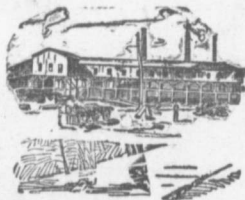


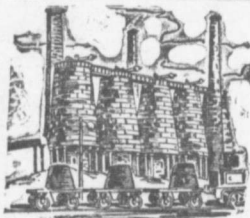
# MARITIME MINING RECORD

Dr. R. Bell  
Geol. survey dept.

AND  
COAL AND METAL TRADES JOURNAL



CUMBERLAND



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CAPE BRETON

NEW SERIES, VOL. 5. No. 14

MAY 13th., 1903

OFFICE, STELLARTON, N. S.

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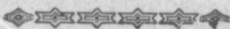
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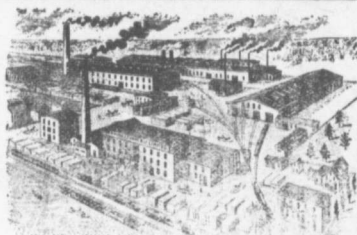
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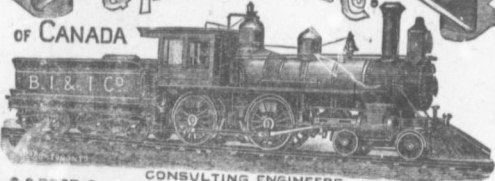
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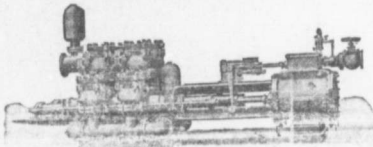
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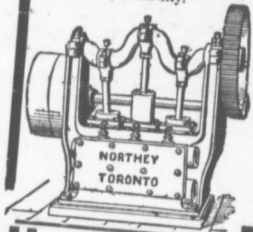
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to advantage by the long wall method under various circumstances. This system of working may be carried out in two modifications, viz., long walling advancing or working away from the shaft pillars to the boundaries; and long wall retreating, or working from the boundaries towards the shafts. Before commencing to work a seam of coal everything should be taken into consideration concerning the nature of the seam itself, the roof and floor, faults and other interruptions, and also the depth of the seam and surface conditions.

Suppose the seam of coal to be of a good thickness and of a soft nature, the roof weak and crumbly, the floor of a soft yielding nature, and the surface conditions satisfactory. I would have the seams worked on the long wall retreating principle, because in this system air-ways, haulage, and travelling roads are driven from the shaft pillars through the solid (therefore needing but little maintenance) to the boundaries. When the boundaries are reached the coal is worked back towards the shafts all on one straight, or stepped face, the back timber being continually drawn out as the face retreats, thus allowing the roof to settle on the goaf behind, there being no roads to support, only of course, those previously driven in the solid.

Should the seam be of a limited thickness; and say a stone band running in the seam, I would have the seam worked on the long wall advancing principle, as in this system the working of the seam commences from the shaft pillars and taken all on one face, either straight or stepped, towards the boundaries, thus the air-ways, &c., are required to be made and maintained through the goaf. The road-ways are maintained by packwalls and timber, packwalls being preferred, as once the superincumbent strata become settled on the packwalls the roadways are of very little trouble afterwards as regards repairs, whereas where timber is used for supporting the roof it requires constant renewal through decay, &c., as the roadways on this system are required to be left open for a great number of years in many instances. For the purpose of building the packwalls the stone comprising the stone band in the seam, and the stone taken from the roof to make height for hauling and travelling purposes (which is in many cases required in thin seams) may be used. Coal seams occur in such varied and complicated forms that the long wall method of working is not always practicable, therefore some other system is resorted to.

Should the seam be of a hard, strong nature, the roof and floor also good or should the working areas be under canals, rivers, &c., public dwellings and buildings, I would recommend the pillar and stall system of working. The pillar and stall system of working comprises two operations, one known as the whole working and the other as the broken working. The whole working is carried on first, and consists in driving in the solid coal one set of excavations called stalls, and another set at right angles to these called faces or

Where the seam of coal is of a hard and strong nature, the roof and floor also good, and the surface conditions are such as to require certain pillars being left in the working area, the long wall method of working is at a disadvantage, the pillar and stall method being advantageous.

#### RUBBING SURFACE IN SHAFTS.

Q.—How many square feet of rubbing surface are there in a circular shaft 18 feet in diameter and 250 fathoms deep?

A.—By the term rubbing surface we mean the amount of surface of air-ways, shafts, or working places, or any part of a mine which for the time being may be under consideration. In the case of an air-way the rubbing surface is found from the sum of the four sides multiplied by the length.

