

MARITIME
MINING RECORD
Dr. R. Bell
Geol. survey dept.
AND
COAL AND METAL TRADES JOURNAL

Cumberland. * Pictou. * Cape Breton. * Inverness
New Series Vol. 11 No. 13 JANUARY 13th. 1909 STELLARTON, N. S.

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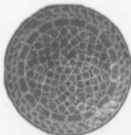
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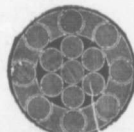
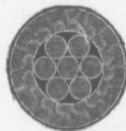
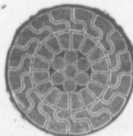
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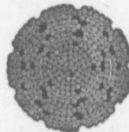
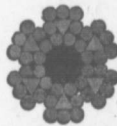
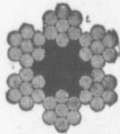
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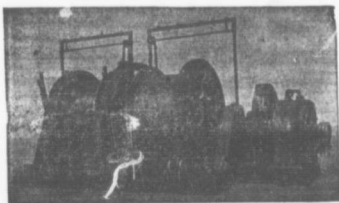
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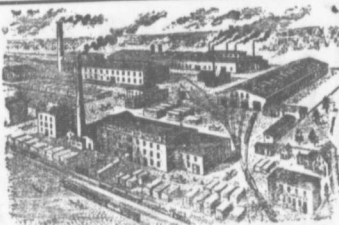
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26 Mixed for Truro	13.55
120 Mixed for New Glasgow	15.10
20 Express for Halifax and Montreal	15.10
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101 Mixed for Pictou Landing	15.40
22 Mixed for St. John	18.10
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17 Express for New Glasgow	21.50
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79 Mixed from Hopewell	6.30
78 Mixed from Trenton	7.00
61 Express from Pictou	7.30
18 Express from New Glasgow	7.35
21 Mixed from Hopewell	7.50
21 Mixed from Truro	8.00
28 Mixed from Pictou	10.45
20 Express from Sydney	11.50
27 Mixed from Pictou	15.10
120 Mixed from New Glasgow	15.20
19 Express from Halifax and St. John	15.30
140 Mixed from Pictou	15.40
20 Express from Sydney	18.10
22 Mixed from Pictou	18.20
77 Mixed from Hopewell	18.55
65 Mixed from Pictou	21.40
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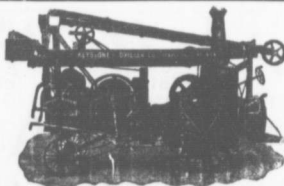
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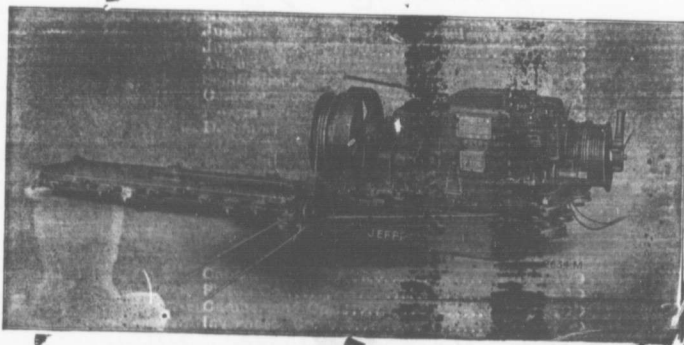
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ELECTRIC COAL CUTTER,
For room and pillar work on the Longwall plan.

It cuts faster Consumes less power per cubic inch of coal cut.

Occupies less space, permitting the props to be set closer to the face of the coal

Is more easily controlled, operated, and handled; Is simpler and has greater strength, motor power, and endurance than any other make of Side Cutting Machines. This machine is loaded, unloaded, moved to and from the coal face and in fact handled throughout by its own power. Fully described in Bulletin No 1B 14

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We invite inquiries, which will have our closest attention.

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ENGINEERS

New Glasgow, . . . Nova Scotia.

To Ho....

MARITIME MINING RECORD

Vol. 11, No. 13.

Stellarton, N. S., Jan. 13th. 1908.

New Series

SELECTED QUESTIONS AND ANSWERS.

(Science and Art of Mining.)

COMPRESSED AIR UNDERGROUND.

Q.—You are asked to give an account of an installation for producing and distributing compressed air underground.

A.—Compressors are now made in three different classes, viz, dry compressors, wet compressors, injection or spray compressors.

The dry compressor is the one chiefly used in connection with colliery work, and is the one I undertake to describe. We are not given any figures whatever as regards the installation, so I will give a few dimensions from experience.

A very common arrangement is to have a pair of steam cylinders placed horizontally and coupled direct, with a fly wheel in the centre. We will say the steam cylinders are 22 inches diameter, with a three foot stroke and air cylinder 24 inches diameter with 3 feet stroke. The air cylinders are placed in a direct line close to the steam cylinder, so that the piston passes from the steam cylinder into the air cylinder.

The action of a compressor is pure and simple the action of a pump. On the outward stroke the air rushes in at the valves and fills the cylinder; as soon as the piston commences on the return stroke the inlet valve closes, and then the air is compressed until it lifts the delivery valve, from which it is delivered into air receivers to be stored up. We get the compressed air for underground purposes from the air receivers which are only a short distance from the compressor house.

The distributing of the air is done by taking a certain sized pipe down the shaft and if possible, deliver into a small air receiver placed at the bottom of the shaft. From this receiver the air may be carried into the workings by a certain sized spigot and spoket pipes.

If the shaft is not too deep the pipes may be held in position by collaring, that is, placing four pieces of timber made in the form of a square under the flange of one of the pipes. Two of the ends are let into the shaft side, the other two ends being nailed on to the buntons.

SINKING.

Q.—Describe a method of sinking and tubbing a shaft in very watery ground, either with or without pumping.

A.—The Kind-Chaudron system has been adopted successfully, and can be divided into five distinct processes, viz:

1.—The erection of necessary machinery on the surface and opening of the mine.

2.—Boring of the pits to the lowest part of the wat-

er-bearing strata.

3.—Placing of the tubbing.

4.—Introduction of cement behind the tubbing.

5.—Extraction of water from the pit, and placing cribs below the moss box.

It consists of two large boring tools called Trepanns. The first which weighs about eight tons, has fourteen teeth made of steel, fitted in cylindrical holes secured by pins, and cuts or bores a hole of 4 feet 8 inches in diameter. At a distance of 4 feet above the main teeth of the trepan there is an arm, with a tooth at each end which answers the purpose of a guide. At a distance of 13½ feet above the main teeth are the actual guides, consisting of 2 strong arms of iron fixed on the tool, and placed at right angles to each other. The hole made by this small trepan is not kept any fixed distance in advance of the full-sized pit, but generally varies from ten to thirty yards, at a progress of from 6 to 10 feet per day. The percussive action is received from an oscillating lever at the surface, just the same as an ordinary boring apparatus. After being at work for some time it is withdrawn, and a large sludger sent down to raise the water and debris formed. The larger trepan is now let down to enlarge the hole, and weighs about 16 tons. The debris now cut, as well as the water, falls into the centre hole bored by the small trepan. The larger trepan differs from the small one in having its teeth towards the inside of the pit, the face of the inside tooth being 3½ inches lower than the outside. The same teeth are used in both, and weigh about 72 pounds each. By boring alternately with the large and small trepanns the shaft is at length sunk to the point at which the lowest feeder of water is encountered, and the tubbing with its moss box inserted.

The tubbing with its joints carefully trimmed is let down from the surface, fresh rings being bolted on at the top until the whole length of (say) 200 yards is lowered to the bottom. Since this has an enormous weight reaching about 800 tons, no ordinary tackle would suffice to sustain the load, so that the weight has to be borne by the water in the shaft, and a concave iron bottom is put in near the bottom of the tubbing. The interior being free from water the tubbing floats, and the descent can be regulated to some extent by screws and chains, until it reaches the carefully prepared bed.

A moss box, by means of which a water tight joint is made, is placed at the bottom. The bottom ring of the metal tubbing is of a smaller diameter so as to slide inside the second ring. The second ring has its top flange internal, so that it may be suspended by means of bolts, and its bottom flange external. Between this flange and the bottom flange of the second ring is packed some dried moss, which is kept in its place whilst being lowered by a covering of net work. On arriving at the bottom the whole weight of the tubbing has to be supported by the water or the moss.

The shaft above and inside the tubing is now filled with water, the whole weight of the water and the tubing comes upon the moss, compressing it, and forcing it against the strata with such force that a water tight joint is made. Before the water is removed the annular space between the tubing and the sides of the shaft is filled with hydraulic cement, to render the tubing impermeable by a process of consolidation. It is known to have successfully sunk shafts, when a feeder of 12000 gallons per minute had to be dealt with.

JUDGE GRAY ON ARBITRATION.

Letter to Pittsburg Mining Congress.

