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New Series Vol. 8 No. 23

JUNE 13th., 1906

STELLARTON, N. S.

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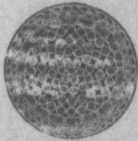
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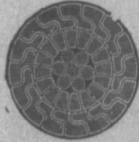
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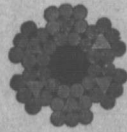
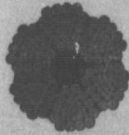
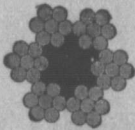
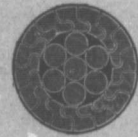
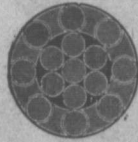
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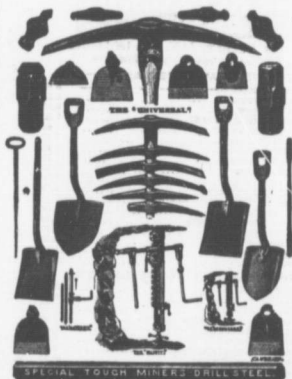
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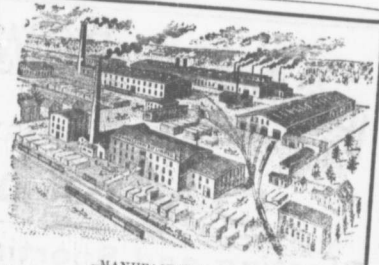


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56 Mixed for Sydney	8.15
19 Express for Pictou	11.10
28 Mixed for Truro	11.15
130 Mixed for New Glasgow	11.50
20 Express for Halifax and Montreal	15.55
140 Mixed for Pictou	16.00
101 Mixed for Pictou Landing	16.00
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17 Express for Pictou	21.25
66 Express for Pictou	21.45

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79 Mixed from Hopewell	6.30
78 Mixed from Trenton	6.55
61 Express from Pictou	7.30
18 Express from New Glasgow	7.30
21 Mixed from Hopewell	7.35
62 Mixed from Truro	7.35
28 Mixed from Pictou Landing	8.00
65 Mixed from New Glasgow	8.20
56 Mixed from Mulgrave	10.55
19 Express from Halifax and St. John	11.30
130 Mixed from Pictou	11.00
20 Express from Sydney	15.40
22 Mixed from Pictou Landing	18.10
77 Mixed from Hopewell	18.45
66 Express from Pictou	19.25
65 Express from New Glasgow	21.25
17 Express from St. John and Halifax	21.50

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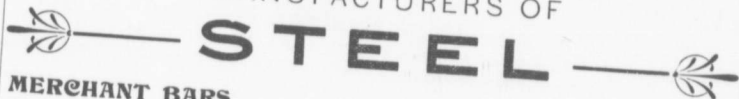
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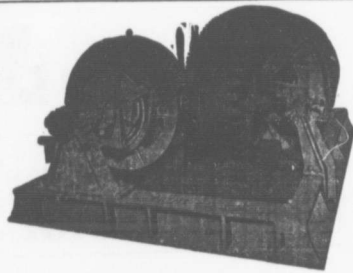
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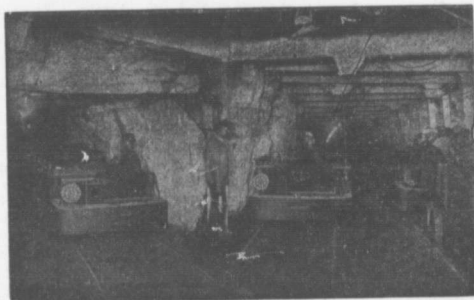
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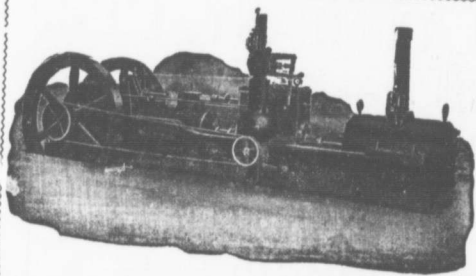


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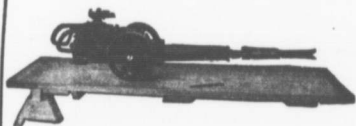
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The Dominion Coal Co's hoisting tower at St. John N. B. is now in working order, and the cost of handling and unloading coal at that port has been reduced to one-quarter of what it was when the old bucket method of unloading was in use. Owing to the unusual rise and fall of the tide at this point, there is a long lift, all of 120 feet in fact, at the ebb of the tide. Six men are required to operate the machinery, which loads the fuel directly into the carts for distribution about the city and can work at the rate of 2,000 tons per day.

"Mine and Quarry" is the name of a quarterly bulletin issued by the Sullivan Machinery Co'y. of Chicago. The publication is bright and must prove of much interest to all users of the many kinds of machinery manufactured by the firm, and to those interested in a general way in mining matters.



To Ho....  
**MARITIME MINING RECORD**

Vol. 8, No. 23. Stellarton, N. S., JUNE 13th, 1906 New Series

THE 1905 EXAMINATIONS.

Answer to question re "Modes of Working"

By W. B. Scott, New Aberdeen.

Ques.—In approaching the old workings of a mine which had been flooded with water a feeder is struck in a bore-hole eight yards in advance of the face. (a) How can we determine the head of pressure without making a complete holing and (b) how can we find the thickness of the barrier without holing through it?

Ans.—(a) The pressure can be gauged with considerable accuracy by drilling a hole into the coal ten yards long and 4 inches in diameter and inserting a pipe that is made perfectly watertight by packing, and having a gauge screwed on to its outer end to read off the pressure after a lapse of a period of 24 hours. The mode of proceeding to secure the grip is as follows:—The hole is drilled into the coal. Near one end of the pipe an indiarubber disc is screwed up between two iron discs to prevent the packing from entering the rear end of the hole. That is to say that the space is kept free from packing and open for the entry of water. After the pipe has been placed in position cylinders of stiff compact clay are set over it and pushed on to the rear of the hole against the disc and tamped with a pipe that has a flange on its end to cover the end of the clay cylinders. The cylinders are eight inches long and have an inch hole through them for the passage of the pipe. It may be said however that the hole is larger than the pipe and the cylinders of clay are made a little smaller than the diameter of the bore-hole so that they will slide easily into the hole.

After the hole has been stemmed tight with clay a gland is fixed on the front of the hole and this is wedged tight in position by means of two timbers. After the pipe has been placed in position for about 24 hours the gauge indicates the full static pressure due to head of water in the old workings.

