.

DR KENDALL ON THE PRICE OF COAL.

We give below the portion of Dr. Kendall's speech in the House of Assembly the other day, to which, perhaps, those interested in the pro-

perity of our greatest industry, the coal trade, may take no exception:

'This subject has been so exploited in the Press during the last three years that most people believe they are compelled to pay too high a price for this article, and those who attempt to justify the prices charged have a hard contract to convince the coal consumer even in Glace Bay and Sydney Mines, as well as in Cape Breton Island, Yarmouth and Halifax, yes, in Cumberland and Pictou also, that he is not paying excessive prices for his coal. In other articles of purchase and sale he concurs without a murmur to the exactions of local advantage, but in the matter of coal he is not convinced of the justness of conditions that fix the price he pays 75 p. c. higher than he hears the same article is sold for in Montreal. Investigation of this matter would remove many misconceptions; the buyer of coal on the Nova Scotia seaboard wonders why coal is sold so low in Montreal and so high, say, at Halifax or Yarmouth; his wonderment will wane when he learns that, while his freight in schooner loads is \$1.00 to \$1.40 per ton, the freight on a ton of coal sent to Montreal in the monster colliers is less than 40 cents per ton. He forgets, too, that the figure he reads about, "the price in Montreal" is for wholesale lots of many tens of thousands of tons, and that his price at home includes the profit of the retailer, which profit, in many cases, is higher than that obtained by the Coal Company for the large amount; further, he forgets that as a Nova Scotian,—a loyal one too, I hope,—he is a seller of coal to Montreal in a competitive market, where if the coal is not sold at a low figure, it cannot be sold at all. As a Nova Scotian too, he forgets that much of this coal is sold by virtue of the duty, which duty hangs in jeopardy every hour. The most unpopular duty in Canada to-day is the coal duty. Leave out British Columbia, which exports coal into California in spite of the duty, and where a removal of our duty would not effect coal mining prejudicially; pass by the small interest of Southern Alberta and we have not a constituency, outside of Nova Scotia, in favor of the coal duty; and in Nova Scotia too, prices of coal regarded as excessive, have created deep-seated hostility to the coal trade and the duty which favors it. Millions of dollars are annually extracted from railway companies and manufacturers, who are influential tariff factors at Ottawa. I speak of what I have had the best of opportunities to learn, that the miners of Nova Scotia and all concerns interested in the volume of output must never treat this subject flippantly; in the first place, the duty undoubtedly steadies the market, and further, as a revenue producer at the expense mainly of the railways of the West, we in the East are in some measure compensated for our tariff burdens maintained chiefly for Ontario.'

THE EIGHT HOUR DAY IN BRITAIN.

The eight hour bill is the occasion of a vast amount of friction in the Old Country. In order to meet the lessened output the operators resorted to three shifts. The men are kicking against this and strikes have resulted. A late British paper says:—

'The failure of the Joint Wages Board of the South

Wales coal trade to arrive at any agreement at their recent meeting adds to the gravity of the situation so far as the general coal trade of the country is concerned. It was well known that the rank and file of the miners in South Wales had laid it down that no agreement was to be finally ratified by the men's representatives until it had first been submitted to and approved by the men. But it was hoped that the parties might come sufficiently near to each other at their last meeting to justify some new agreement being put before the men. It is evident that a deadlock has now been reached, and that the men's side of the Board has little hope of a peaceful settlement. As a proof that this is so the workmen employed at the non-associated collieries in South Wales have been instructed to lodge notices, so that the men may be in a position to make joint action with the general body at the end of March should a general stoppage become necessary. The danger of a serious outbreak is not by any means confined to South Wales, as a general conference of delegates representative of the whole British coal fields is likely to be called to consider the position, and if this meeting is held, the question will again be raised of taking a ballot of the whole of the miners of the country on the question of a general stoppage. In the present temper of the men in the two northern counties the probability is that the Welshmen would have the sympathy of the representatives of Durham and Northumberland in getting a general ballot taken, as the double shifting system is the chief bone of contention between the coalmasters and miners in South Wales."

- Rubs by Rambler.

