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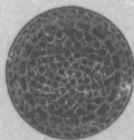
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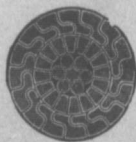
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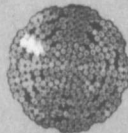
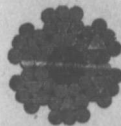
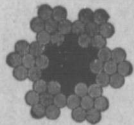
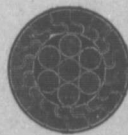
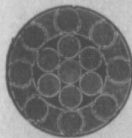
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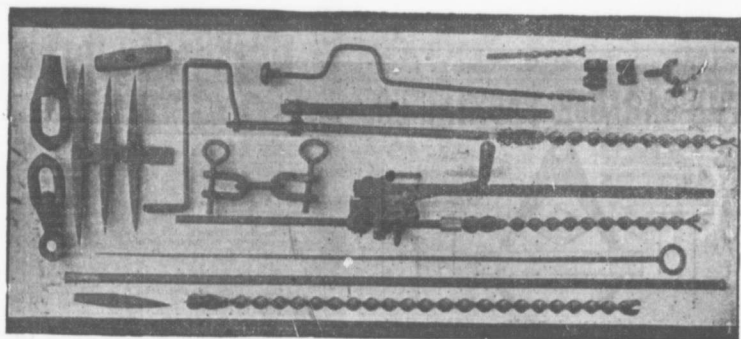
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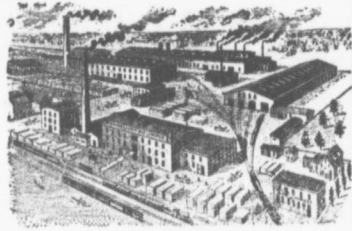
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78 Mixed from Trenton	6.45
61 Express from Pictou	7.30
18 Express from New Glasgow	7.35
21 Mixed from Hopewell	7.35
55 Mixed from Trenton	8.00
28 Mixed from New Glasgow	10.35
27 Mixed from Pictou	10.40
46 Mixed from Mulgrave	12.15
19 Express from Halifax and St. John	12.45
129 Mixed from Pictou	12.55
25 Express from Halifax, St. John, Quebec	12.40
30 Express from Sydney	12.40
22 Mixed from Pictou Landing	12.19
77 Mixed from Hopewell	12.45
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66 Express from Sydney	12.55
66 Express from New Glasgow	12.55
17 Express from St. John and Halifax	12.10

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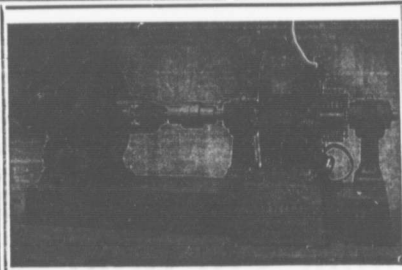


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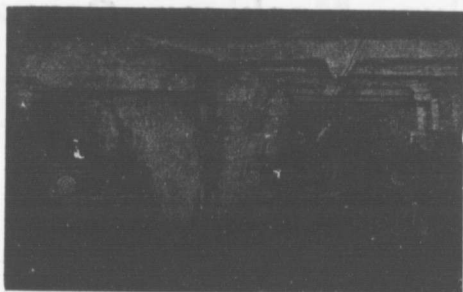
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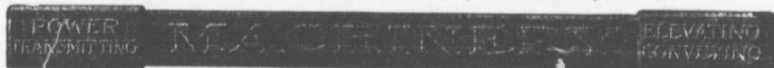
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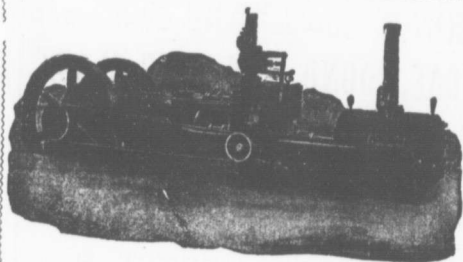


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To His....

MARITIME MINING RECORD

Vol. 8, No. 6. Stellarton, N. S., September 26th. 1906 New Series

ACCIDENTS IN COAL MINES.

Last issue we gave an extract from an article written by a Lancashire miner to the Wigan Observer. We give below a further instalment. The subject is an important one, and a Lancashire miner writes forcibly; there are ample justifications for publishing the article. We would take it from the letter that conditions in the old country in reference to the examination of places and a supply of timber are not quite the same as in Nova Scotia. We are of the belief that, though it was not always the case, at the present time the management of our mines are careful to see that a plentiful supply of timber is kept in the working places, and in some mines at least the Examiners have daily to report on the state of the timbering. The question asked daily for instance in the Springhill mines is: "Are all places kept sufficiently timbered for safety?" This implies that timbering is not left to the discretion of the miner even in those cases where he may have to place the booms and set the props. In some of our mines all timbering—that is permanent timbering—is done by company men, in others it is done by the miners. The question has been argued for the past twenty years: "Should the timbering be done by the miners or by shiftmen?" The chief argument in favor of the miner doing it is that no one knows his place like the miner himself—the chief argument in favor of the shiftman doing it is that he will do it carefully. So far as we know the question has not been definitely settled though we incline to the opinion that those in favor of shiftmen doing all timbering are in the majority. Whether wholly applicable or not to conditions in Nova Scotia, Lancashire's miner's remarks must prove interesting:—

The coal face is the most prolific of all sources of accident, and the bulk of these result from falls of roof. Accidents at this point may happen to the miner or to the men who are appointed to do the necessary work in order to maintain the place, such as packing, chocking, timber drawing, etc.; I have already suggested that the latter class of work should be done during the night shift, and that there should be a regular supply of suitable timber taken to the coal face by the employers, and that special attention be given to the quality of the 'caps' to be used, but there are other things of equal importance. "Prevention is better than cure", and if we can prevent the roof from breaking up it would be a valuable assistance to the timbering of the place; in many instances the roof is allowed to break, when by attention and proper method it could be avoided. I have often seen places of perfect safety turned into death-traps because officials took advantage of the good roof and neglected it until the place was scarcely fit for human beings to work in, and yet if the coal was to be got it was absolutely necessary that this danger be faced, and some one must face it. In order to prevent the roof being heavy at the coal face and breaking, it is necessary to

keep the back timber drawn to within a reasonable distance from the coal. This is a part of mining which is much neglected; at present at many collieries it seems to be the idea that this work can either be done or left alone, and consequently when there is any great pressure placed on the officials with regard to cost of management this is one of the first places to suffer, and yet it is most important that it should always be attended to. If back timber is left in the wastes the result is that the resistance which such timber offers to the roof often throws the weight towards the coal face, where men have to work and pass; whereas if the timber was drawn with discretion the result would be exactly opposite—the roof falling where no one was working, and as a result the weight would be taken from the 'face'. The withdrawing of timber in itself is a very dangerous occupation, and one which has cost scores of lives. In order to prevent accidents from this cause, I would again specially emphasize the necessity of this work being done when the miner is not working at the coal—during the night. By this arrangement they have the advantage of quietness, and all miners know how important it is that they should be able to hear the least signs of the roof giving way. Not only would it be safer for the timber drawer, but it would be safer for the men who are working at the coal face. When both operations are going on at the same time, the man who is drawing timber cannot hear and detect danger because of the noise caused by the miner, and the miner is likewise situated because of the noise created by the timber drawer. I have often witnessed the case of timber being drawn under these circumstances; the result is that continually there is a request from one to the other to stop working, in order to listen to the creaking of the coal or roof, and usually both are reluctant to stop each other, consequently often both will work in danger because of the unpleasantness which may be caused, especially in the case of the coal getter, who works piece work. Apart from this, if this work was done during the night, there would be opportunity of the roof to settle before the miner came to work in the morning; often the drawing of timber has a temporary injurious effect on the roof nearest to the coal face. There should be men specially chosen for the work, because of their experience and adaptability, and they should be provided with the latest and best contrivances in use, which are intended for safety. Much of the danger which surrounds this work is brought on through the timber not being drawn at the right time—meanwhile the roof having broken between the props; and often where there are 'strata' coming along with the coal this waste stuff has been thrown, so as to almost bury the timber which has to be drawn. Given experienced men with proper appliances, and let the work be done by system, accidents from this cause would be of remote occurrence. I must, however, say, that though as a system, drawing this back