"Arbitration is an appeal to reason and conscience; its alternative an appeal to brute force. To the latter no American willingly submits. A just cause need not fear to submit itself to the judgement of intelligent and impartial men. The maxim that no man is a good judge in his own cause is true in labor controversies as it is in other human affairs. But whether the cause on either side is just or whether justice lies not altogether on one side or the other can never be determined by force, and a sober public opinion will never be satisfied or conciliated by such determination, nor in the large majority of cases by the refusal of either party to such a controversy to submit to fair and impartial arbitration.

"I am speaking here of voluntary, not compulsory arbitration. To the approval of the latter I have not yet been able to reconcile my own judgement. We welcome the former, not only as a settlement of serious and dangerous controversies, but for the self-control and civic virtue which it evidences and promotes. No one who witnessed, as I did, the development of mutual respect and high courtesy of both sides of the controversy throughout the daily sessions of the protracted hearing by the Anthracite Coal Strike Commission, and the ability of fairness with which the argument on both sides was conducted, could fail to have been impressed with the dignity of the occasion and the disciplinary influence upon operators and miners alike of the voluntary submission of their questions of difference to an arbitral tribunal.

"We are not without evidence that an intelligent public opinion is maturing on these lines, and by its moral coercion will compel the adoption of this course in serious labor difficulties. Where the situation is complex out of which the alleged grievances arise and the attitude of each party is that of obstinate adherence to its own demands, arbitration alone can satisfy the ends of justice. To this end in so large and wide spread an industry as that of mining miners' unions become a necessary factor. And this leads at once to the thought that such unions should be encouraged and not discouraged and better organization and leadership be insured by the hearty sympathy of all parties, operators as well as miners.—(Coal Trade Journal.)

SHOT-FIRING.

A good system of firing where a mine is worked by the room and pillar system is to divide the mine into four sections, have the shot-firers work together and fire, for instance, the north-east quarter of the mine, then fire the south-west quarter; after this, return to the bottom of the air shaft and fire the parts of the mine fired 30 minutes, in order to give the parts there for about 30 minutes to cool off and the smoke clear away. The two remaining sections should then be fired. In this way the mine can be kept cool and free from explosive powder gases.—Science and Art of Mining

THE WABANA ORES OF THE N. S. S. & COAL CO.

The following appears in the Montreal Star written by Mr. Drummond:—

"Some twenty-four months ago the directors of the Nova Scotia Steel & Coal Co. came to the conclusion that the time had arrived for taking steps to ascertain the true value of the extensive sub-marine ore areas of the company at Wabana.

"The most feasible and satisfactory means of access was through areas held by the Dominion Iron & Steel Company. Arrangements were made with that company which have proved to be of immense advantage to both concerns. The driving of the slopes was not only a formidable undertaking; it had the element of risk about it. Who knew how soon a fault or a clear out-off might be encountered?

"Mr. R. E. Chambers, one of the directors, personally superintended operations, and from first to last his faith never faltered. Of course the other directors, especially the managing director, Mr. Cantley, were not idle spectators.

"From the mouth of the slope to the line of the Scotia area the distance to be driven was 5,160 feet. To have driven that distance in the comparatively short time of twenty-four months is a feat in slope driving that has perhaps never been excelled.

"The extent of the Scotia area is some 58 miles. The areas lie to the right and the left, and in front of those of the Dominion Iron & Steel Co. The sinking of the slopes has proven beyond peradventure that there is ore of excellent quality in twenty square miles of the company's areas, with the probability, amounting almost to a certainty, that the three seams underlie all of the remaining eighteen miles of territory.

"Andrew Carnegie, the other day, speaking to the U. S. Tariff Commission, gave it as his opinion that the iron ores of the United States would be exhausted in forty years, and the ores of Britain in seven.

"A general on the eve of a momentous battle going the round of the tents after lights out, in passing one of them, overheard some old veterans counting the chances for and the odds against victory. The odds were heaviest. Lifting the flap of the tent, the general quietly and confidently said: 'Ah, you left out in your count one thing in your favor. You forgot to count me.' And so Mr. Carnegie, in discounting the time the ores of the great steel corporation should last, and, inferentially the ores of the world—for Mr. Carnegie knows that that corporation owns 70 per cent. of the known ores—forgot to count the ores in the Wabana areas of the Nova Scotia Steel Co.

At Wabana the N. S. S. & Coal Co. have three seams of iron ore, of the following thickness: One 5 feet, one 9 feet and one 11 feet. This is a low estimate of thickness, for the seams increase in height to the deep. A common way of computation would give the quantity in the first seam at 450,000,000 tons; in the second 982,000,000 tons, and in the third over 1,000,000,000 tons, or a total for the three seams in round figures of 2,500,000,000 (twenty-five hundred million) tons.

"At twenty-five cents a ton that latter quantity means \$300,000,000.

"At a cent a ton it means \$12,000,000.

"What more does it mean?

"It means a sure asset, worth at the lowest computation two million dollars more than all the liabil-

ies, bonds, preferred and common stock of the N. S. S. & Coal Co.

"It means an output of ten million tons yearly for a hundred and twenty years."

"It means that outside of the United States Corporation, there is no other corporation in the world which can say it has so much ore in sight."

"And what more does it mean?"

"This, that the directors of the N. S. S. & Coal Co. can at this moment find responsible parties who are not only willing, but eager to enter into immediate engagements in exchange for the ore areas at Wabana alone, leaving the extensive coal areas and the works at Trenton in the present hands, to pay off at 110 the bonds, first mortgage, and consolidated, at the same figure the preferred, and at par the common stock of the company, still convinced that having done all this, there are still millions in it for them."

A gentleman in Halifax said to be exceedingly well posted in the affairs of the company says that the directors will soon be in the market for money as the company is in debt to the banks nearly \$1,000,000. Replying to this statement the Sydney Post says that in view of the statements made—as to ore bodies at Wabana—... the company should be able to obtain readily all the money required for the development of their ore properties or any reasonable expansion of their business." We think so too, and cannot well imagine how a company could be expected to develop a twelve million dollar property without having considerable ready cash at command. The Star is probably correct in saying the directors have something up their sleeve in the way of a re-organization of the finances—or some other thing.

IRON AND STEEL IN NOVA SCOTIA.

The past year in N. S., while not characterized by extreme briskness in the iron and steel industries, makes relatively a showing that will compare favorably with the work done in other countries. The plant of the Dominion Iron and Steel Company consists of:

500 by-product coke ovens. 4 blast furnaces. 2 Bessemer converters. 1 hot metal mixer. 10 open hearth-steel furnaces. 1 blooming mill. 1 continuous billet mill. 1 rail mill. 1 continuous rod mill.

In the busy season 3,000 men find employment in the works at Sydney and 2,000 more in the mines and quarries which supply the ore and stone.

Upon the company's property have been built the subsidiary works of the Dominion Tar and Chemical Company, Ltd., for the utilization of the tar produced at the coke ovens, and the Sydney cement works whose Rampart cement is made from blast furnace slag.

The proportions to which the company's operations have grown is best illustrated by the statement of production and shipments for the past year:

PRODUCTION, ETC.

Ore mined.....	556,000
Stone quarried.....	304,000
Coal consumed.....	840,000

Pig iron made	263,000
Steel made.....	279,000
Rails made.....	153,500
Wire rods made.....	41,500
Other steel products..	35,000
Sulphate ammonia	3,000
Tar, gallons	4,500,000

SHIPMENTS.

Pig iron.....	18,000
Steel blooms, etc.....	32,500
Wire rods	44,500
Steel rails	150,000
Sulphate ammonia.....	2,600
Granulated slag.....	18,000

265,600
4,500,000

The extent of the Nova Scotia Steel & Coal Co.'s trade may be gathered from the following figures:

Coke made.....	Tons 90,000
Iron ore mined.....	360,000
Limestone and delomite quarried.....	51,000
Pig iron made.....	55,600
Steel ingots.....	52,000
Steel billets rolled at Cogging Mill, N. G.	53,000
Steel bars, sheets and forgings manufactured from New Glasgow	45,000
Freight carried on the Sydney Mines Ry. of the Company.....	1,250,000
Freight carried by steamers owned and chartered by Company	690,000
Freight paid to Intercolonial Ry. direct ..	\$215,000
Wages paid, Sydney Mines	440,000
Wages paid, Trenton.....	445,000
Wages paid elsewhere.....	285,000

It is reported that things are not quite so bright as the U. M. W. sympathisers had expected. Patterson and his assistants are coming in for blame for not organizing immediately after the 'referendum.' They might have done that were the sole object to help the poor, down trodden men. They had, however, other fish to fry, and wanted some 'fat.' Now that they are unlikely to get it, they are in a 'great stew.'

The B. Greening illustrated calendar for 1909 follows the same lines as in former years. These cannot well be improved upon. There is a nice large pad for office work, and on the large sheet a view of the extensive works, on this sheet there are numerous tables, such as size, weight and length of wire rope, weight of iron, etc., strain on inclined planes, etc. The company are at present engaged in the preparation of new catalogues for the several lines of their business. These may be ready for distribution some time in February.