"If the President (Plummer) preserves the determination he has heretofore avowed we may look for another strike at Sydney. Suppose an upheaval occurs at the mines, and at Sydney, over non-recognition, and suppose the Company wins, other companies operating in Inverness, Pictou, and Cumberland will force a fight, the same will likely be done by operators of smaller industries in Halifax and other places, and trade unionism in Nova Scotia may be crushed. I need not say to you, with the idea of informing you, Mr. Premier, that the crushing, if it comes, will be an awfully expensive process."

These are the words of Dr. Kendall. Who would have imagined that the general doctor could be such a prophet of evil omen; who would have imagined he could be so sentimental? All this fuss over recognition is the thinnest kind of vapour. Recognition, for most practical purposes, is neither here nor there. It is demanded in many cases solely through pride of heart. Of all the big strikes that have occurred how many have sprung from non-recognition. The Lingan strike in 1882 did not originate over any question of recognition. The Secretary of the General Mining Association received not only a committee of the P. W. A., but a Grand Officer also who was not a workman. Recognition in that case did not prevent a strike. The refusal of the Sec'y. of the G. M. A. to comply with the request, for an increase

in rates, led to a strike that lasted twelve months. The one strike in Pictou in a score and a half of years, was not over recognition which had been conceded to long previously; of the numerous strikes in Springhill, up till the present one, not a single one was over the question of recognition. The great tram and railway strikes witnessed within recent years, and the strikes threatened, were not and are not at all over the question of recognition, but of that of increased rates. If a body of workmen are united, of one mind, they need not care a fig, not a snap of the finger, for it. If it is granted that non-recognition is a grievance, then it may be said it is made up of one part utility and three parts sentiment.

Dr. Kendall asks the Premier to introduce a measure prohibiting the employers from discriminating against their employees for having joined any organization. The Premier might as well introduce an act prohibiting any person from harboring evil thoughts. It would be as easy in the one case to secure evidence as in the other. Discrimination may be made to assume a thousand and one forms.

Here is Dr Kendall's cure for the evils of non-recognition:—

"Further, viewing the future with an eye on the past it is expedient and right that corporations operating under charter of the Legislature be compelled to recognize trade unions of men in their employ, and in case of division among workmen that the Government have power to compel recognition of one or other of the divisions as may be deemed in the public interest."

That verily is a patent medicine cure—a nostrum of no value. Let us suppose such a law had been in existence last July and the government had said to the employers, "You have to recognize the U. M. W." Would that have prevented a strike at Glace Bay? Not at all likely, if the recognition of the U. M. W. meant the non-recognition of the P. W. A. If there are two opposing unions and the government tells the employers which to recognize, will the neglected union take it quietly and suck their thumbs? Not likely. There would surely be another labor war. Why did the doctor stop short? Why had he not the courage, the fairness, to add "and whichever union the government names, the opposing unionists must join in. That is the naturally corollary of government interference in the matter of opposing unions. The idea to our mind is preposterous.

"The President of the Dominion Coal Company, at present recognizes the Provincial Workmen's Association by reason of a contract with that body to which he lately became heir. But this contract will expire within two years and upon the expiry of which the President, if then occupying his present position as president, is expected to refuse to deal with the Provincial Workmen's Association as an organized body. This expectation of the coal president's attitude is based on the fact that in 1903 when the trouble at the Sydney Steel plant was brewing he refused to recognize the Provincial Workmen's Association as an organization, and expressed his determination not to do so if he remained in Cape Breton"

The foregoing is from Dr. Kendall's speech on

recognition. The language is not to be commended. It is to be hoped it may not turn out to be mischievous. At the time referred to it cannot be said that the society had secured a firm footing in Sydney. The workmen were by no means a united body. But what difference did non-recognition make at that particular time. Not a particle. Had a committee of the P. W. A. been received and their demands refused, there would have been a strike all the same.

In a letter to Premier Murray, Dr. Kendall says that "the miners of Nova Scotia are divided into two camps." Oh, doctor take it easy. Cape Breton is a great and grand county, but, so far, it has not been looked upon as the whole of Nova Scotia. Pictou is a county of some renown, and in that county they are not divided into two groups; they are all solid P. W. A. men there up to date. If the men who were driven out of the straths and glens of their grand and rugged land would we expect the men of Pictou to be loyal to the P. W. A. which was to them as a foster father. And, then, if there are two camps in Inverness, one of them is so small that there would be ample room for its members to do all their business in an upturned fishing boat.