(b) First I would drill a four inch hole 10 yards into the coal, insert a pipe and make it watertight as has been already explained. The first test made with pipe should be to find the head or pressure of the water. Suppose that after the gauge has been screwed on the pipe for twenty-four hours it indicates  $43\frac{1}{2}$  lbs pressure per sq. inch. This would be equal to a head of water of 100 feet. The pressure having been secured unscrew the gauge and let the water that has been collected run off. After being satisfied that the flow has become normal a vessel should be set to collect the water for a period of ten hours. Suppose the collection to be 91.5 cubic feet. (This must be 91.5 cub. ft. per min.—Ed.) We then convert the volume in cubic ft. into velocity in feet per minute by multiplying by 11.49. The latter number being the number of cylinders 1 foot long and 4 inches in diameter that would equal the contents of a cubic

foot. Therefore discharge from this bore-hole would be equal to a velocity of  $91.5 \times 11.49 = 1053.33$  feet per minute. Then after thirty feet of coal has been cut off the barrier and a second hole bored of the same dimensions as the former one and the measure pipe has been packed in position and the flow measured as before—let us suppose that the flow of water from this pipe is 113 cub. ft. in ten hours. Now such a flow is equal to a velocity of 1488 feet per minute, because  $113 \times 11.49 = 1488$ . Again we find the flow of the second hole is greater than in the first in the proportion of  $1051.33$  to  $1488$  and that with a head of 100 feet of water, the flow through an orifice after being qualified by the vena contracta is 2976 feet per minute. Then to find the thickness let us repeat the rule which shows that the squares of the velocities are directly proportional to the resistance. Therefore to determine the thickness of the barrier we must use as our factors the square of the velocity. That due to a head of 100 ft. head is  $8,856,576$ . The square of the velocity in the first hole is  $1,107,072$  and the square of the velocity in the second hole is  $2,214,144$ . Next let us seek to understand the importance of the factors that are before us. With the first bore-hole the velocity squared was  $1,107,072$  and after we had advanced thirty feet further through the barrier the square of the velocity rose to  $2,214,144$  or the square of the velocity in the second hole was twice what it was in the first hole, and the second advance through the coal of thirty feet produced the doubling of the first square, that is to say with a double advance we double the square of the velocity or  $2,214,144 \times 30$

$$= 60 \text{ feet.}$$

$1,107,072$   
 This shows that a square equal to  $2,214,144$  is the equivalent of a resistance in the barrier of 60 ft. Therefore  $8,856,576$

$$= 4$$

$$2,214,144$$

That is to say that the thickness of the barrier from the inner end of the hole is  $60 \times 4 = 240$ . It is clear that if  $1,107,072$  is the equivalent of 30 feet  $2,214,144$  is the equivalent of 60 ft. and as the hole is already 30 feet through the barrier the thickness from the outer end of the second hole is  $240 + 30 = 270$  ft. We have solved the question and found that after the first 30 feet was taken off the coal there still remains a barrier of 270 ft. between the old workings and the accumulation of water. We must not suppose that the square of this or any other velocity will represent a distance of 60 feet in the thickness of the barrier, for different varieties of coal offer different resistances to the passage of water, and therefore to find the thickness of the barrier we must find the static pressure as previously explained. After this is done we must find the flow through the pipe in two bore-holes in two successive 30 ft. steps through the barrier factors by which the thickness of the barrier can be found with considerable accuracy.

(Mr. Scott ought to be commended for his courage. Has not he missed the point somewhere. If his bore hole discharged 1053.33 feet per minute what sort of vessel would be necessary for a ten hours flow. Has vena contracta anything to do with velocity? Will some one point out the errors in Mr. Scott's answer.—Ed. M. Record.)

pipe and pressure gauge fixed into the bore-hole would enable the pressure to be ascertained.  
The Pressure in lbs. per sq. inch = head of water in ft.

-434

## THE 1905 EXAMINATIONS.

"PRACTICAL" writes.—I noticed in your last issue that you enquire into the possibility of some of the questions being worked which were set at the last examination for Candidates for Managers in this Province. You are certainly not the only person who has had reason to be in doubt on the matter and the successful candidate you mention is only one of many who were a little more than puzzled. I make no pretense at answering the questions set but I wish to start a discussion in the hope of getting the questions thoroughly thrashed out. Take the question on the safety valve. It is workable but the answer obtained from the data given is ridiculously small. Of course the question tests whether the student understands the method of working the thing out but to say the least the question is hard and given in vague terms. The following is the formula for working the question:

Let L = length of lever i. e. distance fulcrum to weight.  
Let R = distance from valve to fulcrum, i. e. the short arm.

Let P = blow off pressure in lbs per sq. inch.  
" D = diameter of valve.

" W = weight.

" B = weight of lever.

" V = weight of valve and connections.

" C = distance of centre of gravity from fulcrum.

Then  $d^2 \times .7854 \times P \times R = (W \times L) + (B \times C) + (V \times R)$

Now to get the values of the letters.

L eq. 30" + length of short arm = 30 + R

R eq. is to be found.

P eq. 80 lbs.

D eq. 4 inches.

W eq. 7½ lbs.

B) these together eq. 12 lbs, so the student is left V) to suit himself how he divides the weight between the two, and if he makes a mistake whose fault is it.

Make B eq. 8lbs.

V eq. 4 lbs.

30 + R

C. eq.  $\frac{2}{30+R}$  taking bar to be uniform.

This is rarely the case but as no information is given as to where the centre of gravity will be this is just as likely to be correct as guessing it.

$$\therefore 4^2 \times .7854 \times 80 \times R = 7\frac{1}{2} \times (30 + R) + 8 \times \left( \frac{30 + R}{2} \right) + (4 \times R)$$

$$\therefore 1006 R = 215 + 7\frac{1}{2} R + 120 + 4 R + 4 R$$

$$\therefore 990\frac{1}{2} R = 335$$

$$R = 338\frac{1}{2} \text{ inches.}$$

This is a little better than ½ of an inch for the length of the short arm of the lever. Surely there is something wrong somewhere. It may be that I didn't work the question right, but if not I would be glad to be shown the correct way, that is why I have worked the question out.

In the question on the bore-hole striking water from old workings the first portion (a) is easy enough. A

I hope some one will answer the second part of the question as I would like to know what reliable rule can be applied in such a case. Plans have in many cases proved unreliable and accidents have occurred through depending on them, so that method is out of the question. We cannot depend on the distance of the break or breaker from the actual holing because this will differ in different coals and will also differ according to whether the old workings are fallen in close to the edge of the barrier or are still standing. We cannot depend on the distance that water will find its way through the planes and pores of the coal because this also varies. If there is a reliable rule I should like to know it lest some day I should have to face a dilemma of this kind. We could be sure of eight yards and a little more as the thickness of the barrier, how are we to find out how much that little more is?

The question on the dam is not a question at all, it is simply a statement of certain facts relating to the dam. Nothing is asked for at all and any student who simply ignored the whole thing would be justified in doing so and would be entitled to any marks that were allowed. The thickness of the dam is not given and I suppose that is what it was intended to ask for but still the question part was omitted. This was probably due to a mistake and would hardly be intentional. This question is easily worked if it is the thickness that is required.

## PRAISE FOR INTERCOLONIAL RAILWAY.

Canada's famous train, the "Maritime Express," the I. C. R. through train between Montreal, Quebec, Moncton, St. John and Sydney, is earning fresh words of commendation from distinguished persons. According to the St. John Globe, the address of Rev. Dr. Grierson, returned Missionary from Korea, was one of the features of the session of the Convention of the St. John Presbyterian.