The Nova Scotia Steel and Coal Co. did everything to make the festive season pleasant for the people of Sydney Mines. They kept their store open day and night during the week, and gave the customers a suitable Christmas present. Manager Ratchford deserves great credit for the way he handles the store.

The P. W. A. will do better work after the U. M. W. supporters get out. There are about three hundred members for Drummond, P. W. A. Lodge. Gd. Sec'y. Moffatt and Gd. Master Stephen B. McNeil have many friends in Sydney Mines.

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STELLARTON, N. S.

JAN. 13

THE COAL TRADE, 1908.

The first months of 1908 gave promise of largely increased shipments for the year. As the months sped on prospects gradually grew less cheering and the anticipations induced by the brisk trade of the early months were largely dispelled by the later. There has been an increase, but only a moderate one. Of 1907 it was said, it opened ill and ended well; of 1908 it opened well and ended ill, verifying the old saying 'A good beginning's a bad ending.'

Early in the year the operators had sold sufficient coal to keep them busy for the year. The trouble was that their customers in Montreal, chiefly, and other points could not take delivery owing to lessened consumption due to the depression, and to want of storage room. Shipments suffered too from the competition of American coals, and from the less consumption of coal by the iron and steel works in the province. As will be seen from the figures published in another column, some of the companies show creditable increases while others show considerable decreases. The shipments of the Dominion Coal Co. fall short of predictions by a good few thousand tons. The same may be said of the Drummond. With these two exceptions all the other companies held their own or made gains.

The trade suffered no disturbance from stoppage of work arising from disputes between the employers and the employees.

There were more fatal accidents than we all would have liked to see, still there is room for thankfulness that no great disaster accompanied the year's operations. The close of the year was marked by the suffocation of a couple of men at the Joggins through the taking fire of brattice cloth used in the conveyance of air. It is doubtful if a similar accident in connection with coal mining in the province ever occurred.

The price of coal was fairly well maintained during the year. Some of the companies made attempts to realize a little better price in Montreal. There was no change in the rates paid for cutting except perhaps in one instance. The lower paid days laborers were granted an addition to their wages in at least some if not all the mining districts.

Several new slopes were sunk during the year. The Dominion Coal Co. have two new slopes on the Lingan areas. The N. S. S. & Coal Coy. sunk a new slope No. 4, and unwatered No. 2, so that next year they will have five pits in operation,

two shafts and three slopes. An old slope on the Little Bras D'Or has been opened by a new company. The North Atlantic Collieries Co. have about completed sinking a shaft to the Blockhouse seam at Port Morien. The Port Hood people have extended their slope, while the Inverness company has practically made a new slope, retaining only the upper portion of the old. This company will work the thirteen foot seam—if they can get a hold of it in the proper place—just as things were getting into shape at Maison. Just as the company found it had gone dry of funds and the work had to be stopped. Considerable exploratory work has been done at the Richmond mine and a little coal shipped, but as yet the parties prosecuting the work have not met with success commensurate with the determined efforts as put forth. The alleged great discovery of coal in Antigonish could not have come up to expectations, as there is no word of active steps being taken to develop the field. At the Drummond and colliery there was a falling off of shipments for the year, due to customers failing to take delivery of coal. The slope, the longest and steepest on the continent, is still being sunk to the deep. The driving is exciting considerable interest, as a geological point is involved. Development work is still proceeding at the Allan Shafts, and good progress is being made at the Vale. The 'back mines' have been seriously handicapped the past year by fires and falls of an annoying if not of an extensive nature. At Springhill everything is in readiness for a big output; development work at this colliery is always kept well forward. At Macan they are still exploiting. At Joggins a fine new slope has been sunk which will likely be heard from this year. In short the collieries all are in good shape for bigger outputs than ever before.

Though at the present there is a lull in the coal trade, as in other districts, a majority of the operators are buoyant as to the prospects for 1909. The collieries are equipped for an output of over seven million tons, and it is not unreasonable to hope that the output may reach six million and the shipments five and three-quarter million tons. It is possible that there may be no bustle until navigation opens in May; from that out there should be something doing.

ABSENTEEISM.

On many occasions of late years the Record has directed attention to the large number of off days and entreated the men to work more steadily for their own sakes, and the sake of their employers. Many and many a time has it been pointed out that, persisted in, wide spread absenteeism would sooner or later, react upon the workmen. The only alternative left to the operators, in view of the many off days, was to hire more men. And this it seems, if a writer in a C. B. paper is to be believed, is what they did. A Cape Breton paper, not long ago, took certain writers, mildly to task for 'advising the miners' to practice thrift and economy. I did not notice that any writer had advised thrift at this particular time; that might be untimely as their was, so some had declared, nothing to practice that virtue upon. The same paper hinted that it was sort of

impudent to select the colliery workers for advice and leave out the other classes in a community. That does not hold good in all cases. It would be inconsequent for say the Sydney Record, to lecture the liberals of Colchester or Halifax on the lack of proper organization, while it might be quite appropriate, the desirable thing, that it hauled its party in C. B. over the coals for its shortcomings in that respect. If the Glace Bay Gazette for instance, offered some wholesome advice to colliery workers, could it be taunted with prejudice or something else, because it had not applied the advice to the Halifax brick-layers. The Gazette is not greatly concerned over the progress of the Halifax brick-layers, it ought to be deeply concerned over the welfare of those who compose the community in which it is published. Will an evil be prevented by being treated with silent contempt, or cured by being gossiped over? Scarcely. The Record at this time is not going to enjoin industry, it has consistently and persistently done that in the past. It failed in its object because the advice was not taken to heart. May this not be the proper time, by the presentation of a few simple facts and figures to drive the lesson home. Happily the Record being non political, may not require to back and fill and bent about the bush, for fear of giving offence to partisans, and happily, knowing the miners, it knows they prefer to have the truth placed plainly before them, than hesitatingly offered in small particles, obscured by honeyed words, just as pills are sugar coated to deaden the taste. A writer in a C. B. paper said lately that a cause given for the present dull times was the too large force employed by the company. He admitted that the company may have been compelled, in a sense, to hire more men than necessary, owing to the amount of absenteeism at the collieries. Absenteeism at the time it is practiced is a great loss to the operators, and ultimately, if not at the time, a serious thing for the employees. Let a few figures be given to show what absenteeism may really mean. Take a colliery equipped for an output of 2000 tons. The full complement of men required for this daily output is 750. The superintendent finds that the output falls short of expectations, caused by a large number of the men being off daily. He hires more men, and still more until he has on the roll not 750, but nearer 850 men, that is a hundred more than necessary, provided the men worked steadily. Of the 750 underground workers he finds, when the time is made up, that of a possible 25, two hundred men have worked 24 days; two hundred and fifty 22 days; one hundred and seventy five, 20 days, and a hundred and twenty five 18 days. Out of a possible total of 18 050 days, in the month, he finds that his 750 men have only worked 16,050 days. If then he is to maintain the output for which his colliery is equipped, he realizes that he must hire on ninety one more men. He would much rather not do this, but he is forced to it. Sometimes it happens that a larger number of men than usual come out on some particular day. What is the consequence? The miners all cannot get their coal out, and there is much grumbling of coal not being taken away. The steadier and more industrious the workman the more is he affected by the absenteeism of his fellows. And how does it affect profits, the basis in many cases of wages.

Let it be supposed as in several years before 1908 that he cannot procure the men, is he much of a loser. Let us see. With all the active producers at work, his expenses, his daily fixed charges for an output of say 2000 tons is \$2,700, or roughly, a dollar and thirty five cents at the shipping point. Instead of 2000 tons, owing to absenteeism, he only gets 1750 tons with the same daily fixed charges. Instead then of the coal costing him, at the shipping point, as it should a dollar thirty five, it costs a dollar fifty five, a difference of twenty cents, in itself these days a handsome profit, and without which he is unable to give his employees an advance in wages, which he had in contemplation. In the figures given the particular amount of absenteeism has not been over-stated, rather the reverse. It is to be hoped the figures will be pondered over, and the harm done by unnecessary loss of time be realized.

N. S. VS. U. S. BITUMINOUS.

WHICH IS BETTER?

Perhaps the question should be, 'Which is considered the better?'

A gentleman, reviewing a city from the top of a high insane asylum, said to his guide:

'What position do you hold in the institution?'

'I, I do not hold any position, I am a patient.'

'A patient? Why, you are not crazy.'

'I do not think so, but there are certain people who think I am, and therefore I am here.'