suitable timber comes about either through the policy of economising and reducing the timber bill, or otherwise through the officials not ordering them when required, and often through bad organization, that is to say, that they do not take sufficient care in seeing that they go to the district which requires them. Whatever may be the cause there is nothing to justify the management for neglect of this kind. With reference to suitable timber, there is not sufficient care taken in getting to know the daily requirements of the different places. It often happens that props come into the place for the collier which are not of suitable length, either they are too long or too short, and thus entail longer time in setting them. This adds provocation in the direction of causing the miner to neglect setting them. We must remember that the miner works on the piece system, and anything which takes him from his real work at the coal face he looks upon as labour which does not count; consequently if it takes him fifteen minutes to set a prop—where if he were provided with suitable timber he could set the same prop in three minutes—it is easy to understand why he hesitates before doing it. Give the men the right kind of timber, and the work of setting it will be so infinitesimal that they will never think of neglecting it. A study should always be made of the different places, and the most dangerous should be provided with specially good timber to support the roof. More attention should be directed to the quality of the 'lid' or 'cap' which is to be placed on the prop against the roof. At present it seems to be the opinion—judging from the supply and the kind usually sent—that anything will do for caps. That is a great mistake. We must remember that a prop has only grip of the roof to the extent of the size of the cap; in many cases small caps render the props practically useless. What is needed is a variety of sizes, but, generally speaking, caps which are intended for one prop only should be about two feet long and say about three inches thick. There should always be a supply of light bars to be used as caps, with two props underneath them. With this method it is easy to cross the breaks and slips, and render them secure. By attention to this question of timber many accidents can be prevented.

It would be a great improvement if the Mines Act defined the working place as the point to where the timber must be taken by the employers; at present it is optional whether they take it to the shunt end or to the coal face. Apart from the neglect of the drawers in not taking it to the miners at the 'face', which often happens when it is left at the shunt, and which is usually caused because of the low roads along which he has to take his box—combined with the competitive pressure existing between the drawers, due to the piece system—apart from this there are many reasons, and at least the thing would be done systematically. If the management took it upon themselves to keep a proper supply of timber at the coal face, and such work was done in the night shift by men appointed specially for the work, whose duty it would be to see that each place should be properly supplied, it would be done much more efficiently, and there would be opportunity to do it in a proper method. The men being appointed purposely for the work would see to it more minutely than is the case at present. At present the fireman, whose duty it is to see to this matter, has so many responsibilities crowding upon him that it is impossible for him to attend to this. The men I have named would be a valuable assistance to the fireman, without in any way reducing official responsibility. There is vast room for improvement, and such improvement would have its effect in reducing accidents. I am

fully aware that the 'Act' at present makes it a duty of the employers to take timber to the 'face' in case they won't ride in or on the box. In spite of this drawers drag the timber for hundreds of yards along roads where they have almost to go on their hands and feet.

DIFFICULT SHAFT SINKING.

The American Institute of Mining Engineers paid a visit two or three weeks ago to some of the big collieries in the North of England. Their visit to Dawdon Colliery is thus described:—

From Hylton the party proceeded through Sunderland and Seaham to Dawdon Colliery. Dawdon is not yet a colliery in being, but its two shafts have reached several seams of coal of varying thickness, and it may be said to have got over the worst of its troubles. Sinkers drenched with wet and steam may still be seen drawn to the temporary bank head in iron tube, and as yet the heapstead, screening plant, frame pulleys and the like are things of the future. But the engine houses are erected, and one is in working order, while, what is more to the point, two shafts, the Castlerough and the Theresa, have after more than six years working, successfully reached the coal measures. The work, however, was attended with considerable difficulty. For fully three years sinking was carried out through the heavily watered ground by means of pumps capable of dealing with 7,000 gallons per minute. Then it became a question of erecting additional pumping plant or of freezing the shafts. It was decided to sink through the remaining thickness of magnesian limestone and yellow sands in a frozen state, and Mr. Wood explained to the company by drawings and diagrams how this was effected. In April, 1903, preparatory to freezing, 28 bore holes were sunk around each shaft to a depth of 484 ft. and 21 feet into the coal measures. These bore holes were completed in April, 1904, and freezing was then commenced and continued until Feb. 16th, 1906. During this period both shafts were sunk through the frozen limestone and sand into the coal measures, and the whole of the water-bearing strata was lined with cast iron tubing. Dawdon colliery in a comparatively short while may thus be expected to contribute largely to the prosperity of the neighbouring coal port of Seaham.

Further South, overlooking the coast, is Horden colliery, and here the party were taken to finish the round of inspection. The plan of the huge buildings of the colliery, which almost completely cover the whole of the iron frame work, reminded many of the visitors of the largest collieries in Westphalia. Here everything has been planned on an ample scale. Huge engine houses overlook at either end the shaft head and heapstead, in which there is a continual stream of moving tubs. The double decked cages contain four tubs on each deck, and a feature of the elaborate arrangements is that the tubs on the top decks are discharged by hydraulic rams simultaneously with those on the bottom deck. There are facilities here for dealing with many thousand tons of coal daily, though at the present stage only about 800 tons of coal per day are being drawn. When completed with its three shafts all lifting coal—at present two are not working, pending the finishing of the shaft sidings underground—the colliery will give an immense impetus to the coal trade of South East Durham. Other collieries are projected in the district by the Horden Col-

(Concluded on page 19)

MARITIME MINING RECORD.

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

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R. DRUMMOND, PUBLISHER.

STELLARTON, N. S.

SEPTEMBER 26, '06

Rubs by Rambler.

"If Germany is disputing successfully the supremacy of British trade in the markets of the supreme attention given there to technical education."

Oh, give me a rest. There are two countries I am tired hearing about; Germany and New Zealand. If one is to believe all he reads about Germany, and comparisons of its growth with that of Britain, he must come to the conclusion that Germany is soaring aloft and poor Britain is going to the dogs. If Germany has made more trade progress in the last twenty years than Great Britain it is nothing to wonder at. If a man has been asleep for ten hours, I scarcely see how one should be surprised that he wakened up and did things in the eleventh and succeeding hours. I am not a bit surprised that Germany is now doing things, I am surprised she took so long to make up her mind to do them. Will those who preach about Germany's wonderful expansion owing to her systems of technical education tell us wherein Germany has shown her heels to her competitors. Apart from her progress due to discoveries by the aid of chemistry, discoveries not made but adopted by Germans, will some one say where she has led in the initiative. What industries has she established peculiar to Germany. She is building big and fast ships. True, but the idea was borrowed from other countries, borrowed and it may be improved upon. The latest figures I saw of the trade of Britain and Germany did not show that the younger was rapidly outstripping the older. Not at all. In some things the older was more than holding her own. One can surely admit that technical education is doing much for Germany without being required to say or think that by means of it she is making bankrupt all other nations. And then there is New Zealand. We are told it is a sort of second Eden; where every one is happy and where there is no poor people. In New Zealand can one not only get something for nothing but everything at the same price. This is all nonsense, Ex nihilo, etc. Some one or something has to pay the piper, and if meantime he is playing on tick, it will be all the harder by and bye when he calls for a settlement.