Dr. Grierson spoke on the recent international students' convention at Nashville. The speaker had to travel over six different railway lines to reach Nashville, but found none so well appointed and comfortable as the I. C. R. In addition to this the Montreal Herald of May 30th. has the following expression of opinion of a well known professional man:

"Talking to a reporter recently a well known professional man who travels considerably remarked: "I always enjoy the trip by the Maritime Express between Montreal and Halifax. There is more than a mere sense of comfortable travel, there is something that always makes me thoroughly contented, and never do I feel that irritability and impatience one is so apt to feel when making a railway journey of long duration. The splendid cars and accommodation, the inviting meals and prompt service on the dining car contribute greatly to this feeling, I know, and the passing view of so many scenes of various beauty is soothing to the senses. But there is something more something I can hardly describe, but am inclined to attribute to the social atmosphere. You meet all classes and conditions of men while travelling but it seems to me that on the Maritime Express one always finds himself a fellow-passenger among people of a pleasant and interesting type. Some of my happiest hours have been spent on this journey."

## Maritime Mining Record

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R. DRUMMOND, PUBLISHER.

STELLARTON, N. S.

JUNE 13rd 1906

### - Rubs by Rambler.

The Herald of a late date had a letter from Mr. Milner in reply to the letter of S. Cunard & Co., bearing on the price of coal, and some erroneous statements made by Mr. Milner. Mr. Milner's letter cannot be called strong—indeed, it is a begging letter. He calls upon S. Cunard & Co. to show their books so that he may obtain the prices of coal for the past score of years. Mr. Milner states, quite coolly, that if he was wrong in his statements as to the price of coal sold by Cunard and Morrow a quarter of a century ago, then this is the first time that any of his multitudinous assertions have been assailed. Every statement, he asserts, he made in the past has not only gone unrefuted, but unchallenged by coal barons. Is that so? I wonder if it was Mr. Milner who said that the people of Montreal, the common people—bought their coal cheaper than those living nearer the mine, say in Halifax. Was it Mr. Milner who said that coal cost the manufacturers of Nova Scotia more than it did those of Montreal? Was it Mr. Milner who said that coal cost in Nova Scotia a dollar a ton more than in Montreal? Was it Mr. Milner who conveyed the impression that the coal companies retailed coal in Montreal at a less rate than in even Sydney? I have the suspicion that it was, and if that suspicion is well founded then Mr. Milner has been very very often astray in his statements. I wonder if Mr. Milner is quite fair as a disputant. When he makes a statement, or when he makes the statement that coal sold in Halifax twenty odd years ago at \$1.83 per ton, he brought forth no proof and gave no details; he just saw something in the papers and did not tell us whether the coal was slack, run o mine or round; whether it was f. o. b. or delivered, and or whether it was by the wholesale or retail. He of course left the inference that it was \$1.83 in Halifax retail, and he asked us, without more ado, to accept his statements. When, however he is told that the firm he referred to never sold coal by retail; when he is told that coal now in Halifax costs sixty cents only per ton more than twenty years ago, he will not believe it, but calls on S. Cunard and Co. to 'show your books.' That is however what Cunard & Co. won't do. They, like the operators, have caught on, and have come to know that what Mr. M has been looking for for the past two

years is information. If Mr. M. is a little sour and sulky it is not to be wondered at. So might any man be who had a great craving for information which no one seems willing to help him to gratify.

Since writing the foregoing I see another letter—a paid adv. in the Herald—from friend Milner. He is still thirsting for information. It seems to me he is shifting his ground. Instead of flying at the throat of the Dominion Coal Co. and calling it bad names, combine, monopoly, etc., he has turned his attention to the coal dealers and says they are parties to a combine formed in restraint of trade. This is terrible. The effects of this exposure must be to make the dealers shiver in their shoes. Mr. Milner alleges that the price of coal in Halifax is to-day three dollars per ton dearer than in 1878, and in proof quotes an advertisement of the agents of the G. M. A. inserted in the Halifax papers twenty-eight years ago, offering coal at \$2.00 per ton. Mr. Milner assumes this is the retail price though he was informed that Messrs Cunard and Morrow never retailed coal. The adv. offers coal at \$2.00 per ton. The price f. o. b. at N. Sydney is to-day \$3.00 per ton, therefore the increase in price is only \$1.00 and not \$3.00 per ton. Mr. Milner wants to know why coal should have gone up even one dollar a ton. He might be asked in return if the price of very many articles has not gone up greatly of late years. Twenty-eight years ago common labor in Cape Breton commanded eighty cents per day. At this time the companies cannot get all the labor they want at nearly double that figure. Should not this one item alone satisfy Mr. Milner that there has been justification for the increased price of coal. Mr. Milner puts the cost of delivery of coal in bags at 40 cts. per ton. It costs fifty cents a ton to deliver coal in Stellarton in open carts. If it were delivered in hundred-weight bags it would not be delivered for less than a dollar a ton. It is very curious that Mr. Milner, who is but a small consumer of coal, and is not engaged in a political fight should be so solicitous over the price of coal, while the larger consumers, from their silence, are seemingly content.

A meeting of the directors of the Dominion Iron & Steel Co. was held in Montreal last Monday. Ten out of the seventeen directors, were present, including Senator McKeen and W. B. Ross from Nova Scotia and Mr. Dimock, Mr. Whitney's brother in law, of New York. What was talked of at the meeting was not given out. Some satisfactory statements must have been made as the Star learns that the debt balance which stood last year at \$1,021,708 has been reduced to about \$300,000. However satisfactory the statement at the annual meeting may be, holders of stock should not be over sanguine as to an early resumption of dividends on preferred. Indeed Mr. Plummer, in a statement, leads one to believe that back dividends on preferred are not even in sight, and if it is that way with the preferred, what is to be said of the common. It may be good enough to hold, but the grip must be a

tight one. I was talking, not long ago, to a couple of gentlemen who professed to be very well acquainted with the inner affairs of the Steel Co. and their opinion was, and it was expressed in no halting terms, that it would be many a long day before the common would see a dividend what-ever might happen to the preferred. Their what-iveness so impressed me that I took profits. Should it go to forty, as predicted, before the 1st. of next January, they will hear about it. It is a pity that there is not sufficient demand for rods to keep the mill fully working. It is said Canada requires fully more rods than the mill can pro-duce. If that be so there should be a readjust-ment of the tariff.

Talking about Steel and Coal the other day a party asked a second party if he had been sacrific-ed like many others, at the altar of Senator Cox; had he helped the senator to get rid of his cheaply obtained stock at a high figure. The re-ply came quick and sharp that he did not believe that any one of the directors of the Steel or Coal Company, except perhaps Presidents Ross and Whitney knew any more about the actions of the stock market than any ordinary outsider, or that he added that had some of the directors known seventy six and bought at 6 to 8. The fact that they didn't get out is proof that they knew nothing about how things were shaping. One of the N. S. directors increased his holdings around forty under the belief that the stock would follow the track of Dominion Coal to the hun-dreds. He was misled by the information he had obtained at the works. Curiously, and it goes to emphasize this exonerating of the directors, from the charge that they made money at the public expense, we all read the other day how Sena-tor Cox confessed to the Insurance Co. of which he was president, having bought coal stock all the way from 75 to 130. The buying at 139 may have been to steady the market solely, but the buying at 75 was surely because Senator Cox thought the investment a good one. We know how far coal tumbled. The average price to the Insurance Co. of the stock which it holds is over 100. and yet the Senator believes that by and bye far more than a hundred will be realized for it. That of course 'all depends'. If the company ab-dons its fantastic notions as to construction, and is content with unpretentious, substantial, servicable, if unornamental, and not over elab-orate, surface works, no doubt dividends will come in a short time and stay indefinitely. I heard a mine manager say not long ago, "If ever I open up a mine in C. B. I will have no steel bank heads, but a good, strong, wooden one of the old type." And I am not so sure, but that would be the more economical and commendable structure.