There are some besides the Nova Scotia coal operators who are not inclined to admit that N. S. soft coal is inferior to American, but the real point is what do those who buy coal think. They may be wrong, but what they think is the essential point. Now comes the question: How do some consumers in Montreal think American coal the better? It cannot be because it is a better steamer or a higher producer of gas, for Nova Scotia coals in these respects compare favorably with any other. Why then the preference for American coal—in some quarters? The simple answer is: 'Because it looks better; it is lumpy and not duffy'. If this is a correct answer then what must be attempted to be done, is to make N. S. coal look better by making it larger. That, it must be admitted, is not an easy thing to do on account of the friability of our coals, and yet it is not an impossible task. If the miners will assist the operators in keeping U. S. coal out, then their motto from this out must be, 'More pick, and less powder'. A party not directly connected with any of the collieries in N. S. but interested in the growth of the coal trade, in a letter to the editor says:

"I had occasion recently to visit the coal-fields in Pennsylvania and found that the coal trade in that district is still suffering from the financial depression which passed over the United States a year ago. The manufacturing establishments and engineering works throughout the State of Pennsylvania and the State of Ohio are not using anything like the quantity of coal which they did eighteen months ago, and consequently the American operators are making strenuous efforts to capture Canadian business. If we are to keep our trade the miners in Nova Scotia will have to

assist the operators in every possible way, especially in producing coal of better quality than hitherto. American coal offered in this market is specially prepared lump coal and is sold as run shale in a carload of it, and I do not think it would show more than ten per cent. of slack. In fact the miners in the districts from which we may expect competition are only paid for coal which will pass over a screen with bars spaced one and one-quarter inches apart."

In view of these facts it is necessary that our miners be brought to realize the paramount importance of making coal so that it can be delivered to customers in the best possible condition, for view of the fairly high standard of wages now current in the province, and with the greatly increased cost of materials, it is impossible for operators to meet American competition for the reducing prices. The one thing to do, if it can be done, and it is worth the attempt, is to supply coal that, in appearance, is equal to the American coal offered in the St. Lawrence market.

- Rubs by Rambler.

When I see papers credited with articles or items which appeared first in the Record I come to the conclusion there are some editors who consider they are outside of the range of the application of the ten commandments. Thou that teachest another 'thou shalt not steal,' dost thou steal?

When some of our reformers talk of the provincial government running the coal mines they shout "They do it in New Zealand." So they do, but not much. Of the output of bituminous coal the State mines furnished only twenty per cent. If the business was a paying one for the government the probability is that by this time the total output would be larger than that of one moderately sized colliery in Nova Scotia, surely.

Some time ago in conversation with a gentleman from Inverness who is interested in social questions, the British Licensing Bill and temperance were referred to. My friend expressed doubts as to the benefits to be derived by labor from the closing of bar rooms, breweries and distilleries. I said the labor employed in making beer and whiskey was less in volume and value than in any other trade. He asked if I knew the amounts expended on labor in the production of various articles. I promised to look up a table I had some where. I have not yet come across it but the following few figures taken from a British paper may be of service:

For every pound spent on clothing labor gets 4/6
 For every pound spent on farm produce labor gets 5/7
 For every pound spent on machine made boots labor gets 6/5.
 For every pound spent on coal labor gets 1/1.
 For every pound spent on beer labor gets 1/6."
 Instead of boycotting 'stoves' etc. labor would do itself an excellent turn if it boycotted beer.

For the past two years, at least, the Record has advocated "First aid to the injured," as one of the subjects on which candidates for manager's and other certificates should be examined. The Board of Examiners, presumably, were of a different opinion. In New Zealand, it has just been decided to add to the list of subjects upon which candidates are examined an elementary knowledge of electricity, and of the treatment by first aid to the injured. Pity that some people will listen to no suggestion from outside.

Speaking to a large and enthusiastic audience in Liverpool, G. B. lately, Mr. Lloyd George, among other things said, "You cannot have a hundred and fifty millions (pounds sterling) a year spent on stuff that enfeebles the constitution, and shatters the brain—yet you cannot have these and not be without poverty." And speaking from one of the pulpits in Glace Bay, anyone might say, you cannot have ninety grog shops in your town, big as you call it; you cannot have \$50,000 spent annually in drink in these shebeens, and not hear tales of distress, and the prevalence of poverty.

Before the U. S. tariff commission, I think, a United States mine operator curiously complained that Canada collected five times as much duty off American coal as did the U. S. off Canadian coals; a frank admission that America sent five times as much bituminous coal into Canada as Canada did into the United States. If the Americans can send 'five times' the quantity in face of a duty, how many times would they send if the duty was removed? Have the United States, so far as Canadian experience goes, the reputation of giving something for nothing, a quid without a quo?

The Secretary-Treasurer, of the Coal Trade League is not a particle less ingenious, nor a whit more ingenious than of yore. He tells in the Herald that "a large trade is now done with the United States against a hostile tariff, at the same time meeting the keenest competition of Pennsylvania and W. Virginia coals." The Treasurer of the Free Coal League knows that is a wild statement. He knows the coals being sent from N. S. have no keen competition from Pa. After giving the shipments for the past ten years, the Treasurer of the F. C. L. exclaims:—"If shipments can be made of 600,000 tons profitably, why not 6,000,000 tons. If it pays to ship 600,000 tons, paying THE DUTY, would it not pay more if the duty were removed." There is an instance of the Sec'y-Trea's ingenuity. He fails to tell us that of the 450,080 tons sent in 1908 not a pound went into the New England states for the use of New England concerns, that is of round coal, and that the 450,000 tons sent to Everett was all slack, with a fractional duty, and moreover he forget to tell us that the reason for the decline in shipments from 796,000 in 1905-06 to 450,000 in '08 is due to the fact that the Pres. of the Dom. Coal Co. sought to break the contract on account of the unprofitableness of the trade. There is no profit of 10cts. on round coal being sent to the U. S.—to U. S. customers—for the reason that no round coal is being sent.

By the time certain P. W. A. men in C. B. get through with certain U. M. W.'s spouters, the latter will be nothing more than extinct volcanoes.

In a brilliant article, the Sydney Post, referring to the Record, with courtly courtesy says, "He knows it all". With perhaps less brilliancy, but with equal curtness the Record, referring to the Post-man says, "He does'nt."

Fergus Bryne, of Glace Bay, referring to the brazen attempt of the U. M. W. to cause dissension in the ranks of the P. W. A., tersely, and probably truthfully, says, "No other labor organization than the U. M. W. would attempt it, and no other society than the P. W. A. would permit it"

There are those who contend that it is becoming more and more apparent that there is a strong connection between the efforts of the American mine operators to capture the Montreal market, and those of the American United Mine Workers to lead into captivity the miners of Nova Scotia.

The American coal mine operators last year captured a large slice of the St. Lawrence market in spite of the strenuous efforts of the Nova Scotia operators to retain it. On the other hand a large number of Nova Scotia miners have willingly allowed themselves to be captured, and led captive by a foreign miners' association.

Can some advocate of the U. M. W. explain clearly and satisfactorily, how that society is making titanic efforts to seduce two or three thousand Nova Scotia miners from their allegiance to the P. W. A., the while, in the United States mining districts, there are some three hundred and seventy thousand non-unionists. Think it over,

They tell us that Philip of Macedon, father of Alexander the Great, said, "I would rather have a flock of goats led by an elephant, than a troop of elephants led by a goat." It has been left to the I. L. P. of C. B. to question Philip's sagacity. From a letter in the Sydney Post signed I. L. P. it is evident that the new party is being led by a goat.

For the benefit of the captious critics, who lose no opportunity of having a slap at the big coal company, and for the information, perhaps more particularly, of the public at large, let me point out of how much importance in one direction alone the coal trade is. If the population of the South riding of Cape Breton be taken at 37,000—and I cannot see how that is far off the mark,—then the Dominion Coal Co. paid in wages last year a sum equal to \$100,00 per head of the population, or in other words, for every man, woman, and child. If we step over to Cumberland Co., it will be found that the Cumberland Ry. & Coal Co., one out of the many concerns coal mining in that county, paid in wages a sum equal to \$25,00 for every man, woman, and child in the county, with those whom an Upper Province judge call non-descripts, thrown in.

Is it not curious, that if it be asserted 'the coal companies would be satisfied with such and such a profit', some immediately jump to the conclusion that the profit of the Dominion Coal Co. is meant. Mr. Drummond, in the Herald, speaking of profits of the coal operators had, no doubt, in his mind, not one but all the operators or all the companies. And what he said stands in all its essentials.

A highly esteemed Sydney contemporary guffawed at the idea of there being—as repeated in the Record—sixty-three drinking shebeens in Glace Bay and vicinity. It must have fairly shrieked—with delight—when it heard that it had been stated before the G. B. Town Council that the number was ninety. The paper referred to revels, evidently, in tales of distress; thinks they make good copy, and political capital.

Juggling with figures it may be possible to make out that the Dominion Coal Co. has paid big dividends on the price paid for the stock when first issued. Taking the high and low of the price of the stock in each year 1899—1907 inclusive, it will be found that the shareholders paid an average of 65% for the common stock. By no process of reasoning, known, or new, can a shareholder who paid 65, and got a dividend ranging from 8 to 4 in some years, and in others no dividend at all, be convinced that he is receiving a return of twenty per cent. not to mention a higher figure. Try it on and let it be known the result.