Looking over the Pennsylvania coal statistics for 1905, and comparing them with those of Nova Scotia for the same year I find that one life was lost for every 238,730 long tons raised. For the whole of Nova Scotia the figures are one life for every 252,521 tons. By counties in Nova Scotia I find that Pictou makes the most unfavorable showing, a life having been lost for every 148,281 tons raised. Cumberland shows very little better with a life for every 155,379 tons. Inverness does not compare favorably with Pa. as in raising its 211,000 tons one life was sacrificed. Cape Breton County saves the situation, so to speak, by losing only a life for every 329,000 tons raised. Fifty per cent of the fatal accidents were due to falls of coal or roof. This shows how important it is that timbering and spragging should be faithfully attended. The article in this issue on "Accidents in Mines" should be carefully read by all whose duty takes them underground. In the matter of lives lost in comparison with number of employees Nova Scotia again shows better than Pennsylvania. For every thousand persons employed the loss of life in Nova Scotia was a little less than two, whereas in Pa. about 3.50 lives were lost per 1000.

It is predicted that at the next meeting of the International Trades Congress one of the planks of the labor platform may be compulsory arbitration. This is rather a surprising statement for it is not so many years ago that arbitration in cases by employers, and in some instances in the press to the opinion that voluntary arbitration was a delusion and a snare, and that unless there was some means of compelling the losing side to abide by the decision good only could be effected in exceptional cases, in those cases where public opinion carried weight. Nova Scotia led the world I think in the matter of compulsory arbitration. True the law on our provincial statute books does not compel the parties to a dispute to leave their grievances to arbitration, but if one side applies for arbitration the other side is compelled to submit to such procedure. The present New Zealand law may be in advance of our Nova Scotia act, but this can be said that before New Zealand had any kind of a law dealing with labor disputes Nova Scotia had one, and a fairly good one at that. If it is a good act the question arises how is it not put into operation. Well of late years we have had no serious labour disputes, and when there was one or two many years ago both sides preferred to fight it out in their own way. Formerly it was generally considered that there were only two parties to a labour dispute, the masters and the men, but it is now being recognized that there may be an interested third party—the public. Public opinion counts for much more to-day than it did twenty years ago, and when the public wakens up to the fact that is affected by strikes almost as closely as the immediate contestants or disputants it will demand that some other means than strikes and lock outs must be sought for the adjustment of disputes. And the only other way in sight is arbitration. The time may not be distant when, if differences to arbitration that the law of the land will demand and compel them to do so. That a

demand for arbitration should come from the labour representatives of the present day is surely a sign of advancing civilization, and that men are beginning to realize that war, whether between nation and nation or between capital and labour is a foolish and expensive way of settling difficulties.

Truly, I am greatly indebted to the Halifax Herald. Were it not for it I might be puzzled at times to select a text on which to base or build a few remarks. In respect of texts, the Herald presents an embarrassment of riches. A text may consist of a few words or of many verses; the Herald is in the latter category. In the Herald of 4th. inst. I read:

"On Friday, August 18, 1906, the Provincial Workmen's Association of Cape Breton, held their annual picnic at Caledonia. At that picnic there was a representative of "The United Mine Workers of America." He wished to address the workmen and endeavored to arrange the matter with the leaders of the Provincial Workman's Association; but after a hasty conference, the leaders of the Provincial Workman's Association decided there should be no speeches made.

Why?

Because it is evident that the employers of labor in Nova Scotia are opposed to any conferences or semblance of union between "The United Mine Workers of America" and the Provincial Workmen's Association of Nova Scotia.

Why?

Because the great corporations and employers of labor in Nova Scotia know full well that they can control and if necessary fight the home organization to a stand still and a finish, either by deceit, cajolery and finesse, or by betrayal and treachery."

Well, now, put that in your pipe and smoke it. Was there ever display of such cheek. A representative of a rival society wanted opportunity at the celebration of the birthday of the P. W. A. to show why the members should throw off allegiance to the P. W. A. and recognize foreign dictators, and walking delegates. Fancy the Rev. Mr. Glashen asking Rev. Father McInnis at the latter's annual church picnic to be permitted to address the crowd on the benefits of their becoming affiliated with the Presbyterian church, or the Rev. Father McDonald requesting the Rev. D. M. Gillies and his elders to allow him on their anniversary to show the members the desirability of having their affairs regulated by the Roman Catholic Church. Wouldn't there be red faces and blue words. I fancy there would be, and that those addressed would deem the request, as unheard of, unreasonable impertinence. Gall, why that is no name for it. We are told, in the words of the text, that a hearing was not granted, not on account of the insanity of the request, but because the employers of labor are opposed to conferences or semblance of union with the Mine Workers of America, because the employers of Nova Scotia are afraid they might not be able to control the United Mine Workers, while they can control the P. W. A. This is a mean contemptible and cowardly way of assailing the leaders of the P. W. A. It is saying in effect they are soft and can be cajoled, they are dishonest and can

be bought, they are weak of mind and can be deceived, they lack grit and can be easily ground. Not only that, but the language implies that the great majority of the members of the P. W. A. are the veriest soft heads and weaklings on the face of the globe. It should not be forgotten that the leaders of the P. W. A., if by leaders are meant the officers of Grand Council and the chief officers of the lodges, are not self appointed. The committee who name the delegates are chosen from among the members of the lodge, and their selection of delegates has to be submitted to the lodge for approval. The delegates duly accredited from the several lodges nominate at Grand Council the Gd. Officers or leaders if you will. Any Gd. Officer is removable at any time for cause. The leaders in the P. W. A. have less powers than those of the U. M. W. Who ever heard of the Sec'y. of the P. W. A. ordering a strike or declaring one off. He has no such arbitrary powers. In this respect the P. W. A. is a much more democratic society than a majority of unions in America. It was when the influence of the Knights of Labor was waning in the United States that the greatest efforts were made to establish it over Canada, and it may be to save appearances that the U. M. W., a foreign institution would like well to obtain a foothold in Nova Scotia. The miners of C. B. have little or nothing in common with those of the U. S. Conditions are wholly different. We are told the U. M. W. would give the miners of N. S. prestige. Indeed, the U. M. W. better settle its internal dissensions before attempting to extend its borders as far as Cape Breton.

"Eight years ago, the "Knights of Labour" were organized in Cape Breton, and straightway the employers of labor, fearing the strength of that body, put up a fierce and relentless opposition to its movements. They gave no quarter, they called no halt, until the last vestige of "When Knighthood was in Flower" had disappeared."