We have been told repeatedly within the past few months that the United States is the place to buy cheap bituminous coal, just as Nova Scotia, is one consolation that Halifax is not the only city on this continent that has to pay sweetly, as alleged, for its coal. There are towns in the United States who pay so high a price for coal, that Halifax prices are cheap in comparison.

The town of Brookline, Mass, contracted for George's Creek, or New River coal at \$6.67 p. ton, Now, Brookline is a smart little place and grow-ing quick. If coal as a rule costs as high as \$6.67 then it is a wonder it is progressing at all. Hal-ifax is not progressing because its coal costs too high, though it costs the Halifaxians much less than it does the Brookliners. Perhaps it were better that Halifax bore the ills she has than ag-gitate for others that she knows not off—cheap coal among the number. Coal in Fall River which is a progressive city costs from \$4.75 to \$5.-00. So after all coal is not so very cheap in the United States as some may have been led to be-lieve.

THE DRUMMOND COLLIERY.  
BY THE EDITOR.

I had long intended to pay a visit to the Drum-mond Colliery, for two reasons chiefly, to renew old acquaintances, even if the associations were not all pleasant, and to be able to say I stood at the furthestmost point in the longest coal mine slope on this or any other continent.

Though I knew Mr. Blue the manager was a host in himself I took the liberty of inviting Mr. Marshall, the Dalhousie Mining Instructor to take in the trip with me, which he was much pleased to do as he is eager for adding to his in-formation. Before leaving Mr. Blue's office it was hinted that the place would be convenient for di-former and latter were strictly forbidden to be carried into the mine. This the visitors did or thought they did. On going for our safety lamps, and has acted in that capacity as far as memory can reach, though he still looks far from ancient, the question was put to us before our request was complied with "Have you any matches." In prof-vesting one of pipe, tobacco and matches, as the former and latter were thrust into vest brought forth, and that match to be there after an honest attempt to get rid of all combustibles, should form no part of a miners outfit.

While waiting for the riding rake at No. 2, one had opportunity to see the speed at which the boxes flew up past from the mine to the bank head. If a thousand tons are to be hoisted in boxes containing about thirteen hundred weight in nine, or rather eight, hours from a point distant 1½ miles, and up a grade of 1 in 3½, the hoisting must be rapid. It takes about five minutes for a rake going at the rate of 20 miles an hour to reach the surface from the end of the slope. There are sixteen boxes on a rake the weight of coal on each trip being about 12 tons. While we are waiting a rake passes down the main or No. 1 slope, on which there are no fewer than eleven trolleys all loaded with pit timber. Immense quantities of timber are sent down the mine daily. It is greedy on props, and in order to satisfy the requirements no fewer than 2000 pieces five feet long and 500 pieces from seven to twelve feet long go into the mine daily.

Manager Blue obtained his experience in min-

ing at Springhill, and as I also was at Springhill for a number of years "old times" were naturally referred to. Mr. Blue asked how many of my old subscribers, that is, those who subscribed from the start, were still this side of the bar. As a lad he said he remembered becoming a subscriber—(That partly accounts for Mr. Blue's great success as a mine manager)—I told him I thought there were few left, and he added there cannot be more than one or two. On looking at the old list afterwards I found that two or three still living had dropped off the list, while all the others, except perhaps four, had 'crossed the bar'—and in, to look back,—so short a time.

On the plea that I had not given intimation of our coming and that therefore no preparation had been made, we were invited to tumble into a coal box. That was all right; a coal box has its advantages. There is no jostling for seats; and squatted in the bottom no matter what the pitch of the seam, there is a brace for ones feet. We are not going at a twenty mile rate; in lowering men the engine moves slowly. The descent took about a quarter of an hour for which I was grateful. Before the rake reached the bottom we had got our "pit een"—that is our eyes had become accustomed to the dark and to the small light which made the surroundings barely visible. There are sixteen lifts or landings in this mine. We got off at the thirteenth for the good reason that we could go no further by rail as the travelling road has not yet been extended, but will soon be—to the bottom. From the thirteenth landing we travelled to the sixteenth when Mr. Blue said "Come and I will show you the lowest part in the mine." We are not at the face, we cannot get to it on account of water and debris but we can see it forty feet distant. From daylight to where we stand the distance is 6,840 feet, and the cover overhead, that is the thickness of the strata to the surface, is in round figures 1900 feet. The weight on the roof is therefore very great and that is made manifest by the appearance of the timbers as one travels the main ways. Some of the booms are bent into the shape of triangles, and are splintered, and yet it is said that these bent and splintered timbers are at their best. They cannot break but must be drawn apart before the roof can settle further. In the lower workings of the mine, where there has been little opening out, the roof acts like sand being soft and powdery. Where a larger amount of coal has been taken out the roof is firmer. The softness in the roof in close places is due to the action of escaping gas. And owing to this action of the gas the coal also is easier to work. When it comes to the time when the bottom coal now left has to be taken out, there will be a solid roof, and, the gas having all escaped, there will be what is known as dead coal, that is coal, without spring in it, and of course harder to work. The system of mining employed is a modification of long wall; it may be called long wall with a step. At the bottom of the slope and in the lowest lift the coal is twenty ft. thick, and looks for the whole height of excellent quality, there being so far as I noticed only two inches of a bastard coal. In the upper lifts the coal is say 13 to 14 feet thick. All of this height is not now being taken out, only the half or about seven feet. The places, levels, balances, bords, are driv-

en 20 ft. wide. Only ten feet of this is taken the full height. A space five feet on each side has only the top coal taken, and on the top of this is built the chucks, of solid timber, as there is no dirt or rock to pack with. Looking at these chucks one can scarcely realize that they ever were six or seven feet high. All that can be seen of them is about three feet, and in some places not over two. The weight has squashed them out of recognition. A stick eight inches round when it was put in is flattened to two or three inches. And the 'squashing' process is going on day by day, and will go on until the packs are almost invisible. Not only does the roof settle, the floor rises. Take the bottom of the main slope. We stood a little way up and were shown what a short time ago was the bottom twenty feet further down, and it was three or four feet higher than where we stood. The weight had raised the floor to that extent. Looking at all the timbers forming the pack, I asked myself aloud "Does it pay." Mr. Blue hearing the question said "You may well ask that, but I suppose we would not be working if at a loss." Well then I asked "If it pays you to pack with timber seven feet high, why not take all the coal out and pack from roof to pavement." The question showed I was not 'up' in long wall. "If we did that" replied Mr. Blue "we might have the packs come tumbling over. Indeed as you may notice some of them incline to topple over as it is."