We are told that all the large operators, willingly or unwillingly, recognize the Provincial Workmen's Association. That is true; they have done so since 1879, and have, so to speak, acquired the habit. The very fact that they recognize the P. W. A. is sufficient answer why they do not recognize the U. M. W. No man, even though unions, for reasons given in the gospel.

A great deal of nonsense has been talked lately about recognition. Even Dr. Kendall in his remarks on the subject is not easy to be understood. He talks of trades unions being recognized in Britain, France, Germany, etc. They are recognized in Britain, the cradle, it may be said, of illegal unionism, to the extent of being declared not right. Workmen are permitted, have a perfect right, in Britain to belong to trades unions. That is all very good, but what law compels the operators to recognize them. The weapon that compels them is a strike not a statute.

PREMIER MURRAY ON RECOGNITION.

Below we give portions of the very able speech delivered by Premier Murray in refusing Dr. Kendall's resolution asking for a Commission to enquire into mining and labor conditions, etc. etc. at the collieries of Nova Scotia:—

When Premier Murray rose to speak he was given a hearty reception and he was continually interrupted by bursts of applause, both from the floor of the House and from the galleries. He dealt with the matters under discussion in an able and business-like manner and most effectively showed that the compulsory recognition of trade unions, which the Opposition have dwelt upon so strongly, would be not only a bad thing for the province, but would jeopardize the industrial life of the country.

The Leader of the Opposition had criticized the min-

ing regulations regarding the granting of leases. He would say that the minerals of the Province were accessible to all alike. Everyone had an equal right to secure the lease of a mining property, and during the time he had been in the House this had never before been attacked. The mining legislation of the Province had been questioned, but he would make the statement that the mining laws of Nova Scotia had no equal the world over. In Nova Scotia, as in no other country, the people have an equal interest in the mineral wealth of the Province, and the best legislation possible to protect the rights of the people had been placed upon the statute books.

The matter of old age pensions, prevention of injuries, and the compensation for injuries had been or were now being attended to. The matter of wages could and other countries engaged in the same operations. He had been advised that the wages paid to miners in Nova Scotia were more favorable than in other countries and this was something to be proud of. He also thought that the miners, as a class were superior to those of other countries, and that they could earn a better wage, man for man, than the man in other parts of the world. The Government, he said, were not idle, but were dealing with all the new problems intelligently. The mining of coal without waste and the proper development of the submarine areas, had both received a great deal of attention and the Government had employed some of the most competent mining engineers to make reports on these matters.

He said that these people seemed to think that no matter what might go up, the price of coal should not, in the West if a man attacked the price of wheat he would be arrested for insanity. If in the Annapolis Valley the people complained of the price of apples, or the people along the shore complained of the price of fish, they would be looked upon as mad. There were men, who, however, stood upon the housetops and the complaints of the price of coal. What the reason was he did not know, but he hoped it was not for political reasons. They seemed to think the price of coal was regulated by the law of supply and demand.

It was not right to single out the one great asset and attack it. The Legislature could not regulate the law of supply and demand. He wanted to see the price of coal reasonable, but if the Dominion Coal Company went into the market and sold coal for two dollars per ton, it would mean the ruin of the collieries in Cumberland and Pictou Counties.

Speaking of the clause referring to compulsory recognition, Mr. Murray said that he thought he had earned the right to express an opinion frankly, if not he would be ready to retire. He fully recognized the right of a man to join any union that he wished. There could not be one law for capital and another one for labor. Capitalists had the right to form what associations they wished, and he was willing to accord labor the same privilege.

When President Lewis, of the United Mine Workers came to Nova Scotia he has advised the Dominion Coal Company to receive him, but he regretted that he had been unsuccessful in this matter. He had also asked Mr. Cowans to receive Mr. Lewis and Mr. Cowans had granted an interview. When Mr. Lewis came to Halifax, he met him and they talked over the situation.