Example: An air-way is 6 feet high and 5 feet wide and 1,000 yards long, what is the rubbing surface?

Here the perimeter will be  $6 + 6 + 5 + 5 = 22$  feet,  $22 \times 3 \times 1,000 = 66,000$  square feet rubbing surface. In the case of a circular shaft, the circumference will be the perimeter. Therefore in the case in question  $18 \times 3.1416 = 56.5488$  feet perimeter.

$56.5488 \times 250 \div 6 = 84823.2$  square feet.—Answer.

Seeing that the shaft is a circular one, this is the smallest amount of rubbing surface which could be obtained consistent with the same area. Taking a square shaft of the same area, viz.,  $254.4696$  square feet, the size of a square shaft to enclose the same area will be  $\sqrt{254.4696} = 15.95$  feet, the length of each of the four sides,  $15.95 \times 4 = 63.8$  feet perimeter, being an increase of  $7\frac{1}{2}$  feet over that of the circular shaft.  $7\frac{1}{2} \times 250 \times 6 = 10875$  square feet of rubbing surface more than in the circular shaft of the same area.

The rubbing surface cannot be ignored in mine ventilation, seeing that the pressure required to force air through the mine varies directly as the extent of the rubbing surface; and the quantity varies inversely as the square root of the rubbing surface.

#### PRACTICAL WORKING.

Q.—Mention briefly the method you would adopt to secure accuracy when plotting workings on the plan of a mine on which are shown workings closed twenty years previously.

A.—In extending workings on old plans it is of the utmost importance that the position of the workings should be accurately determined; especially in this case where there are any abandoned or worked-out mines containing accumulations of gas and water adjoining the boundaries of your royalty. Nor is this the only reason for such a course, for in the absence of a correct plan you are liable to encroach on the adjoining property and subsequently get too much mineral or too little. In the first case serious damage might be involved, and in the latter an undesirable loss. Therefore when about to extend workings on an old plan the first thing that would suggest itself to me would be to correct the magnetic meridian on such a plan. To do this the amount of declination on such a occurred since the plan was made must be ascertained, or, what is the same, the present magnetic meridian. To ascertain this there are two methods that could be adopted, which are as follows:—

Knowing the date and age of the plan then by consulting the records published by the Greenwich authorities over that period, the amount of the declination at the time the plan was made, and also the present declination can be obtained and the present magnetic meridian fixed in that way.

## Rubs by Rambler.

The government of Newfoundland proposes to give a bonus of \$1,50 for every ton of pig iron made from Newfoundland ore, by Newfoundland coal. This is as our American friends would say, a safe proposition. The government of that Island will not be called upon to pay the bounty for some years yet, I'm afraid. There is iron ore in Newfoundland in abundance no doubt, but what about the coal. Just as there are people here who maintain that there is abundance of iron ore in Nova Scotia—outside of Annapolis,—so there are those who say, in Newfoundland, that there are beds and beds of coal. To those in Nova Scotia who have shouted "we have more iron ore in Nova Scotia than there is coal to smelt it" the question has been put "where is it; come along with your proof" but no convincing proof has been produced. And just so in Newfoundland. Those there who assert there is coal have been asked to produce it, to show it, to let the people see it blaze, but they are slow to respond. True, in Newfoundland they have small seams of what is, by courtesy, called coal. Two or three years ago the Reids, if I mistake not, made a brave attempt to produce coal from one or two almost vertical seams. But the coal was of little value. One of our Nova Scotia mining men was asked to superintend the opening of some supposed coal seams in Newfoundland. He went over and did much development work, but the results were not satisfactory. The government of Newfoundland better offer a bonus of \$10,000 to any person who will discover a five foot seam of coal that can be mined as economically and that is as good as Nova Scotia coal. And the government of Nova Scotia might do worse than offer a similar amount to any person discovering a five foot lead of iron ore as good as that of Newfoundland,—Nictaux district excluded.