Some writers for the press make audacious yet amusing assertions. In order to make, if possible, a point, they put forward statements wholly innocent of truth and, of course, grossly misleading. In an effort to make a point at all cost, a writer, in the Herald, makes the following assertion: "In 1889 there were no mining machines. Practically every able bodied man in the community was a coal cutter and received the wages of skilled labor. The army of loaders, helpers and other more or less unskilled laborers was a thing unknown." Well, we shall see. In 1889, according to the sworn statements of all the operators, there were in the mines of the province, 2483 skilled colliery workers against 1581 unskilled. There were 902 more skilled than unskilled workers. Of the total force employed, exclusive of boys, 61 per cent were skilled and 39 per cent unskilled. Do these figures bear out the contention that 'practically every bodied man was a coal cutter.' Coming down to 1907 it is found that the total number of men employed is 11,210 of which 5,990 are classed as skilled, and 5,220 as unskilled labor. There are to day 770 more skilled than unskilled mine workers. Or taking the Dom. Coal Co. alone, as that company is seemingly the scape goat for all, the number of skilled workers underground is 2159 against 1912 unskilled. Of the total number 4,071 below ground, 47 per cent are unskilled and 53 per cent are skilled, as against 39 and 61 per cent. respectively in 1889, an increase, of unskilled labor, of 8 per cent, one surely, not alarming.

Many of us, at times, quite innocently say or do things which furnish the occasion for wrong

doing in other, or which have effects unintended and unexpected. I am at this time regretting a word let fall a few months ago, with the kindest intent. I called a person who insisted that torndoes strewed their paths with ten dollar gold pieces 'a fool'. He thought he was the only one in the secret. On the discovery that another knew he took it so much to heart that he went from bad to worse until he is now wholly imbecile as witness his drivell under the new pen name I.L. P. Though he gives no address, philanthropists and curiously seekers will find him still at 'Abderdeen.

It is something to be thankful for, that the miners of C. B. have much more sense than their would be champions. The miners do not hold the companies responsible for the fogs that fell over the St. Lawrence in the fall, and interrupted navigation, nor do they hold them responsible for the inability to sell coal to people whose bins are full.

A writer says that 'the present design of the store system of the Dom. Coal Co. no mere man can understand.' Well, now, that is strange seeing the system is merely that designed by certain reformers and friends of the people, and certain ones unfavorable to the old 1889 system, and which the company is compelled to follow, by order of the legislature. It is impossible to please captious folk.

Here is a little count for some of the mining students: The Glace Bay Coal Co. is formed with a capital of \$20,000,000. The directors agree to issue \$5,000,000 in bonds. To induce subscriptions the bond holders are offered blocks of stock, preferred or common, it matters not, at much below par. The company commences business with a normal capital of \$20,000,000, and a cash capital of \$10,000,000. On the nominal capital of \$20,000,000 an average dividend of six or say seven per cent. has been made, for a number of years. Prove that a dividend of 7 per cent. on the nominal capital is equal to a dividend of 27 per cent. on the cash capital. Having done this, send it to the Halifax Herald for publication.

It is not always the part of wisdom to interfere in the disputes of others. Sometimes truth demands that an outsider should interject a word or two in the interests of reason and fair-play. There has been a controversy in a Sydney paper between a Socialist and one opposed to S. In the course of the argument the former pointed to Germany and asserted that Socialism was making great strides there. That is a misleading statement. In the German Socialist organ Die Neue Zeit, a controversy has been going on for some time between the three noted Socialist leaders Kautsky, on the one side and Mannebrecher and Bernstein on the other. The latter assert that contrary to the expectations of Marx there will be no great change in the direction of revolutionary Socialism in our day. Mannebrecher asserts that in 1903 Socialists numbered 24.03 of the total number of voters. Four years later, in 1907, the number was 24.31 of the whole, or an increase of only a fraction of one per cent, in four years, and

from the fact that there has been a row in the camp in 1908, the probability is that there has been a decline in numbers, in 1908.

If the Record, as humoursly alleged, is the organ of the Coal Company, and the Sydney Post as seriously asserted the pocket organ of the Steel Company, the Eastern Chronicle cannot be held as being under bonds to either concern. What it says then may not be biased. Speaking of affairs in C. B. the Eastern Chronicle says:—"We do not want to be offensive, but we feel like stating we were ashamed of the wail of distress that came from Glace Bay the first part of the (last) month. Here was a place that enjoyed prosperity unequalled in the history of Cape Breton and before slack times were on a week there were cries of want" etc

Only poverty, or ignorance, makes a housewife flit from a superior to an inferior dwelling, and if some P. W. A. men are fitting from the well built P. W. A. to the jerry structure, the U. M. W., it must be from—a lack of enquiry. Here is the manner of house they are fitting to:—"Over the signature of President Lewis circular letters have been sent the various local branches of the U. M. W., warning them against the attempts which it is alleged are being made by certain members not friendly to the present management to destroy the organization. The officers of the Illinois district are denounced for sending out a circular designed to injure the president and create dissention in the ranks." Does not this seem like just retribution. Does it not give emphasis to the saying, 'With what measure you mete it shall be measured to you again,' President Lewis thought it was great sport altogether, doing even a grand and noble work, to back up the few in Nova Scotia determined to cause dissension by striving to injure the chief officer of the P. W. A. And so Pres. Lewis' chickens are coming home to roost sooner than he expected. When he gets a dose from the Illinois miners of the very same kind of medicine, he, through his organizers, is administering to the P. W. A., like a great booby he squirms and puts on hideous faces. And so the 'solid organization the Nova Scotia miners are asked to enter is nothing after all but a house of cards

A writer in the Herald of 31st. December said: "Some people have it in their heads and one cannot knock it out of them, that the price of coal is very high." The following from a paper published last week in Windsor bears the above statement out. Let me quote:

"Hon. R. Drummond in an article in the Chronicle says the miners in Nova Scotia are able to put out seven millions, and proposes a Coal Tariff Zone to meet one of the obstacles in the way of the greater output—American competition. Another and simpler way to increase the output is to lower the price to the general public. It ought not to be said that any of our large manufacturing concerns, or in fact any enterprise requiring large quantities of coal find it advantageous to import bituminous from the United States, and yet

we understand that the Halifax Street Ry. Coy. have done so, the little difference in price caused by the duty and more costly transportation being more than counterbalanced by the better heating properties of the imported article."

The price of coal to the general public, if the public of Nova Scotia is meant, and I think that was what the writer of the above had in mind, cuts a very small figure in the matter of output. If a householders be asked how much less coal he now uses, with coal at \$3.00 to \$4.00 a ton, compared with what was used when the price was \$2.50 to \$3.00, the answer probably will be: 'I use about the same.' But even if the general public was less economical, in its use of coal at the lower figure, the increased sales would not be appreciably felt by the trade. In the fiscal year 1907-1908 the quantity of coal bought by the general public—leaving out the steel works and the I. C. R.—was some 440,000 tons. If coal prices were put down fifty cents the output would not be increased twenty thousand tons, a mere drop in the five millions and a half bucket. I scarcely credit the report that the Halifax Street Ry. is importing American coal, on the ground that it is better, and better to the extent of a dollar a ton, for a dollar will no more than cover the duty and extra freight. If it be really a fact then it proves that no possible reduction in price that the operators could make would place our coal on anything like an equal value with American. If the Street Railway is importing American bituminous I am prepared to say that some things else than price and quality enter into the transaction. I have heard of the importation of American coals made for the purpose of a—bluff.

According to the papers a motion was made in Equity Lodge, P. W. A. to sell all the property and divy up'. The Master Workman promptly declared the motion out of order. Any such motion is illegal. The latest decision in the second highest court in Britain is that the funds of a trades union can only be used for trades union purposes. To sell and divide the property is not a trades union purpose, rather the opposite. Any such motion made in any lodge of the P. W. A. is wholly illegal. If a lodge disbands it leaves all its property behind for the good of the P. W. A., the original object contemplated in the gathering or accumulation of property. The meanness of the U. M. W.'s in encroaching on the preserves of the P. W. A. is reprehensible; their meanness in attempting to appropriate P. W. A. funds puts them outside the pale of civilization. If the leaders of the U. M. W. had a spark of manhood they would instead of seeking to ferment strife and ill-will among the workers, say to their sympathisers: "Come out from them and we will build you a hall, if such is necessary". If they did that they would be giving proof that their main object in coming to Nova Scotia was not 'loaves and fishes.'

There are those who say that the Federal Government would not for a moment think of instituting a tariff zone for the benefit of the Nova Scotia coal trade, they say that would be sectional legislation, and that a similar point was decided a couple of years ago by two cabinet ministers to be unconstitutional. Perhaps. If it is unconstitutional in Canada, it would also be in the same category if suggested by the U. S. tariff com-

mission and yet this is what Black Diamond, an American periodical published in the coal interests has to say on the subject. I quote from the Glace Bay Gazette's reprint of the article:

"Right now the United States Government is planning to revise its tariff schedule. Among other things it may propose the introduction of a reciprocity agreement in regard to coal, that is, let Nova Scotia coal into New England, and Crows Nest coal into the Pacific Coast States free of duty in exchange for letting Pennsylvania, West Virginia, Ohio, Indiana, and Illinois coal into Ontario, Alberta, and Saskatchewan on the same terms. If any such tariff change is inaugurated, there is going to be a freer interchange of coal than has ever been before."