For thirty years, said Mr. Murray, the P. W. A. had been in existence, and although they had done good service, which perhaps was not ideal, but no man had ever asked that the employers be forced to recognize them. They had been incorporated and had received a char-

ter from the Legislature. They had been turned away by their employees, but had fought a fair fight and did not ask the Legislature for compulsory legislation.

He did not know why the demand for recognition was made at the present time unless it was because the U. M. W. was not recognized. They had never asked for compulsory recognition in the United States and had never received it. There they had never been recognized by law in any State, and the industries were free to recognize them if they wished. The great United States Steel Corporation did not recognize union labor and there were thousands of miners in the State of Pennsylvania that were not recognized. It seemed strange that they should come to the Government of a foreign country and ask for that which they could not get at home. The Legislature had some control over the P. W. A., but they had none over the U. M. W., and they should take the same chances as the P. W. A.

He said that England was the mother of organized labor, and with forty Labor members in the House of Commons, no leader had asked that union labor be recognized by law. New Zealand was the only country that had a compulsory recognition law, and at the same time they had a compulsory arbitration law, without which the former would be unworkable. He thought that labor here would be opposed to compulsory arbitration and unless this was made the law, compulsory recognition would be all nonsense.

The constitution of the U. M. W. provides for sympathetic strikes. This would mean that if they were recognized in Nova Scotia and a strike took place in mines that were in competition with the mines of Nova Scotia, the miners here would be called out, and there would be no remedy for it. Such a strike would be most dangerous and it was a drastic remedy for which he had no sympathy. The organization controlling the strike would be recognized by law, but the Government would have no control over them. Men would then come to the Legislature and lay the blame on that body. In New Zealand the organizations are all under charter from the Government and in twenty-four hours their Legislature could be called together and the charter of any alien organization that attempted a thing of this kind would be annulled.

DR KENDALL EXPLAINS.

At the close of Premier Murray's speech Dr. Kendall rose to explain that his attitude toward the labor conflict was liable to be misinterpreted if viewed through the Premier's presentation. He said that in Cape Breton his attitude was well known. While he had no quarrel with the principle of internationalism—in fact sympathized with the ideals of internationalism—he considered the advent of the United Mine Workers untimely. His judgment was that the Provincial Workman's association, which had done so much good, was entitled to recognition, where its members constituted a majority, and in his opinion, the officers of this association had laid the mining industry of the province under obligation to their high conceptions of duty. He had taken the ground and was determined to stand on it, as outlined in his letter to the premier, that in view of rapid industrial development, changes threatened the standing of trade unionism in Nova Scotia, which should be dealt with by the legislature by making recognition of trade unionism compulsory on the part of corporations.

THE EASTERN CHRONICLE'S VIEWS.

"On Tuesday Mr. Paul of Cumberland, introduced a bill having for its object the compelling of employers to recognize labor unions no matter where the headquarters of the latter may be, and to decide what unions will be recognized, a vote shall be taken among the workmen and the particular brands getting the majority will be the favored ones. This provision has an ominous ring to it, as in Springhill and Glace Bay and probably other places, the U. M. W. will outvote the P. W. A. The latter is a home institution and should, it appears to us, be protected. The bill should not become law in its present form. We agree that unions should be recognized, but unions to deserve recognition should have their headquarters in our own country and be subject to our own laws. As the bill reads it looks like as if it intended to give the U. M. W. a license to crush out the P. W. A. No foreign union should be given such power. Before such a bill is enacted it should contain a clause that no union whose headquarters were not in Canada and which was not organized under Canadian, or Nova Scotia law, should be recognized by law. That being done, and it being the law that unions must be recognized, then a court of competent jurisdiction should be created to decide absolutely between employer and union."

"Hon. Robert Drummond takes no stock in Dr. Kendall's prediction that, at the end of the present contract of the P. W. A. with the Dominion Coal Co., Mr. Plummer will refuse any longer to recognize the union. Neither do we, for neither President Plummer, nor Mr. Butler are so foolish as to attempt to do anything like that. It looks to us as if the Dominion Coal Co. owe a lot to the P. W. A. Were it not for the P. W. A. it would now be under the foot of the foreign union."

LABOUR EXCHANGES IN SCOTLAND.