Most people have an idea of what a scab is—he is a non union man, or a union man who has fallen from grace and gone to work when his fellows have decided to stop work. But not many know until told the other day what a scab lawyer is. According to the definition of two papers a scab lawyer is first a conservative; 2nd—a conservative who has in a professional capacity acted as agent for a coal co'y when it had trouble with its employees. Now if J. H. Sinclair acted for the Acadia Coal Co., or E. McDonald for the Intercolonial Coal Co'y in any case where there were differences between them and their employees each would lay himself open to be called by the tory press a "scab" lawyer. Wouldn't that be a childish and senseless calling of names? To come down to the point, A Mr. Rogers of Amherst who has been nominated as conservative candidate is called a "scab" lawyer because he took the case of the manager in a suit, some years ago, instituted against certain men who were charged with a violation of law. Would it not be a farce if any lawyer who took the case of a workman against a manager should thereby expose himself to be called hard names; and is it not equally a farce to apply a nasty name to one who took the case for the

manager. But even though a lawyer, who takes the case of a manager when a duly authorized strike is on, is liable to be called a scab. Why should he be called that if the strike was an illegal one not having been sanctioned by those, without whose sanction no strike should be declared. And if I am not in error the time the papers refer to was when there were doing in Cumberland County which all the better thinking union men disapproved of.

The London Morning Post says of the London Educational Bill:—"The Bill is a thoroughly bad one and no person who cares a jot for education will support it. Be it noted that the Post is a supporter of the government. Suppose in this country the Toronto Globe or the Morning Chronicle were to say of a local or federal government measure, that it was 'thoroughly bad,' would't there be a howl from all the little papers and ward politicians. Why, fervid and furious partisans would read them without ceremony out of the party, Loyalty to party, on this side, must take precedence of loyalty to principle. The truth must not be told, if it reflects on the good faith, the sagacity, or the 'policy' of the party. The papers w'nt speak their minds, nor will prominent party men. They are afraid of being taunted with being traitors. Is it or is not the fact that there is no exhibition of independence, genuine independence by papers which profess to belong to the liberal or the tory party? Why should not a liberal paper be at liberty to criticise the acts of the party it supports, without throwing itself open to the charge of disloyalty? Is it itself that the defects of a government measure should be only pointed out by those in opposition. The candid friend is often laughed at or jeered at, and yet, and yet there is big room for the candid friend. The leaders of the parties loudly declare that they 'welcome' criticism. It cannot be that their friends believe them, for they seemingly are in mortal terror that the party would go to pieces' if they publicly disapproved of a single plank in the party's policy.

I hear that the Fernie miners wrote some ten days ago through a representative, asking the Grand Sec'y of the P. W. A., to organize them as members of the P. W. A. The Grand Sec'y acted very wisely in the matter. He wrote advising them to form a union of the miners of B. C. or of the Fernie district on lines similar to the P. W. A. Nova Scotia was too far away from Fernie to permit of a close connection. Of course Mr. Moffatt might have done like the executive of the Western Federation of Miners, taken the Fernie men—in—in a double sense. He might have taken them into the P. W. A. and taken them in by exacting a per capita tax, and then when they needed advice and assistance, doing as the Western fellows did, give them neither. I am very glad to know that the Fernie miners got so soon sick of and so soon sized up the federation fellows. And I hope the Vancouver miners will make a similar discovery of the Federations uselessness and banefulness at an early day. The Fernie miners had no thought that their strike would be so injurious to the smelters, otherwise they might not have entered upon it. What do we want in Canada with foreign labor organizations and organizers? They do not come among us for our good. I hope the bill introduced in the Senate excluding foreign trades unions from Canada will pass.

## Coal Shipments, April, '03.

DOMINION IRON & STEEL CO. LTD		<i>Lessee of</i>		DOMINION COAL CO. LTD.	
--Output and Shipments for April 1902--					
--Output--			--Shipments--		
Dominion No. 2	72,108				
Dominion No. 3	38,818				
Caledonia	58,791				
Reserve	61,962				
International	24,386				233,616
	256,065				233,616
Shipments April		1902		1903	174,008
Increase "		1903		1903	59,608
Shipments to U. S. "		1903		1902	59,540
" " " "		1902		1902	60,117
Decrease "		1903		1903	577
Total shipments 4 months		1903		1902	870,232
" " " "		1902		1902	650,069
Increase 4 " "		2903		220,163	

### NOVA SCOTIA STEEL & COAL CO.

Sydney Mines.			
Shipments April	1903.	24,965	tons.
" "	1902.	15,761	"
Increase "	1903.	9,204	"
Marsh Mine.			
Shipments April	1903.	3,830	"
" "	1902.	1,824	"
Increase "	1903.	2,006	"
Total shp'ts 4 mos	1902.	95,618	"
" " " "	1903.	61,520	"
Increase "	"	34,089	"

### ACADIA COAL COMPANY.

Shipments April,	1903	28,908	tons.
" "	1902	16,273	"
Increase "	1903	12,935	"
Shipments 4 mos.	1903	110,031	"
" " " "	1902	64,210	"
Increase "	1903	45,821	"