"And how will you get the bottom coal?"

"That is an after consideration, but by the time we have got to our boundary, and are prepared to retreat, I expect roof, packs, and timber will be all one solid mass, will form a new roof, under which we will work and recover all the coal."

Calling to us at a particular spot Mr. Blue asked us to look at the roof, saying "Look at these and then you will be able to answer those who say that iron booms are a delusion and a snare." We looked and saw several sixty lb. iron rails cut into boom lengths and supporting the roof. They were bent, but stood the burden well, and but for the cost would be preferable to wood.

The Drummond is a clean mine to gravel. No mud was encountered and only one pool of water near the landing at the bottom. The bulk of the output is from the fifteenth lift. Here the south level is in 3000 feet. At the extreme end of it I asked Mr. Blue whereabouts we were. He said we were a little south of the Stellarton reservoir. One could scarcely realize this. Mr. Blue is of opinion that the Drummond seam is independent of the seams at Stellarton. He thinks it may continue down under Stellarton and finish on the east side of the East River.

The ride down to the thirteenth landing was not unpleasant, and the walk from there to the sixteenth was not irksome, though a slip was made occasionally, but the walk up to catch the rake was a corker, to one who had not travelled up a slope in many years. The writer set the pace and called a halt twice, and this was not done solely out of commiseration for his companions. As we rested a man ran up past to make certain of not missing the rake. Said one of the three: "He should not do that. The over quick walking or running in the mine is responsible for

the asthma of which many miners complain, yes, and if there is consumption among them it is traceable to the same cause."

Going up we got a seat in the Pullman. Riders on the Pullman have the privilege of dangling their legs outside the box, while in the other cars they are forced to sit in the old way our forbears sat, stiff and graceless.

On reaching the surface I had one regret, which was that one or two of those who have clamored loudest within the past year about the price of coal had not been down the mine with us. A trip down the Drummond mine is all the answer Mr. W. C. Milner and Mr. Alex McNeil will require in answer to their question:—"How does coal cost so high in Nova Scotia." Then they might alter the question to this, "How is it possible under such conditions to mine coal and sell it at \$3.50 and under on cars at the mines."

The Drummond, to sum up, is a nice little mine, one of the snuggest in Nova Scotia; and its management could not be bettered. Mr. Blue, without doubt, is a capable mine man and he and his staff are not only working coal at the Drummond, they are doing the next thing to working miracles. The Drummond is doing splendidly, and what else would one expect seeing all those in leading authority—Floyd, McDougald, Blue, the John McDonald's below, and the Jack McDonald's above, and the Jack McNeils, the Hendersons and the Steadman, the Saunders and Tom Floyds, animated with the proper esprit de corps, strive with one another in demonstrations of loyalty. By the way one is quite safe in leaving pouch and pipe in Blue's office, I got mine on my return without any visible diminution in the bulk of the former, but as for leaving matches at Quigleys, that is a different story. The one I left there must have been confiscated, as it never came back.

There is evidently a lull in coal mergers.

The probability is that no work will be done this year on the proposed railway from Stellarton to Country Harbor.

The shipments of the Nova Scotia Steel & Coal Company for May were the largest on record with the exception of those for July of last year. The shipments for May show the fine increase of 23,000 odd tons over those for May of last year.

Fridays' Halifax Herald says:

"At last night's meeting of the city council, W. P. Buckley, of the Mabou and Gulf Coal Company, was awarded a contract for 200 tons of Mabou coal, which will be tested in the various departments of the city service.

Mr. Milner's furious attacks on the Dominion Coal Co. who he alleges are sinners—as regards the price of coal—above all companies doing business in Nova Scotia—do not seem to have had any influence on the officials of that company. They still persist in refusing to enter into details as to cost of production etc, etc.

The following addition should have been made to the I. C. R. time table on page 3, but were overlooked:

No. 85	Leaves for Sydney	17.10
No. 86	" "	Halifax 19.50
No. 85	arrives from Halifax	17.05
No. 86	" "	Sydney 19.40

The Phillips Mine and Mill Supply Co., of Pittsburgh Pa., are the latest addition to our list of advertising patrons. The mine and other car wheels supplied by this firm to some of the large collieries in Cape Breton give every satisfaction.

#### SUBMARINE COAL MINING.

The action of the officials of the New South Wales Mines Department in stopping work in that part of the Stockton Colliery known as Gartett's heading is to be highly recommended, though it will have the regrettable effect of restricting the company's field of operations. The heading in question lies far under the Pacific ocean, and it is a very necessary provision of the Coal Mines Regulation Act that in such ocean workings there must be a thickness of not less than 120 feet of rock strata intervening between the workings and the ocean bed. The State law, vide Australian Standard, has been copied in this respect, as in most others, from the English law, which owed its form in this particular to a terrible disaster under the German Ocean, the sea breaking through the 90 foot cover under which the workings were being carried on, and drowning nearly 100 of the men engaged there. For the past two or three years there has been talk throughout the Newcastle district of some of the mines having been worked into a dangerous area, but much of it has been founded on no very sound basis. To hear the swish of the propellers of the ferry boats as they draw up to or leave the wharf overhead, or to hear the thud of an anchor dropped on the sea bottom, does not necessarily mean that the workings are within dangerous proximity to the bed of the ocean, for such sounds have been heard at quite safe depths. Much depends upon the nature of the good rock filling the intervening space; and this is a matter which has to be taken into consideration in determining the degree of safety in submarine workings. Ground may be safe at a depth of 80 ft. in one place, and unsafe at 100 ft. in another. It was wise and reasonable to take a depth of 120 ft. as the minimum to be insisted upon.

The harbour and ocean bed were very carefully charted, so that every mine manager might know, as he pushed his drives seaward, how much or how little rock was overhead. Recently in the Stockton colliery some doubt had grown as to the nature of the roof, and borings were instituted to ascertain its character. The result was instituted every that the cover consisted of only 80 feet of sandstone, with nearly 150 feet of alluvium. There not being the required thickness of solid rock, the stoppage of work was at once ordered and was promptly carried out.



AROUND THE COLLIERIES.

Coal Shipments MAY 1906.

DOMINION COAL COMPANY, LTD.

—Output and Shipments for April 1906.—

	—Output—	—Shipments—
Dominion No. 1	49 778	
Dominion No. 2	52 186	
Dominion No. 3	33 291	
Dominion No. 4	50 761	
Dominion No. 5	55 686	330 015
Dominion No. 6	7 859	
Dominion No. 7	15 024	
Dominion No. 8	22 761	
Dominion No. 9	36 431	
	323 777	330 015
Shipments May 1905		274 485
Increase May 1906		55 530
Shipments 5 mos 1906		1 068 585
" " 5 mos 1905		824 290
Increase 5 mos 1906		244 295

INTERCOLONIAL COAL CO.