The above extract clearly indicates there are those who think that a tariff zone is not a whimsical suggestion, but one that acted upon might be beneficial, and of practical utility.

I am pleased to notice that the Glace Bay Gazette, after long thought, has come to the conclusion to 'show to the line let the chips fall where they will', even if they fall upon an erstwhile friendly voter. Take courage, brother, the right course may be the roughest but it is best in the long run. Assuming the possibility of a connection between importations of American coals and the attempted inroads of the American Mine Workers the Gazette says:

"Whether there is any connection between the American invasion and the amount of attention that must have been attracted to the Nova Scotia coal industry among American coal operators by the agitation to introduce the United Mine Workers into Nova Scotia is of course only a speculation. It becomes more and more patent, however, year after year, that the interests of all dependent upon the Nova Scotia coal industry for their livelihood stand in most danger from movements emanating from across the line, whether by the direct competition in the open market allowed by insufficient provisions in the Canadian tariff or by the possible insidious interference with the coal production in Nova Scotia by those whose real interests lie with the workers in American mines."

Nearly 300,000 tons of coal were received at the Grand Trunk pier at Portland, Me., during 1908. Of this large amount only 85,580 tons were imported from Canada and the remainder from the United States, chiefly. The Cape Breton miners are being given much food for thought these days. Is it in the interest of United Mine workers of America that more American coal should go into Canada, than less. If more, then put two and two together.

The P. W. A. is bringing suit to secure or regain possession of Pioneer Hall. Some time ago it was deeded over to a person by the name of Caldwell on the understanding that it was to be reconveyed, as soon as the U. M. W. had found their feet. One would scarcely think it would be necessary to enter suit for property built by the P. W. A., for the P. W. A. It certainly will not speak well for the honesty of the foreign order if they try to take possession of property to which they have not the slightest claim. The decision of the Lords in the celebrated Scottish Church case, will form an excellent precedent, for the lawyers of the P. W. A.

COAL SHIPMENTS, 1908.

INTERCOLONIAL COAL CO.

—DOMINION COAL COMPANY, LTD.—

MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.	
1907		1908		1907		1908		1907	
January.....	162 922	202 063	Changes	January.....	23 734	24 948	Changes	January.....	26 228
February.....	168 273	191 871	i 39 141	February.....	18 414	20 387	i 1 214	February.....	19 261
March.....	162 688	205 027	i 23 598	March.....	16 820	22 790	i 5 970	March.....	18 430
April.....	226 479	179 330	i 42 339	April.....	25 738	21 930	d 3 808	April.....	24 289
May.....	279 374	344 225	d 47 149	May.....	24 813	22 623	d 2 190	May.....	24 047
June.....	386 571	387 742	d 1 171	June.....	25 755	17 595	d 8 160	June.....	30 639
July.....	358 888	391 652	d 32 764	July.....	23 919	19 246	d 4 673	July.....	30 080
August.....	365 027	353 379	d 11 648	August.....	25 755	17 595	d 8 160	August.....	29 071
September.....	294 428	269 618	d 24 810	September.....	21 003	20 628	i 375	September.....	28 198
October.....	294 082	312 286	d 18 204	October.....	19 973	18 304	d 1 669	October.....	31 987
November.....	301 219	233 558	d 67 661	November.....	29 270	15 771	d 13 505	November.....	32 327
December.....	181 000	149 909	d 31 091	December.....	22 565	18 830	d 2 565	December.....	27 355
Total	3 193 000	3 199 000		Total	274 388	244 897		Total	321 192
Increase 1908.....		3 193 000		Decrease 1908.....		274 388		Decrease 1908.....	321 192
		6 000				29 491			1 070

CUMBERLAND RAILWAY AND COAL CO.

MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.	
1907		1908		1907		1908	
January.....	22 427	37 015	i 14 588	January.....	15 935	20 422	i 4 487
February.....	25 378	35 400	i 10 022	February.....	17 867	15 699	i 3 832
March.....	27 982	38 456	i 10 474	March.....	10 776	11 583	i 807
April.....	29 873	33 458	i 3 585	April.....	15 352	23 017	i 7 665
May.....	35 560	24 710	d 11 850	May.....	21 044	29 429	i 8 385
June.....	34 310	29 443	d 4 867	June.....	28 062	30 191	i 2 109
July.....	37 063	24 590	d 12 473	July.....	27 960	24 375	d 3 585
August.....	Nil	24 214	i 24 214	August.....	23 153	19 577	d 3 576
September.....	Nil	29 443	i 29 443	September.....	22 422	20 487	d 1 935
October.....	Nil	28 993	i 28 993	October.....	22 275	25 506	i 3 251
November.....	28 741	26 709	d 2 032	November.....	22 257	22 635	i 378
December.....	34 389	29 808	d 4 581	December.....	21 971	16 039	d 5 932
Total	276 549	362 339		Total	243 075	256 910	
Increase 1908.....		276 549		Increase 1908.....		13 835	
		85 790					

NOVA SCOTIA STEEL & COAL CO.

MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.	
1907		1908		1907	
January.....	39 729	47 750	Changes	January.....	8 021
February.....	25 245	41 230	i 15 985	February.....	15 985
March.....	21 854	28 757	i 6 903	March.....	6 903
April.....	33 450	38 009	i 4 550	April.....	2 441
May.....	43 348	67 759	d 2 441	May.....	9 900
June.....	77 055	64 028	d 17 154	June.....	3 988
July.....	82 095	72 705	d 9 900	July.....	3 988
August.....	81 590	64 496	d 3 988	August.....	9 900
September.....	60 855	56 367	d 17 154	September.....	9 900
October.....	53 576	64 301	d 3 988	October.....	9 900
November.....	56 957	56 007	d 9 900	November.....	9 900
December.....	47 470	43 318	d 4 152	December.....	9 900
Total	623 162	644 338		Total	243 075
Increase 1908.....		623 162		Increase 1908.....	
		21 276			

ACADIA COAL CO.

MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.	
1907		1908		1907	
January.....	26 228	29 433	Changes	January.....	15 935
February.....	19 261	24 175	i 4 914	February.....	17 867
March.....	18 430	26 279	i 7 849	March.....	10 776
April.....	24 289	26 534	i 2 245	April.....	15 352
May.....	24 047	25 483	i 1 436	May.....	21 044
June.....	30 639	30 750	i 111	June.....	28 062
July.....	30 080	24 907	d 5 173	July.....	27 960
August.....	29 071	26 393	d 2 678	August.....	23 153
September.....	28 198	25 133	d 3 065	September.....	22 422
October.....	31 987	26 308	d 5 679	October.....	22 275
November.....	32 327	29 014	d 3 313	November.....	22 257
December.....	27 355	25 713	d 1 642	December.....	21 971
Total	321 192	320 122		Total	243 075
Decrease 1908.....		321 192		Increase 1908.....	
		1 070			

INVERNESS RAILWAY & COAL CO.

MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.		MONTHLY SHIPMENTS.	
1907		1908		1907	
January.....	15 935	20 422	Changes	January.....	3 930,000
February.....	17 867	15 699	i 4 487	February.....	599,000
March.....	10 776	11 583	i 807	Pictou Co.....	467,000
April.....	15 352	23 017	i 7 665	Cumberland Co.....	354,000
May.....	21 044	29 429	i 8 385	Inverness Co.....	
June.....	28 062	30 191	i 2 109	Totals '08.....	5,350,000
July.....	27 960	24 375	d 3 585	'07.....	5,163,000
August.....	23 153	19 577	d 3 576	Approximate increase 19,08	187,000
September.....	22 422	20 487	d 1 935		
October.....	22 275	25 506	i 3 251		
November.....	22 257	22 635	i 378		
December.....	21 971	16 039	d 5 932		
Total	243 075	256 910			
Increase 1908.....		243 075			
		13 835			

DUST EXPLOSIONS.

Q.—What, in your opinion, is the best way of avoiding the risk of a dust explosion underground?

A.—The best means, in my opinion, of avoiding dust explosions underground are:—

1—Prevent the dust accumulating as much as possible. (2)—Provide a wet zone for each separate dry and dusty district. (3)—Employ only the best safety lamp. (4) Employ high class safety explosive.

Here we have four headings, and I will explain briefly how they may be carried out to guard against dust explosions underground.

1.—To prevent the accumulation of dust to some extent. We notice that it is thickest on the haulage roads, therefore I would employ a good form of tub with tight fitting joints, so good that even the fine dust which settles to the bottom would not fall through on the roadway. By keeping all roads in good repair, level or even, to prevent tubs from leaving the rails, upsetting and losing the coal, allow no tubs to be filled above level, so that no coal should fall off and be trampled underfoot. Have all coal cleaned up from haulage, and other roads that may accidentally fall, and prevent it being trampled to fine dust by foot or other traffic.