### CUMBERLAND RAILWAY & COAL CO.

Shipments April,	1903	33,856	tons.
" "	1902	31,015	"
Increase "	1903	1,841	"
Shipments 4 mos	1903	156,373	"
" " " "	1902	117,741	"
Increase "	1903	38,632	"

### INTERCOLONIAL COAL CO.

Shipments April,	1903	18,273	tons.
" "	1902	13,235	"
Increase "	1903	7,037	"
Shipments 4 mos.	1903	73,477	"
" " " "	1902	52,838	"
Increase "	1903	20,639	"

A mass meeting of Dominion No 1 miners and citizens was held last Wednesday to discuss the situation. A committee was being appointed to interview the management, when Manager McKenzie entered the hall. The reason for calling the meeting was stated to Mr. McKenzie, who immediately replied to them. He said the delay in letting the water into the mine arose from the fact that much of the water that flowed in from the sea was prevented from running to the dip by falls, as was shown by the record of the rise of the water. Caution was therefore necessary as too much water would cause greater delay than too little. He was plied by many questions to all of which he gave very clear and satisfactory answers. He took advantage of the meeting to thank the Dominion men for the hearty response when the call for help was sounded. A vote of thanks was tendered Manager McKenzie for his explanation of the fire situation at No 1.

A correspondent complains that the law in reference to every manager of a mine holding a certificate is not complied with. Well no law will enforce itself. Some one must take the first move. We do not think there can be many breaches of the law, but still there should not be any. Hitherto in Nova Scotia the practice has been to allow any one to be the actual head, provided there was in an official capacity one with a manager's certificate. If at a colliery none of the officials have a manager's certificate then the Coal Company is taking a big risk and may be proceeded against. The law is wisely liberal, however, and allows the agent or owner of the mine to name the underground manager as manager until there is an opportunity to secure a manager's certificate by the person acting as head, or until the owner procures a certificated manager, which he must do at the time of the next meeting of the Examiners.

Acetylene lamps for a penny are now sold in London. The apparatus consists of a glass tube about 2-in. long and 1/2-in. in diameter, pinched in at the top to form a neck and burner and plugged with a cork at the bottom. The installation includes a piece of calico and a pill-box full of carbide particles. Gas is generated by dipping the rag in water, squeezing out part of the moisture and replacing it in the tube with a tiny piece of carbide. Acetylene immediately issues from the top, and when lighted gives a flame which at first is about an inch long, and then gradually dies down till the carbide is spent. A piece of carbide about the size of a pea will give a light for several minutes.

## DEPUTY INSPECTOR NEVILLE.

After twenty years of active service, Deputy Inspector Neville, of Cape Breton, gives way to younger and more vigorous men. But while stepping aside Mr. Neville has been kept from stepping out altogether by the Mines department, who feel that a mistake would certainly be made if a man with Mr. Neville's ability mining experience and knowledge were permitted to retire altogether. He has therefore been retained on a small salary. This is wise, as no man in Cape Breton, at the present time, knows the coal mines and coal fields so thoroughly as Mr. Neville. Having 39 years of mining life behind him, before he was appointed as Deputy Inspector the greater part of which was spent managing mines Mr. Neville has for a full half century been either mining, prospecting, managing, or inspecting coal mines. Arrived at the ripe age of 70 Mr. Neville while looking hale and hearty feels that other men ought to take up his work while he is able to advise and help them. Possibly the greatest tribute to Mr. Neville's ability and energy as a worker is the fact that two men enter upon the field he has so long worked. A retrospective view of the collieries from the time Mr. Neville first took up the work of Inspector, their progress in development, the improved conditions of ventilation, the introduction of underground haulage and un-lowering machinery, the construction of steel bank-heads, the mammoth locomotive, the steel coal car, compressed air and electricity as motive powers, show the rapid strides of mining in Cape Breton. Add to this the new coal fields discovered, and new collieries opened. The pace during part of the time at least has been as fast as human labor with all the aids of science can permit. When Mr. Neville entered his field of work he found 16 collieries 14 of which were in active operation. Their annual output amounted to a little over 600,000 tons. Only fourteen collieries are producers at the present time, and the latest returns show for last year no less than 3,304,249 tons of coal, more than five times the amount of this first year.

One of the marked features of mining which has changed for the better during twenty years is the ventilation. Furnace, or natural ventilation was then general. To-day it is the exception. At that time Sydney Mines was the only colliery in Cape Breton with a large fan. To-day there is only one mine without fan ventilation. The widening of air courses has rendered even that one fan at Sydney Mines, more effective, the anemometer now registering 150,000 cubic ft. of air per minute when formerly it only showed 60,000 cubic feet. Good traveling ways for the miner to reach his work and wash houses to dress in, are other improvements of his time, which have been obtained by his aid.