Not until the 4th. of September, 1906, did I ever hear that the advent of the Knights of Labor to C. B. had raised a single hair on the heads of the operators. Against the Knights of Labor the operators were guilty of no sin of commission. Their only sin was one of omission. They refused to collect the dues of the scattered members of that order on the ground that they were already collecting for one labor society. And was not that enough, was not that more than was accorded any labor society on the continent. The operators did not fight the Knights of Labor, they looked on when the P. W. A. men, the loyal men of the P. W. A., fought them—and won. The writer in the Herald is ignorant of the real causes which led to the invasion of the Knights of Labor eight or ten years ago. It was not sought for by the honorable workmen of Cape Breton, it was forced upon them by a set of self seeking politicians who were alarmed at the influence which the P. W. A. attained. Its main object was to break the power of the P. W. A., regardless of the consequences to the workmen of Cape Breton. It affected a landing in Cape Breton, but no more. It never secured a footing on the mainland. One of its chief abettors in after years, publicly recanted his errors, and declared

that it was well that he and his fellow machinators had been foiled. We are told by this writer in the Herald, to put it shortly, that in the event of a struggle between the miners of C. B. and the Dominion Coal Co., there would be no hope for the P. W. A.; that the big corporation would grind them under their 'heel'. Not so fast. The members of the P. W. A. do not think so. Further we are told that the Dominion Coal Co. might be able to squelch the P. W. A., but the boot would be on the other foot in any contact with the U. G. M. I don't think so, indeed I am sure if it came to a life and death struggle the chances of the P. W. A. winning would be infinitely greater than those of the U. G. M. Why? First, because the P. W. A. having a reputation for reasonableness would have the sympathy of the public—and that counts these days; they would have the sympathy of the government—and that would be no small factor—and there would be no bitter vengeance on the part of the company. Whereas the probability is, fifty chances to one, that if the miners fought under the patronage, auspices, red flag of the U. G. M., both the public and the government would be unsympathetic and the company remorseless and vindictive. What would the miners of C. B. gain by affiliation with the U. M. W. Listen—"It—organized labor—would receive as a dower the benefit of long practical experience, and shrewd maneuvers thought out and put into practical form by some of the brainiest men in America." Well, well. Maneuvers; I should say so. The boiler-makers of Victoria, B. C. can tell of how they were maneuvered out of work, a good fat job—by the members of an American society, with which they were affiliated. Ask the miners of B. C. from Nanaimo to Fernie what the brainy Western Federation of Mines did for them. They will tell you that these American societies may have brains, but they have no balance. Better twelve ounce brains and balance than sixteen ounce brains without it. It should not be forgotten that these same American societies which are coming knocking for admission are the very ones who slammed the door in the face of Canadian workmen. These are the societies which clamored for the 'Aliens' bill, to exclude chiefly Canadian workmen who might have received an invitation from an employer across the border to come and work for him. If the U. M. A. and kindred societies have a new found affection for Canadians, let them show an earnest of it by demanding the repeal of the unfriendly, unneighbourly 'Aliens' act.

It is frequently said that Correspondence schools have done excellent work. It is true in a sense. They have served the purpose of filling a gap. They were the only means almost of acquiring information of those too remote to attend college or too poor to do so. But where their best work has been is in exciting to study. They have compelled the student to zealously devote himself to the work set him under pain of failure. But as we have said frequently, Correspondence schools cannot fill the place of the inspired voice. In Nova Scotia, at least in all the towns and villages in the mining counties, something better has come to take the place of the correspondence schools. The evening classes instituted by Dal-

housie College in many industrial centres are the best means for enabling ambitious young men to obtain an elementary, at least, technical education. And to use a hackneyed phrase, the rates are so low that they are within the means of all. We hope to hear of the young men in the colliery towns largely availing themselves of the privileges within their reach. There is no doubt that by and bye the man who has taken a course at these classes as well as having secured a government certificate will be the man selected for an official position requiring training and knowledge.

CONCERNING COAL OUTPUTS.

In another column we give a part of the report of the Chief Inspector of Mines, Pa. It refers to accidents in mines, chiefly, but we desire to call attention to the following incidental remark:

"The employees inside of the American mines are producing more coal per person than the employees of the mines in any European Country, and are also earning more money, than the foreign employees."

Does the Inspector look upon Nova Scotia as a foreign country? It is in America, but it is not in the United States, therefore, we presume, Nova Scotia was not excluded in the desired application of the Inspector's remarks. The boast is a proud one, and it is no doubt worthy of a special toot, but is it literally correct? Reluctantly we may be forced to say it is, unless indeed the south portion of Cape Breton County, could be looked upon as a separate country, and not a portion of Nova Scotia. In that event we might present figures that would induce the Pa. Mines Inspector to draw in his horns.

A comparison of the output of Pa. with all the Nova Scotia mines is greatly and annoyingly to the disadvantage of the latter. While Pa. shows an output of 727 tons for every man employed inside and outside the mines, Nova Scotia can only show an output of 469 tons; or assuming that short tons are referred to in the Pa. report, and reducing the Nova Scotia output to short tons also, the output is 525 tons, or say no less than 200 tons per man in a year below that of the United States. If we take the output and divide by the number of men inside the mines in N. S., we find that for each person there is an output of 692 tons, against an output of 883 tons in the case of Pa. This leaves a difference of no less than 191 tons in favor of the American workers, inside the mine. This might stagger one, and lend to the idea that the American pit men are superior workers, were a ready reason not forthcoming. In any comparison of figures as between Nova Scotia and Pa., it should not be forgotten that machines are in general use in Pa., while in three machines are not in use, cannot well be employed, owing to the high angle of the seams. If we compare the average output per man inside in Pa., with that of the inside man in Cape Breton Co., we find that the difference in favor of the American is scarcely worth mentioning. In Cape Breton County last year there were employed 4,626 persons, who produced 4,066,600 short tons of coal or, say, 880 tons per man. In Pa. 136,000 men

produced 120,000,000 tons, which gives as already stated, an average of 883 tons per man or only three tons over the yearly average per man in Nova Scotia. But we can do better than that for Nova Scotia. Let us take Cape Breton County, south, and we find that the 3,383 men inside produced 3,445,000 short tons, or an average, per man in the mines, of 1181, which is better than the American districts, all of them, by twenty tons per man, with the exception of one district, the fifth which shows no less than 1315 tons per man inside, but this large showing is more than neutralized by the fact that the number of men outside the mine is out of all proportion to the number inside; the figures being, inside 6,472, outside 4,685, which brings the average per man inside and outside down to 767 tons or 66 tons less than the average of the Dominion Coal Co. In the whole of the sixteen soft coal districts in Pa., there is not one which shows as good an average per man as the district of Glace Bay, C. B. The Nova Scotia miners have no equals, so far as being efficient workmen go—on this side of the water, and if there were not so many summer picnics—which are a worse evil than summer cholera—to draw them away, they would, this year, be producing twelve and a half per cent more coal than is produced in any district in the United States. This, of course, applies to the C. B. machine mines. As for the hand pick mines, they are not in it with those of the U. S., with their seams at slight angles, and coals that work more freely. As showing the difference in the output per man in the several districts of N. S. we subjoin the following figures:

Cumberland Co	256 tons per man inside & outside
Pictou	" 323 " " " " "
Inverness	" 337 " " " " "
Cape Breton	" 626 " " " " "

Average for all of Nova Scotia 469 long tons or 525 short tons. Confining the production to the persons engaged within the mine we find that Springhill produced 414 tons; Pictou 514 tons and Cape Breton 788 tons approximately per man. The great difference between Springhill and Cape Breton is due to the fact that no machines are in use in the former. An examination of the figures of production leads one to the opinion that one of our weak points in Nova Scotia is the greater number of men employed outside in proportion to the production than in Pa. For instance if we take the Dom. Coal Coy's. outpnt, we find that 1181 tons are raised per year per man inside while for every man employed in connection with the mine the output is 833 tons. Taking the ninth district in Pa. the output per man inside is 1161 tons, while the output for every man employed is 860 tons. If no larger number of men were employed outside at the Dom. Coal Co's. collieries than in those of the ninth district in Pa., the output per man would be 875 tons instead of 833 tons only. A difference of 42 tons per man in a year may seem at first blush a small matter, but it is not so, as it means that it took the same number of men to raise 3,445,000 in C. B., and 3,618,000 tons in Pa. The questions to be asked in view of these facts are:—Are our coals more expensive to prepare for the market than those of the United States, or is our system of preparation defective. The probability is that the first question has to be answered in the affirmative. At the same

time the Record is of opinion that some managers have not quite realized the necessity for economy of labour outside the mine. Surface costs tell of a surety.