Shipments May 1906	24 125
" " 1905	19 359
Increase " 1906	4 766
Shipments 5 mos 1906	111 555
" " 1905	71 396
Increase 5 mos 1906	40 159

INVERNESS RAILWAY & COAL CO.

Shipments April 1906	10 885
" " 1905	5 313
Increase " 1906	5 572
Shipments 4 mos 1906	32 334
" " 4 mos 1905	23 505
Increase " 1906	8 829
Shipments May 1906	22 124
" " 1905	16 219
Increase " 1906	5 905
Shipments 5 mos 1906	54 458
" " 1905	39 724
Increase " 1906	14 734

NOVA SCOTIA STEEL & COAL CO.

—SYDNEY MINES.—

Shipments May 1906	67 501
" " 1905	44 205
Increase " 1906	23 295
Shipments 5 mos 1906	180 813
" " 1905	122 019
Increase " 1906	68 794

ACADIA COAL CO.

Shipments May 1906	22 460
" " 1905	25 377
Decrease " 1906	2 917
Shipments 5 mos 1906	98 447
" " 1905	90 465
Increase " 1906	7 982

CUMBERLAND RY. & COAL CO.

Shipments May 1906	33 912
" " 1905	38 257
Decrease " 1906	4 345
Shipments 5 mos 1906	190 215
" " 1905	156 495
Increase " 1906	33 720

Mr. Hugh Fletcher, of the Geological Staff has left his winter quarters at Ottawa and come to Nova Scotia. Mr. Fletcher's special work will be to make reports on coal and iron. He will visit the scene of the lately reported coal discovery in Kings County. It is to be hoped that Hugh has profited a little by late experience, and if he goes to take samples of the coal he will go alone and surreptitiously. At least he must not take eighteen samples openly, or else the owners of the areas will at once adduce his so doing as proof positive of the great thickness, large area, and splendid quality of the coal.

The Editor intends making his semi annual trip to Cape Breton County collieries next week. He is in the happy position of knowing all the managers of all the mines on the south side—the new man at Broughton excepted—from pest master McVey of the Reserve, to outside watchman—this position generally falls to the latest initiation—Robertson of No. 6. And he has exchanged everything but blows with the managers on the northern side, with the exception of he of Sydney No. 3, and to know Tom Brown and John Johnston is to know an excellent combination.

## AROUND THE COLLIERIES.

The new wash-house at International is completed. The officials are cleaning things up in good shape.

Inverness collieries are overstepping all past records. The output and the new system of work is very satisfactory.

Dom. No. 6 is to be worked on the long wall system if the present experiments along those lines prove successful.

The coal of the angle deeps Dominion No. 1, which is submarine, is the best looking and no doubt the best coal in the mine.

The new houses being built at Dom. No. 1 by the Dominion Coal Co., have a beautiful location being very close to Lingan Sand-bar.

There is a good opportunity now to discuss spontaneous combustion in coal heaps. There is no fire in the heaps although they are large.

The "labor problem" would be quickly solved by the Dominion Coal Co. if they turned one of their large machine collieries into a hand pick colliery.

The new compressor at Reserve will be ready in two weeks. This will greatly help the machine men who have been short of compressed air for a long time.

Reserve men are jubilant over the improvements recently made on the surface. The new wash house, the whitewash on the scales house, and the attention given to the safety lamps.

As will be noticed from announcement in another column the Board of Examiners for granting certificates to colliery officials will hold the annual examination, beginning 26th of this month.

The Emery machine rates for punchers were settled on the basis of height for the other Dominion collieries. This only applies to the leading work, as the longwall system seems to be suitable to the Emery seam.

Everything is going smoothly at the International mine. There are 115 pairs of miners employed and the output per day has now reached nearly 1200 tons. The output on the 23rd. May was 1196 tons. This must be considered very good for one rope with one small box.

Allan McVicar, formerly of Port Morien, well known and respected all over the mining districts of Cape Breton, was suddenly killed in Dominion No. 2. Mr. McVicar was a shiftman and very efficient. While preparing to put up a boom on a large stone, part of which rested on a boom in place, suddenly dropped falling on Mr. McVicar, who only lived one hour afterwards.

The premises around the wash plant at Morien station look very neat. This is in line with Manager McSween's tastes. John was once the Associate Grand Master of the P. W. A. and went to the Government mining schools, hence his love of system and good house keeping.

The Dominion Coal Co's shipments for May were the largest May shipments on record, and have only thrice been exceeded in any previous month, viz in June 1904 and 1905 and in July 1905. The increase in shipments for the five months ending May is only six thousand tons short of a quarter of a million.

Last year a few Old Country miners moved their families back again to Britain. Among the late arrivals are some of those who left at that time. Having lived in Canada once and enjoyed its larger liberties and social equalities, Britain became too small to hold them, and so they returned.

The Amherst News asserts that Mr. Pipes, after his election, will not long remain a member of the government, but will move to a higher position. As no hint is given as to what that position will be, the inference is that it is a judgeship. If Mr. Pipes leaves the commissioner-ship it will not be an easy matter to get as strong a man to fill his place.

The Morien wash plant turns out 2,000 tons of washed slack daily. Its dry bins hold 1500 tons. In the frosty weather of winter from 600 to 800 tons of washed slack is loaded in hoppers in the short time of 10 minutes. Hasty loading, hastier transportation, unloading and reloading into steamers is necessary to prevent this wet material in zero weather from assuming for a time the appearance of its underground nature.

Port Hood Greetings announces with authority that the reorganization of the Port Hood Coal Co. has been completed, and only awaits confirmation of the courts. It is said that suitable transportation will be sought to fill the orders for coal now on hand. The new company expect to rush things and attain in a short time an output of over 200,000 tons a year. These are pretty big figures for Port Hood, but these are the days of big things.

Accidents attended with loss of life have been frequent of late in the C. B. mines. If deaths from falls of coal etc. continue at the same rate as during the past two months, this year will not compare favorably with last year in this respect. In these rush times it is imperative that the greatest care be exercised by officials and men. It would be a sorry thing to say that increased out-put can only be obtained by an increased sacrifice of life.

## ELECTRIC TRACTION.

The Windsor, Essex and Lake Shore Rapid Railway Company have decided that their line shall be operated by electricity. This system will connect Windsor, Kingsville, Leamington and Chatham, and residents of this populous section will ride on one of the most complete inter-urban roads on the continent.

After careful investigation and comparison with steam and with the ordinary direct current system of electric traction, the management found that there was a marked difference in the cost of equipment—that the operating expenses would be less—and that cars could be run at a higher speed—by the use of the single phase alternating current system as now furnished by the Canadian Westinghouse Company, than with either of the other methods.

For this new road, the Canadian Westinghouse Company are furnishing a similar type of single phase equipment to that designed for the Grand Trunk Railway for motive power in the St. Clair tunnel—as well as for the New York, New Haven and Hartford road for the electrification of their main line out of New York City.