Considering the brief period they have been in existence, the Labour Exchanges have done very useful work in Scotland. The machinery is new; even now it cannot be said to be running too smoothly, and yet we find that 2500 situations have already been filled in Scotland through their agency. When employers come to understand the method of the Exchanges better we have no doubt the results will be even more gratifying. It must be borne in mind that the Exchanges cannot make work. They were established to discover situations waiting to be filled, and while many are no doubt disappointed in finding themselves still on the unemployed list, it is not the fault of the Labour Exchanges. With improving trade there ought to be a great many more vacancies, and now that large employers of labour are keeping themselves in touch with the Exchanges, there is a strong probability that the ranks of the unemployed will be considerably thinned.

In arranging an efficient system of haulage, it is essential to drive the haulage road as straight as possible, using curves of long radii where the direction must be changed, and connecting all cross-headings with curves.

AROUND THE COLIERIES.

If some of our legislators had their own way, they would put such restrictions upon capital that it would not come this way at all.

The two months of this year show a gratifying increase in coal shipments over the two months of last year; it is to be hoped increases will show month by month.

Last month with 23 days there were raised at Sydney No. 5, 11,715 tons of coal, an average of 510 tons a day. Up till the middle of March the average had reached 625 tons. This beats all previous records.

Both haulages in Sydney No. 5 are operated from the one motor on the surface. A test of four days was made as to the cost of electrical haulage, and the management is more than satisfied with the results.

The endless haulage system has been in operation for two or three weeks now in the South side of Sydney No. 5. The system works smoothly and has done so from the start. It is a duplicate of the haulage on the North side.

Sydney Mines was to the front at the meeting of the Mining Society in the matter of articles contributed. There were as many 'papers' from Sydney Mines as from all other sources combined. Brown, Johnstone, Robertson, Preston, Graham, Dep. Insp., and Nicholson all contributed to the success of the meeting.

The main slope is now down close on five thousand feet. The levels on No. 8 lift are being driven. Without further development work, there is sufficient coal 'in sight' to last for three years. The new system of working will enable all the coal to be taken out and not fifty per cent. only, as is declared is the average extracted in other parts. This reference is to the Joggins colliery.

Dr. Ellis' paper on the oil shales of Nova Scotia and New Brunswick, and his comparison of values of these and of those in Scotland, read before the N. S. Mining Society was well received. There was a lively discussion after the reading. Another splendid paper was that of Dr. McLeish on the 'Clays' of Nova Scotia. The excellence of the clays in some districts was a revelation to a majority of the members.

The other day the Joggins colliery had to its credit as a days hoisting over a thousand tons of coal. The Maritime Coal Railway & Power Co. three years ago said to the Commission on Old Age Pensions that as soon as the output reached 200 tons, the Company would become contributors to the Relief Fund. On this being told the men present at the meeting of the Commission, the scornful reply came, "But it will never reach 200 tons." A thousand tons is a splendid output, more than some mining men of experience ever expected to see. It all depends on the management.

The fire that occurred in the back mines, Stellarton, a short time since, was soon sealed off when the Draeger men set to work, but the unprotected men did their full share towards that end.

Mining matters were on top in Halifax last week. The question of 'recognition of trades unions' occupied first place and drew large audiences to the gallery of the House. On the floors of the House those who knew nothing of the subject were equally zealous with those who knew something.

It has been suggested to the Mines Department that the returns of shipments of coal given in the Mines Report should be made up as in former years, to the end of the calendar year and not for the government fiscal year, as at present. It is asserted that in all the other provinces of the Dominion the mines reports for the year are made up to the end of December.

Members of the Mining Society express the opinion that a gradual improvement is shown in the make up and the contents of the Report of the Department of Mines. Next year there will likely be a table showing the quantities of coal cut by mining machines and by hand.

The address of Mr. T. J. Brown at the Annual Meeting of the Nova Scotia Mining Society, was most interesting and instructive, interspersed with bits of caustic humor. It will, when read by some of our mining experts, make them sit up and consider. In next issue we will give his address as it is worthy to be placed before all classes of mining men, the practical as well as the theorist.