To show how the number of employees in a mine is affected by machines let us cite the case of the sixteenth district in Pa. The output from this district was 10,700,000 tons and the total number of men employed 12,608. This gives an output of 884 tons per man. In Monmouthshire, Eng, 10,978,000 tons were raised, the number of men employed in this production being 41,000 odd giving an output of only 267 tons per man. Low as these figures are they are 11 tons per man better than Cumberland Co., or say the Springhill mines. We have been told in the press that the old country miners work five days per week only, and that this is done to restrict the output. The Springhill miners must either work fewer than five days a week, or take it much easier, when they do work, than the men of Monmouthshire, for while they have bigger seams and better conditions generally they do not produce so much coal per man. There may be some explanation of this seeming inferiority of Cumberland men which we have overlooked.

The I. C. R. is doing for the Dominion exhibition what it never did before in the history of exhibitions in Eastern Canada. It is, in addition to the low rates that prevail all through the show giving four special excursions from Amherst, New Glasgow and the East.

1st. Excursion	September 26th.
2nd.	" 28th.
3rd.	October 1st.
4th.	" 4th.

Ask your Station Agent for all information as to Rates for Excursions, and other days.

The horse racing will be the very best ever seen in Eastern Canada; the Vaudeville and 'Carnival of Venice' will be magnificent; and the whole Exhibition, with its premium list of \$100,000 will be on a splendid scale.

Bridgeport water shaft is now down about 290 feet. Considerable water was met with at this depth. A No. 9 Cameron pump has been put in and the water can be handled easily.

The new Walker compressor at Dom. No. 6 has been started, the old ones are now out of commission. This will mean plenty of air for mining machines if required.

Dominion collieries are down to work again, big outputs are recorded in most of the collieries in September.

Inverness colliery may try a section of long wall. The land district may safely and no doubt practically be experimented with.

The Emery shaft, Reserve, is cribbed and the bottom is being cut out.

Queen pit, Sydney Mines, is giving considerable coal. It has been difficult to reach, but the management are economical, and bound that no coal of the quality of Syd. Mines will be wasted.

AROUND THE COLLIERIES.

Coal Shipments AUGUST, 1906.

DOMINION COAL COMPANY, LTD.

—Output and Shipments for August 1906.—

	—Output—	—Shipments—
Dominion No. 1	45 825	
Dominion No. 2	54 941	
Dominion No. 3	38 464	
Dominion No. 4	50 886	
Dominion No. 5	59 251	
Dominion No. 6	9 933	343 788
Dominion No. 7	11 891	
Dominion No. 8	24 566	
Dominion No. 9	35 959	
	331 716	343 788
Shipments Aug. 1905		307 084
Increase " 1906		36 704
Shipments 8 mos. 1905		1 823 767
" 8 " 1906		2 092 675
Increase 8 " 1906		268 908

INVERNESS RAILWAY & COAL CO.

Shipments Aug. 1906	25 145
" " 1905	9 867
Increase " 1906	15 278
Shipments 8 mos. 1906	117 305
" 8 " 1905	79 957
Increase 8 " 1906	37 348

INTERCOLONIAL COAL CO.

Shipments Aug. 1906	26 885
" " 1905	16 721
Increase " 1906	10 164
Shipments 8 mos. 1906	190 605
" 8 " 1905	119 674
Increase 8 " 1906	70 931

ACADIA COAL CO.

Shipments Aug. 1906	23 952
" " 1905	21 710
Increase " 1906	2 242
Shipments 8 mos. 1906	168 355
" 8 " 1905	162 570
Increase 8 " 1906	5 785

NOVA SCOTIA STEEL & COAL CO.

—SYDNEY MINES.—

Shipments Aug. 1906	74 858
" " 1905	60 140
Increase " 1906	14 718
Shipments 8 mos. 1906	411 463
" 8 " 1905	342 629
Increase 8 " 1906	68 834

CUMBERLAND RY. & COAL CO.

Shipments Aug. 1906	32 145
" " 1905	39 208
Decrease " 1906	7 063
Shipments 8 mos. 1906	283 325
" 8 " 1905	261 791
Increase 8 " 1906	21 534

The new man engine which was ordered for Caledonia is to be used as a coal engine at the Emery shaft, Reserve. The present man engine at Caledonia will be repaired and put in good condition.

A new induction heater has been put in use on feed water line at Hub colliery. The exhaust steam from two Norwalk compressors is used for heating. This is a great saving and is almost equal to another boiler.

Preparations are being made to put the Emery shaft at Reserve in shape for hoisting coal. Men are at work breaking off levels at the shaft bottom.

The machinery at Reserve is receiving a general repairing and in a month or two this colliery will have one of the finest plants owned by this company.

A new 75 H. P. return tubular boiler has been installed at Caledonia Water Shaft, also a new smoke stack 70 ft. high, 3 ft. 6 in. in diameter is being erected, the old boiler and stack having been condemned.

Caledonia has now one of the finest steam plants of the Dom. Coal Co. The last new boiler and the 'Parsons' system allows one boiler to be off all the time for cleaning and repairs.

The new electric plant at Dom. No. 2 has been running for some days, and everything appears to work satisfactory; of course the machines were running light not developing any power.

(Continued from page 13)

lieries, Limited, and Horden, large as it is designed to be, will only be one of a group of several neighbouring big pits. It is to be hoped that in the opening out of the collieries at Hesleden and Castle Eden less difficulty may be experienced in sinking through the water-bearing regions. At Horden continuous pumping actually took place over a period of three years.

TECHNICAL EDUCATION.

The following timely remarks came lately from Mr. John McKeen of Amherst. The subject, the Record is pleased to say is securing at this time a good deal of attention. In all probability we will hear more on this subject when the next speech from the throne is heard. While the local government is debarred from enacting legislation in restraint of trade, there is no bar upon it for doing all possible to extend it:

"The Maritime Provinces, with their wealth of raw material, are destined by nature to become the workshops of Canada, just as the West is destined to become her granary and food producing source. If immigration is supplying us with consumers in our great West, let the Eastern provinces see to it that we supply the manufactured goods. If this opportunity is to be seized, the key that opens the door is technical education and skill. If we fail to discern this, we drop out of the race and join the procession following where we should lead, become charlatans instead of specialists."

I have nothing to say against the system known as the Correspondence Schools; they have done splendid work. It has been alleged that some \$60,000 is absorbed by these schools in this Province. If this be so it only goes to show the eager thirst of our young men and women for technical knowledge. The difficulty, however, of keeping up this long-range method of solving technical problems causes many to forfeit their deposits for the course and the system is but a poor substitute for the hypnotic inspiration which comes from actual contact with the professor's chair and the wholesome stimulus of student life and laboratory work.

The Province of Nova Scotia reaps a large revenue from sources where the highest technical skill must be exercised. What better appropriation could our Government make than one to assist and encourage technical education? We may talk of bounties and subsidies, but no amount of artificial stimulus can compare in actual commercial and industrial results with the sane and substantial ones that will follow a thorough system of technical education."