One of the most remarkable strikes of coal miners in Illinois came to an end June 1 by the formal ratification of a two years' treaty of peace, or until March 31st, 1908, between operators and miners at Springfield, Ill. The pact of amity was a compromise against which radicals in the ranks of both parties thereto opposed their might. They met severally lately, and in the meeting of the miners the settlement plan was ratified by 257 affirmative votes against 207 in opposition. The action of the operators was more nearly unanimous, but nearly a score of producing companies registered their votes against the measure. The two most conspicuous concessions made by the Illinois miners in the agreement just concluded were: first, the complete assumption of the bill and drastic penalties for quitting work at any time in the State in violation of the State agreement. There were other agreement modifications upon which some of the western operators had set their hearts. Some change in the machine mining differential was desired. And of perhaps equal importance a screened coal basis was sought. But these claims were waived in the interest of immediate peace, and with the concessions made by the miners the scale of 1903 was adopted

and an end given to the inactivity which has lasted for 60 days.—(Coal Trade Journal.)

Great improvements necessary by the enhanced demands of the Dominion Exhibition, are being made on the grounds at Halifax. The Fisheries Building, a splendid up-to-date structure, has this season been added to the departmental edifices. All the other buildings will be greatly extended, and the capacity of the Grand Stand will be doubled, making it capable of accommodating 8,000 persons. The floor space of the different departmental buildings for the big Fair will total 183,000 square feet. Steps have been taken at once to appropriate an acre of additional land adjoining the Exhibition grounds, thus affording an opportunity to erect a new main entrance and commodious office building.

Included in the race programme for the great Meeting to be held during nine days on the Exhibition track will be six Stake Races, entries for which close on June 15th., at which date \$5,000 or 1% of the entrance fee will be payable. The aggregate of purses for the races is \$9,000, giving \$1,000 daily in prize money. The exhibition track has this season been graded, according to the original plans, topped over with sifted earth, and made what is believed to be the fastest in the Maritime Provinces.

The Dominion Exhibition will run for two weeks, September 22nd. to October 5th., and its premiums will amount to \$100,000.

For some months past, the officers and engineers of the Montreal Street Railway Company have been in consultation over the question of improvements. After careful consideration it was decided that the increase in traffic justified the purchase of a 1,000 K. W. Westinghouse Railway Generator, as well as three 500 K. W. Westinghouse Motor Generator Sets. For the new cars, which promise to be the easiest and most comfortable of any in Canada, twenty quadruple equipments of motors were ordered, and fifty sets of Westinghouse Air Brakes with motor driven compressors. The fact of the Montreal Street Railway adopting the Westinghouse apparatus and entrusting the making of this costly equipment to the Canadian Westinghouse Company is clear evidence that Canada is now able to compete with the world, in everything electrical.

ESTABLISHED 1863.

# Phillips Mine & Mill Supply Co.

PITTSBURGH, PA.

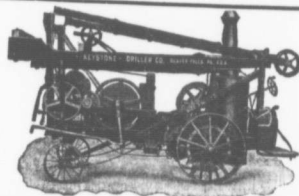
Works, South 23d, 24th, Jane and Mary Streets.  
Office, 2227 Jane Street.

Screens, Screen Bars, Screening Plants Complete,  
Car Dumps, Cars, Car Wheels, Larry Wagons, Hitchings, Etc.

LET US SUBMIT PLANS AND ESTIMATES.

MANUFACTURERS OF

## Coal and Coke Works Equipment.



## The KEYSTONE

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

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

In operation a hole is sunk to the coal with the ordinary Rock Bit. The Bit and Stem 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.

STEEL CASTINGS  
FORGINGS,  
SPRINGS,  
FRIGS,  
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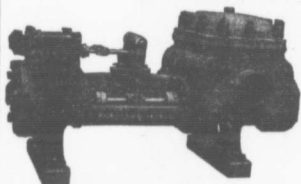
We make a Speciality of cast Steel WHEELS  
and other  
Steel Castings for

**MINING PURPOSES.**

INTERLOCKING SWITCH AND SIGNAL Plants.

(Under the patents of Saxby & Farmer, Limited, of London, Eng.)  
CANAL BANK, POINT ST. CHARLES MONTREAL—

# PUMPING MACHINERY.



Fairbanks Morse Duplex,  
Piston Pattern,  
Boiler Feed Pump.

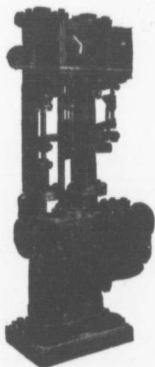
**Steam Pumps,  
Power Pumps,  
Fire Pumps.**

**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.**

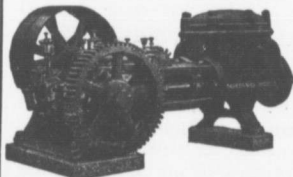
Send for our Catalog 48c, or have our representative  
in your vicinity call on you.

REPRESENTED BY

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

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

G. E. Choïnier, St. John, N. B.

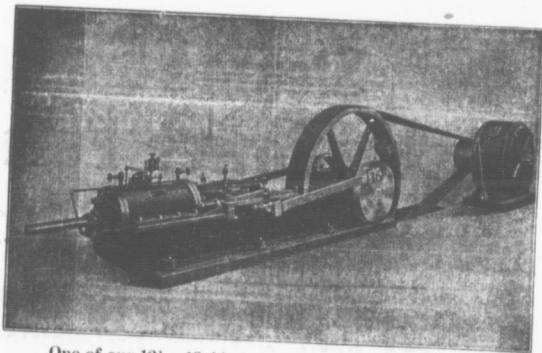


Fairbanks Morse Horizontal Duplex Power Pump

**The Canadian Fairbanks Company, Limited.**

Montreal, Toronto, Winnipeg, Vancouver.

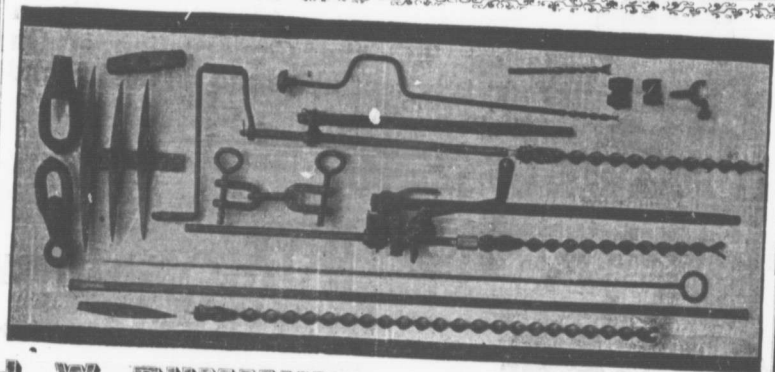
# Allis-Chalmers-Bullock, L't'd.



One of our 12 $\frac{1}{2}$  x 18 Air Compressors driven by a 50 h. p. Induction Motor, and supplying power for a Manitoba quarry. For different uses of compressed air see Catalogue 75 F.

**Works, MONTREAL.**

**Branch Office New Glasgow.**



**J. W. GUMMING,**

**New Glasgow, N. S.**

—DESIGNER AND MANUFACTURER OF—

**Miners High Grade Tools.**

Augers, Mauls, Wedges, Copper Needles, Tamping Bars Cones and Swivels for Wire Ropes, Drawbars, Mountings, all kinds of forgings

**Boring Machine Parts always on hand.**

**Any Kind of Pick to Order.**

**ESTIMATES PROMPTLY FURNISHED**





### Synopsis of Canadian North-West. Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba or the North-West Provinces, excepting 5 and 26, 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 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-agents 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 "personation" the entry will be summarily cancelled and the applicant will forfeit all priority of claim.