Brother Nickerson, M. L. A. is the one champion of the rights of fishermen. When he attempts the double role of champion of mine workers, he flaps about like a fish out of water. He cannot understand why coal can be carried more cheaply to Montreal than to Yarmouth. Some of his colleagues might take him to C. B. in the shipping season and show him a modern collier. He might then be able to see a distinction and a difference between a 200 ton sailing vessel and a 7,000 ton steamer, and be assured that a steamer often makes a return trip in the time a sailing vessel makes the single journey.

The Legislative Committee of the P. W. A. were before the government last week in reference to sundry additions to the Mines Regulation Act. One of these is to provide means of travel in mines where the distances are great. It is felt by the men that the long walks are not only fatiguing but run away with a lot of time. The several suggestions are to receive the consideration of the government. Representatives of the U. M. W. had conferences with the leader of the opposition. They supplied him with many pointers. The several suggested amendments to existing laws were promised his earnest attention. With this statement the delegation considered their case as good as won.

AROUND THE COLLIERIES.

The Mining Society was happy in the re-election of T. J. Brown as President, and equally happy in again selecting Mr. Partington as Vice-Pres. From Tom's performances at the late meeting and the summary way he dealt with protesters, the prediction is he will rule recalcitrant members as with a rod of iron.

As soon as B. F. Pearson told Mr. Nickerson, M. P. P. that he would deliver coal in Shelburne at \$3.00 per ton, the latter left Halifax by first train to all the good news to his constituents. No one will dare say that this was not sufficient excuse for being absent when the vote on Dr. Kendall's resolution took place.

The U. M. W.'s hate injunctions like sin. They have for months been restraining peaceable men from going to work, enjoining daily. Now they have been treated to a dose of their own medicine. They may soon find out that 400 men stopping a solitary individual on his way to work is not picketing but intimidation.

Mr. Paul's bill for 'Recognition' is on the whole a remarkable production, and in parts unfashionable. Take the last clause for instance:—

"6.—It is not obligatory upon any united body of workmen, or employees or any local union or unions to ask for or demand recognition as such, and failure to ask therefor will be evidence they do not want such recognition."

This clause of itself shows that the cry for recognition is all a one-sided affair, not in the interests of the community, but wholly in the interests of a class. It proves further that recognition is not an absolute necessity. If a trades union can get along without recognition, there is no necessity for the bill. Does the clause mean that if, suppose recognition became compulsory, the men did not apply for it right off, the conclusion is the men do not want it. But can they demand it after any length of time? If so, the clause is farcical. The law would be only compulsory on the employers. If the employees wanted it they must get it; if they didn't want it, they were not compelled to have it. We always understood that unions were ineffective where recognition was denied. It seems not.

Coal Shipments February, 1910

—NOVA SCOTIA STEEL & COAL CO. LTD.—

Shipments Feby.	1910	29 095
"	1909	20 928
Increase	1910	8 077
Shipments 2 mos.	1910	74 337
"	2 " 1909	59 773
Increase 2 "	1910	14 574

—ACADIA COAL CO.—

Shipments Feby.	1910	21 553
"	1909	18 187
Increase	1910	3 366
Shipments 2 mos.	1910	45 087
"	2 " 1909	43 039
Increase 2 "	1910	2 048

—INVERNESS RY. & COAL CO.—

Shipments Feby.	1910	18 520
"	1909	9 473
Increase	1910	9 056
Shipments 2 mos.	1910	38 827
"	2 " 1909	19 391
Increase 2 "	1910	19 436

—INTERCOLONIAL COAL CO.—

Shipments Feby.	1910	17 484
"	1909	18 296
Decrease	1910	812
Shipments 2 mos.	1910	37 108
"	2 " 1909	38 043
Decrease 2 "	1910	875

WHY LIVING IS HIGH.