The buildings for the Dominion Exhibition are in splendid shape for the Fair, which opened on September 22nd. That the Live Stock Show will be the largest ever seen in Canada, barring none, East or West, is certain.

The railway rates to Halifax will be very low. Return tickets from St. John to Halifax will be as low as \$4.00 by the D. A. R. and \$4.75 on I. C. R. It will be possible to come from Sydney to

Halifax, enter the Fair, and return for \$3.25.

From Amherst to Halifax and back, with Exhibition entrance, the railway charge will only be \$1.75.

Every day during the Exhibition visitors may come from Yarmouth and return for \$3.00. These are but samples of the low rates that will prevail all over the country during the two weeks of the Dominion Exhibition.

MONTREAL EXCURSION	Sept.	OCT.
	20	1
	21 22	2 3
	Good for return until Oct. 5th.	Good for return until Oct. 15th.

Intercolonial Railway.
will sell ROUND TRIP Tickets from

STELLARTON
TO
MONTREAL **\$13.00**

Proportionately low fares from all stations: Campbellton and East.

SPECIAL EXCURSIONS Sept. 20, 21, and 22, good to return Oct. 5th, '06 to Port Huron, Mich., Detroit, Mich., Saginaw, Mich., Bay City, Mich., Grand Rapids, Mich., Chicago, Ill., St. Paul, Minn., Minneapolis, Minn. Apply to nearest Intercolonial Railway Agent for further particulars.

Intercolonial Railway.

Return Tickets will be sold from all Stations in Nova Scotia and Cape Breton at

First Class One Way Fare.

with 25 cents added for admission coupon.

Good going Sept 21 to Oct. 4th. Truro to Rockingham and Stations inclusive will also issue on Oct 5th. All tickets good to return until October 9, 1906.

For special fares and dates see small bills.

Dominion Exhibition

September 22
to
October 5,
1906.

WANTED!

50 Miners and Laborers

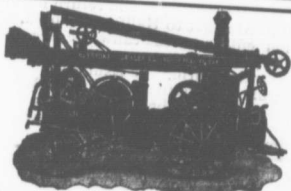
BY THE
MARITIME

Coal, Ry. & Power Co., Ltd.

AT THE

hignecto Mine.

David Mitchell, Gen'l Manager.



The KEYSTONE

Percussion Core Drill Attachment
is an economical appliance for
TESTING COAL LANDS.

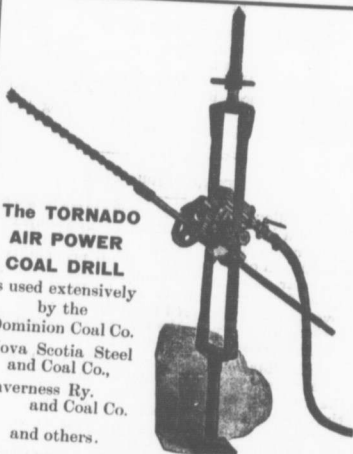
It can be used in connection with any good "churn" drill, but operates best on the long-stroke KEYSTONE, thus making the cheapest and quickest method of boring to be found.

In operation a hole is sunk to the coal with the ordinary Rock Bit. The Bit and Stone are then removed and the Coring Attachment put on in their place. It takes a 4 ft. core out of the Softest as well as the Hardest part of the vein. Avoids all delay and expense of "rods" water wash, diamonds, shot, and heavy operating mechanism.

Price of Complete Attachment
\$200.00

Catalog No. 2 B. is a book on the subject.
We make Water, Oil & Test Well Drillers
for all depths and purposes.

Keystone Driller Co. Beaver Falls, Pa.



The TORNADO
AIR POWER
COAL DRILL
is used extensively

by the
Dominion Coal Co.
Nova Scotia Steel
and Coal Co.,
Inverness Ry.
and Coal Co.

and others.

Herzler & Henninger Mach. Works,
Manufacturers of the
H. & H. Coal Cutters & Tornado Coal Drills,
Belleville, ILL., U. S. A.

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.

MONTREAL STEEL WORKS Limited.

We make a Speciality of cast Steel WHEELS

and other
Steel Castings for

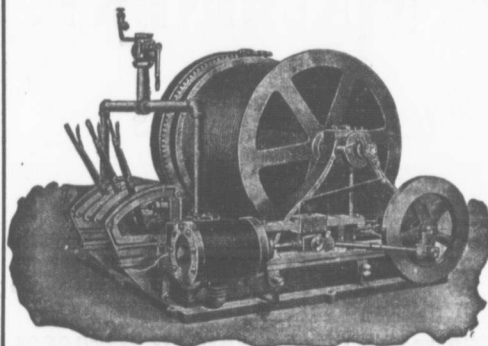
MINING PURPOSES.

INTERLOCKING SWITCH AND SIGNAL Plants.

(Under the patents of Gashy & Payne, Limited, of London Eng)
CANAL BANK, POINT ST. CHARLES MONTREAL.

STEEL CASTINGS
FORGINGS,
SPRINGS,
FRIGS,
CROSSINGS,

"Lidgerwood" HOISTING ENGINES.



This is a view of our combined friction drum and brake and reversible link motion hoist. The most economical mining hoist built.

Works, MONTREAL.

Branch Office, New Glasgow.

Allis-Chalmers-Bullock, L't'd.

WIRE ROPE

HIGH GRADE WIRE ROPES FOR
Hoisting, Haulage, and Colliery Purposes.

Manufactured by **Dominion Wire Rope Co., Ltd., MONTREAL.**

AUSTEN BROS.—HALIFAX AGENTS.

500. - WANTED. - 500.

Wanted immediately, at Inverness, C. B.

Five Hundred Hand Pick Miners,

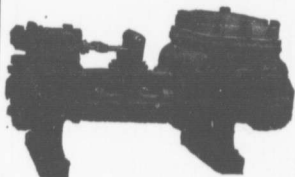
Underground and Surface Laborers.

Miners earn Two to Five Dollars per Day.

Inverness Railway & Coal Co.

J. MCGILLIVRAY,
SUPERINTENDENT

PUMPING MACHINERY.



Fairbanks Morse Duplex,
Piston Pattern,
Boiler Feed Pump.

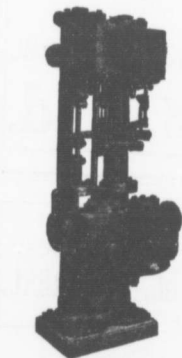
**Steam Pumps,
Power Pumps,
Fire Pumps.**

**We make pumps for all purposes,
and have a VERY Extensive Line of
Patterns.**

Our aim is to Build a High Grade
Line of Pumping Machinery.

**The Material and Workmanship en-
tering into the Construction of Our
Pumps is kept up to the highest Stand-
ard at all times.**

All the Wearing Parts are made to Gauge and are therefore
interchangeable.



Fairbanks Morse,
Vertical Duplex Boiler
Feed Pump, Marine Type.

**EVERY PUMP IS THOROUGHLY TESTED
BEFORE IT LEAVES THE FACTORY.**

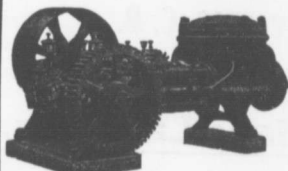
Send for our Catalog 48c, or have our representative
in your vicinity call on you.

REPRESENTED BY

A. F. LYTTLE, New Glasgow, N. S.

K. N. FORBES, Halifax, N. S.

G. E. Choinier, St. John, N. B.



Fairbanks Morse Horizontal Duplex Power Pump

The Canadian Fairbanks Company, Limited.