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.

**ENTRIES.**—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 250 acres can be acquired by one individual or company. Royalty at the rate of ten cents per ton of 2000 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 lode lode, and from \$50 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.

Placer 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 \$10 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. COVY,

Deputy of the Minister of the Interior.

### Mines Office. HALIFAX, MAY 30, 1906

AN EXAMINATION for granting Certificates of Competency to Managers, Underground Managers and Overmen, will be held at Springhill, Stellarton, Sydney and Mabou, beginning June 26, 1906.

All applications for examination and necessary testimonials, must be in the hands of the Secretary, at Halifax, not later than June 10th., as they will be examined by the Board on June 12th.

Further information as to place of examination, etc., can be obtained on application to the Local Board.

E. GILPIN, Jr.,  
Secretary Board Examiners.

## 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—

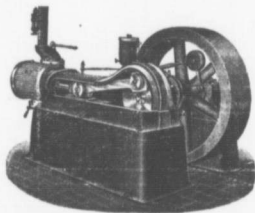
## The Archibald Company, Limited

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 H. M. Government.

## ALLAN. WHYTE & CO.

Clyde Patent Wire Rope Works,  
Rutherglen, Glasgow Scotland.

CABLEGRAM

Rovery, Rutherglen

SCOTLAND



A I  
A B C  
and Liberts  
Codes Used

Section of worn Haulage Rope supplied by us to Messrs Outtrim, Howitt and firm's Consolidated Coal Company, Outtrim, Victoria, Australia, showing condition when taken off and substituted by another Rope of our manufacture. Length 7,260 feet by 4 1-2 inch Circ. made of Special Improved Plough Steel Wire. Working on gradient of 1 in 3 to 1 in 6.

Manufacturers of All Descriptions of WIRE ROPES for COLLIERIES, MINES, CABLE TRAMWAYS

AERIAL ROFEWAYS, TRANSMISSION of POWER, SUSPENSION BRIDGES, ETC ETC.

Wire specially selected for our Requirements.

Also Makers of all Classes of Specially Flexible Wire Ropes, for Cranes, Winches  
Capstans, Hoists, Etc.

Agents in Nova Scotia:—Wm. Stairs, Son and Morrow, Limited  
Agents in New Brunswick, W. H. Thorne & Co. St. John.

Different sizes and quantities  
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 Hasting, 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 a. m. p. m.		Read Up	No. 54 p. m. a. m.
L 11 10	7 25	P TUPPER JUNCTION	A 10 55	7 25
S 11 10	S 4 00	PORT HAWKESBURY	S 10 55	3 27
A 11 25	A 4 15	PORT HASTINGS	L 10 40	3 10
	F 4 20	TROY	P 10 20	
	S 4 35	OREIGNSH	S 10 05	
	P 4 40		P 9 50	
	F 4 55		P 9 35	
	A 5 10	CATHERINE'S FOND	L 9 20	
	F 5 25	PORT HOOD	L 9 05	
	A 5 35	GLASCOW	P 8 45	
	L 5 45	MAROU	S 8 15	
	P 5 55	OLENDYRE	P 7 55	
	S 6 10	BLAKE RIVER	S 7 50	
	F 6 25	STRATHLORE	S 7 37	
	A 6 35	INVERNESS	L 7 20	
	S 6 50		S 7 05	
	P 7 05			

Trains make close connections at Ft. 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

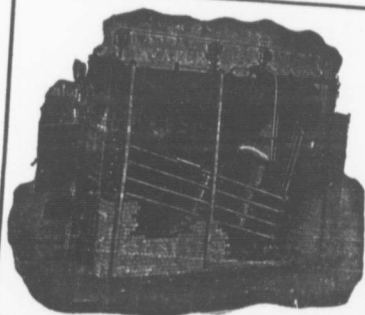
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## BRIDGES

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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 Belicws,  
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Coke Forks, Rail Benders,  
Jack Screws, etc. etc

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

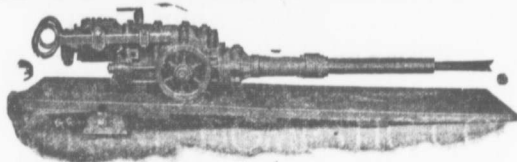
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Halifax, N. S.

**George Patterson,**  
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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 **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.

Unequalled 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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# Acadia Coal Company, Limited.

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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. —

### MARITIME COAL & RAILWAY CO., Limited,

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## CHIGNECTO HIGH GRADE COAL.

Steam AND Domestic

**Unexcelled for General Use.**

Shipments to all points reached by the  
Intercolonial Railway.

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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.

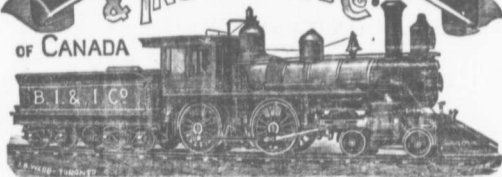
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**THE BOILER INSPECTION & INSURANCE CO.**

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WHEN WERE YOUR  
.. BOILERS ..  
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**WIRE ROPE**

All Kinds and Sizes



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**THE B. GREENING WIRE COMPANY, LIMITED.**  
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**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.**

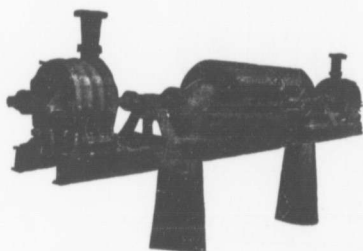
OFFICES:—Canada, Port Morien, Cape Breton, Nova Scotia. England, Newcastle on Tyne.

## The JOHN McDOUGALL Caledonian Iron Works Co., Ltd. Montreal Que.

**BOILERS:** All Sizes and all Pressures.

## PUMPS

Worthington Pumps for  
Water Works and Mines.



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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.

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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.....	2.75%	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

BEST COAL FOR  
DOMESTIC CONSUMPTION.

IN Lots To Suit Purchasers.

BEST GAS COAL

Mined in the Province.

Mines

SPRINGHILL

Head Office

MONTREAL

N.S. 110

# 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.

**ALEXANDER DICK Genl. Sales Agent, Glace Bay, N. S., Can.**

DOMINION COAL COMPANY, LIMITED,  
 DOMINION COAL COMPANY, LIMITED,  
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112 St. James St., Montreal, Que.  
 171 Lower Water St., Halifax, N. S.  
 Quebec, Que.

—and from the following agents.—

R. P. and W. F. Starr, St. John, N. B.  
 Harvey & Co., St. Johns, Newfoundland.  
 Hull Blyth & Co., 4 Fenchurch Avenue, London, E. C.

Peake Bros. & Co., Charlottetown, P.E.I.  
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**G. H. DUGGAN,**

**2nd. Vice President**