2.—Supposing we have districts of exceptional dry and dusty character, and near the entrance there is a length of brick or masonry arching. Then I would have this portion converted into a wet zone, if possible by converting water from the shaft and spraying the roof and sides, and, if the floor will allow, this also, as this would perhaps prevent the force and flame of an explosion from extending to other districts should one occur.

3.—An important item for safety will be the type and care of safety lamp. This I would employ of the most improved pattern, being lighted electrically, and so constructed that it could not be fitted together except all gauzes are in their proper place. No lamp opened in mine. Strict discipline in examination, use, and care of same.

4.—As the use of explosives has been known to cause many explosions, I would employ such only where absolutely necessary, and these only of the highest class for safety and electrically fired. Employ only the most competent persons obtainable who understand their work, and also the General and Special Rules and Explosive Act. Such instructions if properly carried out, will I feel certain, reduce the risk of dust explosions.

POWER IN MINES.

Compare the advantages and disadvantages of electricity with those of compressed air, as applied to underground haulage.

A.—In comparing the advantages and disadvantages of electricity with those of compressed air, we must also include the nature of the mine in which we are to transmit the power for underground haulage purposes.

The advantages of electricity are—

1—It can be conveyed over considerable distances with very little loss to its efficiency.

2—The cables by which it is conducted can be so readily and easily laid that it is almost an ideal means

of transmitting power.

3—The efficiency is high; as much as 60 to 70 per cent can be obtained over considerable distances.

4—As haulage ropes would be unnecessary in the shaft considerable expense would be saved in the long run by the introduction of a thoroughly armoured three-cored cable. Although the cables are very expensive, they would in time wipe off the extra expense entailed in fixing them in, if properly and thoroughly looked after.

The disadvantages of electricity are—

1—The initial cost of an electrical installation is of serious consideration.

2—The principal objection is the danger of fire and explosions, either from sparking at the switches, or motors, or through the fusing of the cables.

3—If the armour of the cables be destroyed by a fall of roof or other cause, a short circuit may be produced, which will cause the wire to fuse, and possibly set fire to timber or coal in the vicinity, and should they be in an explosive mixture an explosion will result.

The danger of sparking at the switches may be minimised to a great extent by enclosing them. Sparking at the motor may also be minimised by enclosing the commutator.

The advantages of compressed air are—

1 The greatest advantage is its safety, which is of the greatest importance to mining.

2 It can be conducted without difficulty in pipes to any part of the mine underground, and can be distributed to various parts by using branch pipes.

3 The air being cool, it has a beneficial effect upon the ventilation.

4 The exhaust is very useful as an auxiliary to the ventilating current.

The disadvantages of compressed air are,—

1 The greatest objection for power transmission is its initial cost and low efficiency.

2 As usually applied in mines the efficiency is less than 30 per cent.

In summing up the respective powers, I come to the conclusion that if power was required some distance in bye for coal-cutting machines, pumps, etc. and the mine was comparatively free from dust and fire damp, I would employ electrical power, whilst on the other hand, if the places in bye were fiery and dusty, compressed air would be adopted, and as the conducting pipes offer practically no obstruction in the roads, it has until recently been the principal means of conducting power into the workings of a mine.

The desire for warmth, comfort, and light led to many appliances which, in their present state of development, make the civilised world what it is. The modern stove, the furnace, the complicated steam and water heating apparatus of the present day, may all be traced back, step by step, to the primitive oven with accidental flue leading from a cave to the open air above. He who first built a chimney from his cave to the outer air, and so furnished an exit for the stifling smoke which was endured by his cliff dwelling neighbours was a genius. Every advance in the work of solving the problem of properly warming a dwelling was a distinct step forward in civilisation. The improvements in heating kept pace with the improvements in dwellings, and, in each case, civilisation was dependent upon machinery.

Priestleys

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— and —

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Have Excellent
Wearing Qualities,

WILL NOT COOKEE
:: WITH RAIN ::

Best for —
SPRING AND SUMMER
SHIRT WAIST SUITS.

All Ladies who wish to look well
wear Priestleys Dress Goods.
Greenshields Limited, Sole Agents.
Montreal, Canada

We know we should not be glad at another's misfortune, but in this instance we simply can't help it. Word comes that the coal docks of the C. P. R., at Port Arthur, Ont., have been on fire for several days and that thousands of tons of coal may be destroyed. This fact may go some way in convincing upper province people, United States operators, and some even in this province that Nova Scotia coals are not the only coals subject to spontaneous combustion. A practical demonstration of what American coals can do in the matter of spontaneous combustion may tend to make people less severe on N. S. coal.

Prince Edward Island Railway.

TENDER.

Sealed Tenders addressed to the undersigned and marked on the outside, "Tender for Freight Shed on Wharf, Charlottetown," will be received up to and including THURSDAY, JANUARY 14th., 1909, for the construction of a freight shed on the wharf at Charlottetown, P. E. I.

Plans and specification may be seen at the office of the Superintendent, Charlottetown, P. E. I., and at the Chief Engineer's Office, Moncton, N. B., where forms of tender may be obtained.

All the conditions of the specifications must be complied with.
Railway Office, Moncton, N. B., Dec. 23rd., 1908. D. POTTINGER, General Manager.

WANTED.

Twenty Miners and Loaders

APPLY TO

Maritime Coal Ry. & Power Co. Limited,
JOGGINS., N. S.

Plumbago
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Purposes.

The
Dominion Foundry
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MONTREAL and LONDONDERRY, N. S.



Synopsis of Canadian North-West. Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba or the North-west Provinces, excepting 8 and 32, not reserved, may be homesteaded by any person the sole head of a family, or male over 18 years of age, to the extent of one-quarter section, of 20 acres, more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-agency for the district in which the land is situated. Entry by proxy may, however, be made at an Agency not certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

An application for entry or cancellation made personally at any Sub-agent's office may be wired to the Agent by the Sub-agent, at the expense of such application sets have priority and the land will be held until the necessary papers to complete the transaction are received by mail.

In case of "permanence" or fraud the applicant will forfeit all priority of claim or if entry has been granted it will be summarily cancelled.

An application for cancellation must be made in person. The applicant must be eligible for homestead entry, and only one application for cancellation will be received from an individual until the application has been disposed of.

When an entry is cancelled subsequent to institution of cancellation proceedings, the applicant for cancellation will be entitled to prior right of entry.

Applicant for cancellation must state in what particulars the homestead is in default.

A homesteader whose entry is not the subject of cancellation proceedings mother, son, daughter, brother or sister, if eligible, but to no one else, on filing declaration of abandonment.

The homesteader is required to perform the homestead duties under one of the following plans:—

(1) At least six months' residence upon and cultivation of the land in each year during the term of three years.

(2) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in land will not meet this requirement.

(3) If the father (or mother, if the father is deceased) of a homesteader has permanent residence on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of the homestead or upon a homestead resident duties by living with the father (or mother).

(4) The term "vicinity" in the two preceding paragraphs is defined as meaning not more than nine miles in a direct line, exclusive of the width of road allowances crossed in the measurement.

(5) A homesteader intending to perform his resident duties in accordance with the above while living with parents on a farming land owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for Patent.

Before making application for patent the settler must give six months' notice in writing to the Commissioner of Dominion Lands at Ottawa, of his intention to do so.

W. W. CORY,

SYNOPSIS OF CANADIAN NORTH-WEST MINING REGULATIONS.

COAL. Coal lands may be purchased at \$10 per acre for soft coal and \$20 for anthracite. Not more than 250 acres can be acquired by one individual or company. Royalty at the rate of ten cents per ton of 2,200 pounds shall be collected on the gross output.

QUARTZ. A free miner's certificate is granted upon payment in advance of \$5 per annum for an individual, and from \$20 to \$100 per annum for a company according to capital.

A free miner, having discovered mineral in place, may locate a claim 1500 x 1500 feet.

The fee for recording a claim is \$5.

At least \$100 must be expended on the claim each year or paid to the mining recorder in lieu thereof. When \$500 has been expended or paid, the locator may, upon having a survey made, and upon complying with other requirements, purchase the land at \$1 per acre.

The patent provides for the payment of a royalty of 2 1/2 per cent on the output.

Fluor mining claims generally are 100 feet square; entry fee \$5 renewable yearly.

A free miner may obtain two leases to dredge for gold of five miles each for a term of twenty years, renewable at the discretion of the Minister of the Interior.

The lessee shall have a dredge in operation within one season from the date of the lease for each five miles. Rental \$20 per annum for each mile of river leased. Royalty at the rate of 2 1/2 per cent collected on the output after it exceeds \$10,000.

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

Miners Wanted To Chew BULL DOG TOBACCO,

Because it is the only Tobacco
which does not excite Thirst
for Water after using

TRY IT!