Montreal, Toronto, Winnipeg, Vancouver.



Synopsis of Canadian North-West. Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba or the North-West Provinces, excepting 5 and 20, not reserved, may be homesteaded by any person the sole head of a family, or male over 15 years of age, to the extent of one quarter section, of 160 acres, more or less.

Application for homestead entry or inspection must be made in person by the applicant at the office of the local Agent or Sub-Agent.

An application for entry or inspection made personally at any Sub-agent's office may be wired to the local Agent by the sub-agent, at the expense of the applicant, and if the land applied for is vacant on receipt of the telegram such application is to have priority and the land will be held until the necessary papers to complete the transaction are received by mail.

In case of "persecution" the entry will be summarily cancelled and the applicant will forfeit all priority of claims.

An applicant for inspection must be eligible for homestead entry, and only one application for inspection will be received from an individual until that application has been disposed of.

A homesteader whose entry is in good standing and not liable to cancellation, may, subject to approval of Department, relinquish it in favor of father, mother, son, daughter, brother or sister, if eligible, but to no one else, on filing declaration of abandonment.

Where an entry is summarily cancelled, or voluntarily abandoned, subsequent to institution of cancellation proceedings, the applicant for inspection will be entitled to prior right of entry.

Applicants for inspection must state in what particulars the homesteader is in default, and if subsequently the statement is found to be incorrect in material particulars, the applicant will lose any prior right of re-entry, should the land become vacant, or if entry has been granted it may be summarily cancelled.

DUTIES.—A settler is required to perform the conditions 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) If the father (or mother, if the father is deceased) of a homesteader resides upon a farm in the vicinity of the land entered for by such homesteader, the requirement as to residence may be satisfied by such person residing with the father or mother.

(3) If the settler has his permanent residence upon farming land owned by him in the vicinity of his homestead, the requirement may be satisfied by residence upon such land.

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.

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 320 acres can be acquired by one individual or company. Royalty at the rate of ten cents per ton of 2,500 pounds shall be collected on the gross output.

QUARTZ. A free miner's certificate is granted upon payment in advance of \$2 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 sales.

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

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

EMPIRE TRUST CO.

Head Office

187 Hollis St., HALIFAX

AS TRUSTEE:—It is a matter of the FINEST IMPORTANCE that a Trust be placed in the hands of a permanent and undying Trustee.

Appoint this Company yours.

Apply to Bank of N. S. for folders.

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—

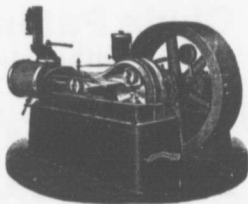
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Hats, Caps, Straw Goods, all kinds of Fur Goods and Men's Furnishings.

Wholesale only,

TRURO, Nova Scotia.

NOT ONE CENT FOR REPAIRS



An experienced Engineer has written us as follows:—

"After eighteen months of hard service, the Robb engines are in excellent shape, running very smooth and without a bit of vibration. Up to this time they have not cost one cent for repairs, the only expense being steam, oil and packing, and this below the average. Perfect alignment, parts well machined, and good design make the Robb the most economical and labor saving engine that has ever come under my notice.

Robb Engineering Co., Ltd.

Amherst, N. S.

HAMILTON'S ZEPHYR

....PILOT,....

CALLED

"The Prince of Pilots."

Beyond Comparison. The Finest Pilot Biscuit Made.

ASK YOUR GROCER FOR IT.

G. J. HAMILTON, & SONS.

Pictou, Halifax, St. John.

Contractors to Admiralty and War Office, also Colonial Governments.

ALLAN, WHYTE & C'O'Y.

Clyde Patent Wire Rope Works,

Cablegrams: "Ropery Rutherglen," Rutherglen, Glasgow, Scotland.

Codes A. B. C. (4th & 5th Eds)
A. I. 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 1,750,000 tons in that time and is still good for further considerable service.

Agents in Nova Scotia:—**Wm. Stairs, Son & Morrow, Ltd., Halifax.**
Agents in New Brunswick:—**W. H. Thorne & Co., Ltd., Saint John.**

—Different Sizes and Qualities kept in Stock—

CAPE BRETON COLLIERY.

NEW CAMPBELTON CAPE BRETON N. S.

SUPERIOR

STEAM AND DOMESTIC COAL

SAFE AND CONVENIENT SHIPPING PORT

The Nearest Coal Port to Newfoundland

Just Inside Entrance Great Bras d'Or.

Vessels from P. E. I. and Western Ports, via St. Peter's Canal, will save time by loading at New Campbellton. Smooth Inland Navigation. Quick Despatch.

- - J. T. Burchell Manager.

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 Hastings, C. B.

INVERNESS RY. & COAL CO'Y

Time Table No. 18, Taking effect at 1 a.m. June 5th, 1905.

EASTBOUND		STATIONS.	WESTBOUND	
Read Down	No. 54		Read Up	No. 55
a. m.	p. m.		a. m.	p. m.
L 11 10	L 3 55	F. TUPPER JUNCTION	A 10 55	A 3 35
S 11 16	S 4 00	PORT HAWKESBURY	S 10 59	S 3 37
A 11 35	A 4 15	PORT HASTINGS	A 10 30	A 3 10
L 4 18	L 4 30	TROY	P 10 39	
F 4 30	F 4 45	OREGONISH	P 9 53	
P 4 50	P 5 10	CATHERINE'S FOND	P 9 25	
F 5 22	F 5 38	PORT HOOD	L 9 08	
A 5 38	A 5 55	GLENCOE	P 8 45	
L 5 45	L 6 05	MAROU	S 8 15	
P 5 58	P 6 20	BLACK RIVER	P 8 05	
N 6 21	N 6 45	STRATHLOANE	P 7 50	
F 6 52	F 7 18	INVERNESS	S 7 27	
P 6 52	P 7 20		L 7 30	
S 7 07	S 7 35		A 7 30	
A 7 20	A 7 50			

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

THE PORT HOOD COAL COMPANY LIMITED

Miners of

SCREENED
STEAM
STOVE
SLACK

COAL,

Mines and Shipping Pier, Port Hood; C. B.

Especial care is taken in preparing our coal for Domestic Uses. For Stoves, Grates and Ranges, it has no superior in Cape Breton or Nova Scotia.

For prices f. o. b. at Port Hood and delivered at any point including all stations in the Intercolonial or Dominion Atlantic Railways apply to

THE PORT HOOD COAL COMPANY, LIMITED

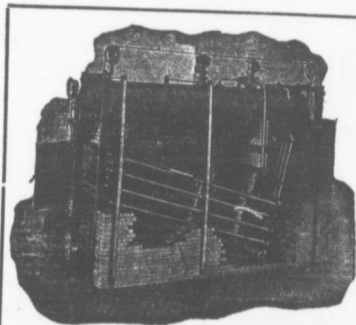
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DOMINION BRIDGE CO., LTD., MONTREAL, P. Q.

BRIDGES

TURNABLES, ROOF TRUSSES
STEEL BUILDINGS
ELECTRIC & HAND POWER CRANES
Structural METAL WORK of all kinds

BEAMS, CHANNELS, ANGLES, PLATES, ETC., IN STOCK



BABCOCK AND WILCOX PATENT WATER TUBE
BOILER WITH SUPERHEATER.

BABCOCK & WILCOX LTD.

PATENT SUPERHEATERS

Over 1,250,000 H. P. now in use.

Can be adapted to existing plants and to all types of
boilers, effecting great economy in fuel consumption.