A good deal of the nonsense talked and written about the "cost of living" arises from lack of consideration of individual and national habits. The position which a farthing or a cent a loaf extra occupies in the controversy is given undue prominence. "It is not the high cost of living, but the cost of high living, which is bothering people," said Mr. James. J. Hill, the Western "railway king," the other day, in discussing the causes for the higher prices of most articles in the United States now, compared with what they were when he was a young man. Again, Mr. C. C. James, the Deputy, Minister of Agriculture in Ontario, pointed out, in a lecture on "Plain Food and High Thinking," that most English-speaking people are spendthrifts and slaves of fashion or habit in the matter of food; they make no study of domestic science, and it is the so-called "poor" who know least that there is more nourishment in the cheaper cuts of meat than in the "dainty" morsels. In regard to the controversy as to the respective cost of living in Protectionist countries and Free Trade Britain, those who seek to get all the truth of the matter must study both sides of the question, and ascertain the earning power in proportion to the spending power. When all is said and done, however, it is the habits of the family and the efficiency of the house-keeper which are the principal factors in determining the cost of living the

world over. It is interesting to note that, now so much general attention is being paid to this question, the official Labour Gazette of Canada will, in addition to its monthly tabulated statement as to the current "fair wage" scale, include tabulated returns showing the prices of thirty-four commodities which enter largely into the cost of living at the more important centres of population throughout Canada, which, as elsewhere, "vary according to local conditions."

COAL DUST.

Q.—What is the effect of coal dust on the atmosphere of fiery mines, and what special precautions are required in working such mines?

A.—That coal dust is a powerful inflammable element in the atmosphere of a mine there can be no possible doubt.

Floating as it does in the most infinitesimal particles in the atmosphere, its presence so far as the mine is concerned may almost be considered as ubiquitous, seeing that its deposition begins at the coal face, and ends at the surface.

Each particle of coal dust after standing for a little time yields up some of its occluded gases and absorbs oxygen in their place, so that it then consists chiefly of hydrogen, carbon and oxygen, two highly inflammable elements, and the element necessary for their combustion. With the application of great heat the hydrocarbons of the coal dust are released, so that it becomes a body of gases of an inflammable nature, and if the heat be accompanied with flame an explosion is the inevitable result, the fixed carbon of the coal dust being deposited in the form of coke.

The atmosphere of a fiery mine is liable to contain a dangerous percentage of fire-damp, and this is sure to greatly intensify the dangers arising from the ignition of the coal dust, whilst in the case of an explosion of fire-damp, coal dust would propagate the flame of the explosion, and cause it to be transmitted over a much greater area. Thus it will be seen that a combination of these two elements is far more dangerous than either of the single elements.

The danger attending a blown out shot in the presence of coal dust has long since been recognized, seeing that the shock is sufficient to agitate the dust and cause it to become suspended in the atmosphere. It is possible for the explosive to give off a quantity of CO, which would be ignited by the flame after reaching the outside of the shot-hole, and this taking place in a dust-laden atmosphere would tend to cause an explosion of the dust, whilst the fact that CO requires but about half its volume of oxygen for its complete combustion would only make matters worse, as its combustion would take place with such rapidity. Nor is a blown-out shot necessary. Prof. Cadman has shown that it may be readily ignited by an ordinary tallow candle, under which circumstances it gives off considerable flame, but without violent explosion.

This goes to prove that naked lights are a source of danger where coal dust may be agitated by runaway tubs, shot-firing, falls of roof, or anything producing a violent shock, even in the absence of fire-damp. Whether the coal dust exploded violently or burnt steadily in the air, would not alter matters as regards the product of its combustion, and a quantity of the

deadly CO may be given off under either of the circumstances.

The number of colliery explosions which have been investigated and traced to coal dust as their origin is numerous; in fact, it seems to be regarded as more dangerous (if possible) than fire-damp, but upon this subject we have our own private opinions.

The great force of coal dust explosions was made manifest by the experiments at Altofts, when a tub was blown more than 300 feet away by its force.

Having said so much about coal dust and its dangers, what about the future and its precautions? Is the remedy keeping pace with the disease? We are afraid not. A dustless zone does not seem to prevent the propagation of flame, whilst with a stone-laden zone the flame travelled more than half way before being quenched. It has been shown that the maximum force of a fire-damp explosion is manifest when air contains 5 per cent. of watery vapour; this argues nothing in favor of the method of spraying with water as a preventive of the ignition of coal dust. Probably the method of dust-tight tubs watered occasionally when full, and the sweeping up and frequent removal of the dust will prove efficacious.