The St. Lawrence Tobacco Co., Ltd.

—Montreal.—

—W. B. Reynolds, Halifax Representative—

Brick! Brick!

The Westellar Terra Cotta Company

having taken over the business of the Stellarton
Brick and Tile Co'y, and having installed more
powerful and modern machinery. WILL BE
PLEASED TO HAVE ENQUIRIES AS TO
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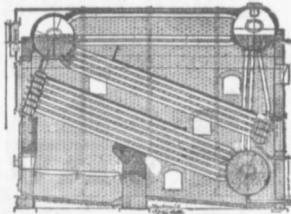
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PERFECT WATER CIRCULATION.

DRY OR SUPERHEATED STEAM

HALF THE USUAL NUMBER OF HANDHOLES.

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BEST QUALITY ONLY.

Blasting Powder and Compressed Pellets, Dynamite,
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For use in Gaseous mines. Suitable for all Kinds of Work

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Agents for Nova Scotia **AUSTEN BROS., Halifax**

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ALLAN, WHYTE & C'O'Y**Clyde Patent Wire Rope Works,**Cablegrams: "Ropery Rutherglen" **Rutherglen, Glasgow, Scotland.** Codes, A B C (4th & 5th Eds)
A. L. Liebers and Private.**Wire Ropes** for
Winding & Haulage
in
Collieries and Mines.
Aerial ropeways, Suspension Bridges, etc. Specially
flexible for Ore & Coal Discharging Cranes, Winches, etc.The Nova Scotia Steel & Coal Co., Ltd., who use our Ropes largely, write that one of our
Haulage Ropes at Wabana Mines has been in service for over 5 years, drawing over 1,700,
000 tons in that time and is still good for further considerable service.

Agents in Nova Scotia:—Wm. Stairs, Son and Morrow, Limited.

Agents in New Brunswick:—W. H. Thorne & Co., Ltd., Saint John.

—Different Sizes and Qualities kept in Stock—



WIRE SCREENS for every Class of work. Perforated Metal of Steel, Copper, Brass, Zinc for all Purposes. SPECIAL ATTENTION GIVEN TO MINERS' REQUIREMENTS.

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WIRE "DOMINION" ROPE
 For Everybody.

PATRONIZE HOME INDUSTRY

The DOMINION WIRE ROPE CO., Ltd., Montreal

INVERNESS IMPERIAL COAL

INVERNESS RAILWAY and COAL COY.
Inverness, Cape Breton.

Miners and Shippers of INVERNESS (BROAD COVE)

Screened, Run-of-Mine Slack.

—First Class both for Domestic and Steam Purposes.—

BUNKER COAL Shipping facilities of the most modern type at Port Hastings, C. B. for prompt loading of all classes and sizes of Steamers and sailing vessels.

Apply to Inverness Railway and Coal Company, Inverness, Cape Breton; Wm. Petrie, Agent, Port Hasting, C. B.

INVERNESS RY. & COAL CO'Y

Time Table No. 26, Taking effect at 1 a. m. OCT 11TH., 1908.

EASTBOUND		STATIONS.	WESTBOUND	
Read Down	Read Up		Read Down	Read Up
No. 52 a. m.	No. 54 p. m.		No. 51 a. m.	No. 53 p. m.
L 10 45	L 2 30	F. TUPPER JUNCTION	A 10 35	A 3 35
M 10 41	S 2 26	PORT HAWKESBURY	S 10 27	S 3 27
A 11 10	A 4 01	PORT HASTINGS	L 10 07	L 3 10
	L 4 12		A 10 02	
	F 4 23	TROY	F 9 52	
	S 4 38	CREGNISH	S 9 39	
	F 4 50	JUDIQUE	F 9 23	
	S 5 05	CHAIRMORE	S 9 02	
	F 5 18	CATHERINES POND	F 8 48	
	A 5 33		L 8 32	
	S 5 30	PORT HOOD	A 8 27	
M 5 55	S 5 45	GLENCOE	S 8 10	
S 6 16	S 6 00	MABOU	S 7 40	
S 6 20	S 6 05	GLENDYRE	S 7 30	
S 6 43	S 6 25	BLACK RIVER	F 7 14	
S 7 12	S 6 55	STRATHLORNE	S 7 02	
A 7 14	A 7 00	INVERNESS	L 6 44	
	p. m.		a. m.	

Trains make close connections at Ft. Tupper Jet, with I. C. R. passenger trains, excepting the Maritime Express.

MABOU & GULF COAL COMPANY, L'T'D.

Miners of the

MABOU DIAMOND COAL.

Burns and Works like Bituminous;

Looks and Lasts Like Anthracite;

IT HAS NO EQUAL.

Mines, Piers and General Offices

MABOU. CAPE BRETON.

North Atlantic Collieries, LIMITED.

Mines and Loading Piers, Port Morien, C. B.
Miners and Shippers of **Cow Bay Basin Coals.**

EXCELLENT FUEL FOR
**Domestic, Steamship
and Railway Use.**

Recent analysis of the coals in several of the seams in this Basin—which will be persistently developed—show them to be remarkably low in ash and sulphur.

All modern appliances for Screening and picking, so that this coal can be shipped more than 'reasonably free from stone and shale.'

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PATENT WATER TUBE BOILERS.

Over 7,000,000 H. P. in use, Fired with all kinds of Fuel

Steam Superheaters, Feed Water Heaters, Mechanical
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JERSEY - LILY - FLOUR.



*Best all round flour on the market.
Uniform in quality. Every barrel
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**Air Compressors, Rock Drills,
Imperial Pneumatic Tools,
Air Appliances, Coal Cutters,
"EVERYTHING IN AIR MACHINERY."**

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THE
BOILER INSPECTION & INSURANCE CO.
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For highest pressures with Steam, Hot or Cold Water and Air.
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Miners and Shippers of the

CELEBRATED

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Unexcelled for Steam, Domestic and General Purposes.

DELIVERED BY RAIL OR WATER.

SHIPPING PORT: PICTOU LANDING.

Quotations Furnished Promptly on Application.

MARITIME COAL, RAILWAY & POWER CO., Ltd.

Miners and Shippers of

CHIGNECTO High Grade

Steam

**—AND—
JOGGINS**

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Domestic

COAL.

Unexcelled for General Use.

Shipment by Intercolonial Railway and Bay of Fundy

Collieries., CHIGNECTO and JOGGINS Power Plant, CHIGNECTO, N. S.

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Coal and Gold Mining Machinery a specialty

Endless Haulage Engines, Revolving Tipples, Picking Tables and Complete Screening Plants for the Cleaning and Picking of Coal. Rope Wheels, Pumps, Valves, Shafting, Belting Etc.

Complete equipments furnished for Coal or Gold mines.

Screening plants are now in operation at Sydney, Springhill, Broad Cove, Port Hood, and Westville Mines,

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High Grade Fuel
for Steam, Domestic and General
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From Coal Washed by Latest Process,
Growing more popular daily—and considered
to give as good results for Foundry purposes
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FIRE CLAY

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Quality

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Better than
Scotch seconds for
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SELF OILING

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"EDGES" BEST SPECIAL CRANE CHAINS.

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They are made of the very best brands of English Bar Iron and by Selected Workmen.

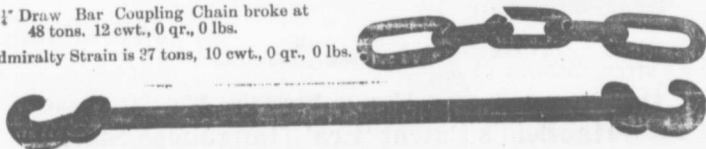
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For Mine Cars, A SPECIALTY.

This 1½" Draw Bar Coupling Chain broke at
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Miners and Shippers of the Celebrated

"DOMINION STEAM COAL,"

Gas Coal and Coal for Household Use

from the well known seams

'Emery,' 'Phalen,' 'Harbour,' 'Victoria' and 'Hub.'

12 Collieries
in Operation.

OUTPUT:
3,500,000 tons Yearly

Used by Railways, Tramways, Steamships, Manufacturers, Water Works, Light and Power Stations in Ontario, Quebec and the Maritime Provinces, also in Newfoundland and the New England States, Mexico, Sweden, South Africa and the West Indies.

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ensuring Quickest despatch

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Special facilities for loading and prompt despatch given to sailing vessels and small craft. Box Car Loaders for shipments to inland points. Discharging Plants at Montreal, P. Q., Three Rivers, P. Q., Quebec, St. John, N. B. and Halifax, N. S., Capacity up to 1000 tons per Hour.

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RAILWAY AND

COAL COMPANY.

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THICK SEAMS
NOS 1, 2 AND 3.

—Miners and Shippers of the Well Known—

FRESH MINED SPRINGHILL COAL

... ANALYSIS ...

	NO 1	NO 2	NO 3
Moisture.....	2.02 %	1.41 %	2.71 %
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 %

BEST COAL FOR
LOCOMOTIVE USE.

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The year Round

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