Write for our Circular giving detailed description.

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We Have in Stock

and offer at lowest price

—the following—

Asbestos Cement, Blacksmith Bellows,
Carriage Bolts, Crow Bars,
Coke Forks, Rail Benders,
Jack Screws, etc. etc

These are only a few of the many supplies we
have on hand. Write for quotations

AUSTEN BROTHERS,

Halifax, N. S.

George Patterson,

BARRISTER, SOLICITOR, ETC.

NEW GLASGOW, N. S.

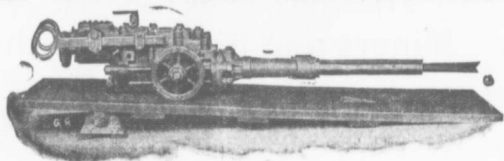
Successor to Sinclair and Patterson—

JERSEY - LILY - FLOUR.



*Best all round flour on the market.
Uniform in quality. Every barrel
can be depended upon. This flour can
only be had in Cape Breton at the stores
of the Dominion Coal Company.*

COAL MINING MACHINERY



"G" HARRISON IMPROVED COAL CUTTER.

HARRISON IMPROVED COAL CUTTERS.

AIR COMPRESSORS
—of all Descriptions—

MANUFACTURED BY

LITTLE GIANT STEAM OR AIR DRILLS

Canadian Rand Drill Coy Works, Sherbrooke Que.

Halifax Office, 116 Hollis St.

G. L. Burritt, Agent.

The Stirling Consolidated Boiler Company,

Successors to the plants and Water Tube Boiler business of The Stirling Company, Barberton, Ohio, and The Aultman & Taylor Machinery Coy., Mansfield, Ohio.

Manufacturers of

Stirling A. & T. Horizontal and Cahall Vertical Water Tube Boilers, Chain Grate Stokers and Superheaters.

WORKS: Barberton, Ohio; Mansfield, Ohio.

GENERAL OFFICES:.....Trinity Building, 111 Broadway, New York.

RUBBER BELTING.

Unequaled for DURABILITY and POWER TRANSMITTING Qualities.

"Monarch," "Red-Strip" and "Lion" Brands, for Transmitting, Conveying and Elevating.

"REDSTONE SHEET PACKING"

For Highest Pressures with Steam, Hot or Cold Water and Air

The most durable and satisfactory Packing on the Market.

Suction Hose, Steam Hose, Air Drill and Pneumatic Tool Hose.

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Branches at Montreal, Winnipeg and Vancouver.

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STELLARTON, NOVA SCOTIA.

Miners and Shippers of the

CELEBRATED

ACADIA COAL.

Unexcelled for Steam, Domestic and General Purposes.

DELIVERED BY RAIL OR WATER.

SHIPPING PORT: PICTOU LANDING.

Quotations Furnished Promptly on Application.

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Shipments to all points reached by the
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DAVID MITCHELL, General Manager.

The BROWN MACHINE COY.,

New Glasgow, Nova Scotia.

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

Estimates Cheerfully given.

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CONSULTING ENGINEERS

G. C. ROBB CHIEF ENGINEER

HEAD OFFICE TORONTO

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.. BOILERS ..
... LAST INSPECTED ? ...

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-OR TO-

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(LIMITED)
WIRE MANUFACTURERS
& METAL PERFORATORS
HAMILTON
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WIRE SCREENS for Every Class of Material. Perforated Metal of Steel
Copper, Brass, Zinc, for all Purposes. Special attention given to
Miners Requirements.

THE B. GREENING WIRE COMPANY, LIMITED.
HAMILTON, ONT. MONTREAL, QUE

DRUMMOND COAL.

INTERCOLONIAL COAL MINING CO., Limited,

WESTVILLE. NOVA SCOTIA.

MANUFACTURERS AND MERCHANTS SHOULD ADVERTISE IN THE
MARITIME MINING RECORD Rates Moderate.

GOWRIE AND BLOCKHOUSE COLLIERIES, LIMITED.

OF NEWCASTLE ON TYNE.

MINE AND LOADING PIERS, PORT MORIEN, COW BAY
CAPE BRETON, N. S.

Miners and Shippers of GOWRIE COAL.

The Reputation of this Coal has Steadily Advanced during the past 40 years and the Output of the new Mine is fully up to the old Standard of Excellence.

**Especially designed Piers for the rapid delivery of coal
into Vessels by Roe and Bedlington's Patents.**

OFFICES:—Canada, Port Morien, Cape Breton, Nova Scotia. England, Newcastle on Tyne.

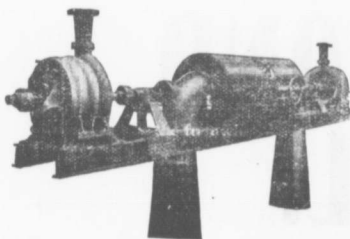
The JOHN McDOUGALL Caledonian Iron Works Co., Ltd.

Montreal Que.

BOILERS: All Sizes and all Pressures.

PUMPS

Worthington Pumps for
Water Works and Mines.



Water Wheels

Doble Water Wheels for high heads.

Two Worthington 3 stage Turbines and McCormick Water Wheels, built for Port Arthur, Ontario, Water Works. Combined capacity 1440 gallons per minute against 350 head.

Mill Machinery

Etc. Etc.

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RAILWAY AND

COAL COMPANY.

OPERATING THREE
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.

Delivered By Rail or Water

BEST COAL FOR

GENERAL STEAM PURPOSES.

The year Round

IN Lots To Suit Purchasers.

BEST COAL FOR

DOMESTIC CONSUMPTION.

BEST GAS COAL

Mined in the Province.

Mines

SPRINGHILL

N. S.

Head Office

MONTREAL

Dominion Coal Company, Ltd.

Miners of

Bituminous Coals, the celebrated "Reserve" coal for household use, "International" Gas coal, and the best Steam coal from its collieries on the Phalen seam.

—Yearly output 3,500,000 tons.—

ANALYSES.

ANALYSES OF GAS AND STEAM COAL MADE BY J. & H. S. PATTINSON, CHEMISTS,
—NEWCASTLE, ENGLAND.—

	STEAM COAL.	GAS COAL.]
CARBON.....	80 18 per. cent.	77 51 per. cent
HYDROGEN.....	5 11 " "	5 22 " "
OXYGEN.....	7 34 " "	6 72 " "
NITROGEN.....	1 16 " "	1 27 " "
SULPHUR.....	0 56 " "	3 07 " "
ASH.....	2 30 " "	4 10 " "
WATER.....	3 35 " "	2 11 " "
	100 00	100 00

Calorific Power of Steam Coal :—Pounds of Water evaporated from 212 per cent Fah, by one pound of the coal as determined in Thompson's Calorimeter.—14.8 lbs.

Shipping facilities at Sydney, and Louisburg, G. B., of most modern type. Steamers carrying
—6000 tons loaded in 24 hours.—

Special attention given to quick loading of sailing vessels. Small vessels loaded with
quickest despatch.

:: BUNKER COAL ::

The Dominion Coal Co. has provided unsurpassed facilities for Bunkering Ocean going Steamers with Dispatch. Special attention given to Prompt loading. Steamers of any Size are bunkered without detention.

By Improved screening appliances lump coal for Domestic trade is supplied of superior quality.

Prices. Terms, etc. may be obtained at the Offices of the Company.

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DOMINION COAL COMPANY, LIMITED.
DOMINION COAL COMPANY, LIMITED.

112 St. James St., Montreal, Que.
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2nd. Vice President