The use of permitted explosives whose resultant gases are of a flame-quenching nature, shots fired when men are out of the mine, or prohibited altogether, will go a long way to reduce danger from explosions of either coal dust or fire-damp.

Mechanical appliances for breaking down coal and stone will go a long way to reduce the necessity of blasting operations.

The coal dust problem certainly opens up a wide field for argument, being pregnant with so many contingencies and complex problems, but it is exciting the interest and energy of so many of our leading lights in the mining profession that its conquest in the near future may be predicted with confidence.

THE INVENTOR OF THE THRESHING MACHINE

The threshing machine is so familiar a feature of country life that it comes as a surprise to know that the inventor has only just died. This is John R. Moffit, who first used the instrument before the world while living on his father's farm near Canton, Ohio. It was exhibited at various cities in the East and pronounced successful. This emboldened the young inventor to bring it over to Britain, where it was shown at the World's Fair in London in 1857. The Queen was much interested in the machine, and requested that the inventor should be presented to her. Success was thereupon assured, and the thresher soon became the supplanter of the old-fashioned flail, which to-day is almost extinct in Britain.

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There are all kinds of ready roofings on the market—so-called "rubber roofings," so-called "guarantee roofings," so-called "sand surface roofings."

The "rubber" roofings are no more made of rubber than a cow is made of saw-dust. The "guarantees" that are promiscuously handed out with many brands are hedged around with so many provisos that it will take three lawyers to dissect them and find out what they are all about. The "sand surface" has little or no protective value.

The point to remember is that all of these roofings have to be painted every year or two to keep them tight. In other words, it is the paint that protects, and not the roofing. If a man will sit down and figure out exactly what this point costs, he will find that it is more than the roofing itself. Amatite, on the other hand, has a surface of real mineral matter and we sell the goods on the broad statement that you need never coat or paint this roofing.

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WESTBOUND		STATIONS.	EASTBOUND	
Superior Dir.			Inferior Dir.	
53	51		54	52
P. M.	A. M.	P. TUPPER JUNCTION	P. M.	A. M.
8 20	10 30	INVERNESS JUCT	8 25	10 30
8 37	10 19	PORT HAWKESBURY	8 41	10 53
8 50	10 02	PORT HASTINGS	8 45	11 01
P. M.	9 27	TROY	8 49	A. M.
	9 47	CHEENISH	4 15	
	9 34	CRAIGHMORE	4 26	
	9 27	JUDIQUE	4 40	
	8 58	CATHERINES FOND	4 55	
	8 43	PORT HOOD	5 08	
	8 25	GLESCOPE	5 23	
	8 19	MADOU	5 38	
	7 49	GLENDYRE	6 16	
	7 39	BLACK RIVER	6 18	
	5 18	STRATHLOOSE	6 28	
	7 05	INVERNESS	7 20	
	6 43		7 30	
	A. M.		P. M.	

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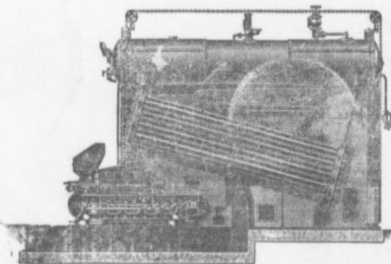
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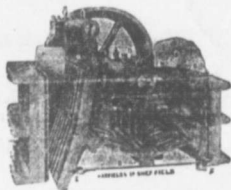
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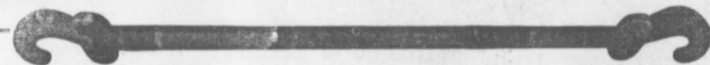
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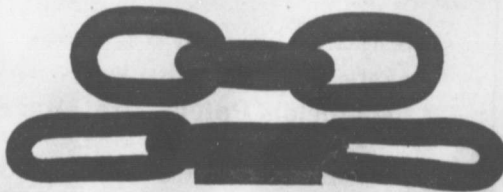
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Volatile combustible matter	18.94 %	27.93 %	28.41 %
Fixed Carbon.....	75.29 %	67.47 %	64.69 %
Ash.....	3.75 %	3.19 %	4.19 %
	100.00	100.00	100.00
Sulphur.....	1.15 %	58 %	.79 %

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