The largest loss of life at any one time was caused by an explosion of gas in Caledonia Mine when 11 men including the manager were killed, and the mine set afire. Sydney Mines had a fire in the section immediately below the pit bottom, which like Dominion No. 1 had to be flooded, the water of which is only now after years being drawn off. These constituted the largest accidents in twenty years, which for mining life in Cape Breton have been comparatively few.

Sub-marine mining which as yet is only in its infancy, but which in the future is to form a large part

of mining operations in Cape Breton, has, under Mr. Neville been successfully begun. His opinion of these water areas and the strata is of considerable weight from the experience he has already gained. He is firmly convinced that the coal fields are just as regular under the water as under land, and with proper precaution many millions of tons of coal may be won from below the ocean's depth.

As a prospector Mr. Neville has few, if any, equals in our province. His success along this line has been great. Besides tracing the Phalen seam, the coal seam at the head of the Cow Bay road, the Emery, and the Lorway, the long looked for coal seam at the head of Lingan Bay was laid bare by Mr. Neville. From every part of Cape Breton Island, where coal is found, Mr. Neville is constantly receiving samples, and his advice is solicited, when his services can not be secured. In closing this brief sketch which can not do justice to one who has for twenty years faithfully served his province, it is only fitting to state Mr. Neville has the general good will of the men whose interests he always closely guarded, and whose conditions have been materially improved by his suggestions at times when those who were mostly benefited little knew whom they had to thank. His advice in times of accident has been eagerly sought, and when closely followed has brought its own reward. It is well then that this province should receive the counsel and advice of one full of experience, and whose aim has ever been towards safety of life and property.

## COMING HOME TO ROOST.

The Government of Victoria announces that unless the Railway Men's Union severs its connection with the Traders' Hall, which is the central organization of all the trades unions, before May 12th, the leaders will be dismissed without further notice. The Government ultimatum is a challenge to the labour party, which threatens to entail one of the most important labour wars Australia has known. The situation briefly stated is this: The various railway men's unions of Victoria, owing to a reduction in wages, lately affiliated themselves with the Traders' Hall, thereby rendering themselves liable to be called out in support of any outside strike, and thus placing all the railway communications of the colony at the mercy of any trade disputes. The Government, which owns the railways is willing to allow the organization of the men so long as they are not affiliated with the Traders' Hall, and with this condition attached offered to discuss the general grievances of the railway employes.

Several conferences have failed of result, and hence the ultimatum.

## NO EXCUSE FOR BUYING ANYTHING BUT OGILVIE'S.

The economy of using Ogilvie's flour should be well considered by every housekeeper. It pays to pay more for a flour that will make more loaves of bread to the barrel than ordinary flours. It would pay to pay more, even if the bread were just the same as in ordinary flours. How much stronger, therefore, is the claim of Ogilvie's flour, which not only makes more bread, but also makes it of a higher quality.

## AROUND THE COLLIERIES.

Large numbers of working men are arriving at Sydney Mines and finding employment.

It is rumored around Sydney Mines, that a fourth mine will be started shortly to be named Sydney No. 4.

Drummond Lodge P. W. A. sold their hall with the intention of building a new hall in a more central locality.

So great is the demand for air at Dom. No. 2, that the construction engineers are busy fitting up another air compressor.

The mines department are moving along right lines in bringing the mine examinations off at the close of the schools.

Mr. John W. Johnston's departure from Port Hood is regretted by the employees of the company and generally by all the citizens.

Caledonia boilers are being covered over by a steel shed, into, which will be built a coal bin for feeding the stokers now in use at the fire doors.

The new manager at Port Hood is greatly advantaged by the good work done by his predecessor which will enable him from the start to make a very good showing so far as output goes.

Reserve main slope had a slight crush last week whereby about 25 places were stopped. It is not near the barrier pillar between the main and Dom. No. 1. Between 30 and 35 pairs of miners are thrown idle for a time.

Manager Cadegan before leaving International set about one day to make a record and he succeeded. On a day in April this mine sent up about 1,350 tons. The best day's work for the past two years at any rate.

Mr E. Wilkinson, manager of Sydney No. 3 is pushing the work of the mine rapidly. There are 150 miners working in the mine. The endless haulage system is about completed

There is a brisk demand at Sydney Mines for land and something like Sydney prices are ruling. Some building lots are selling for \$1,500. This surely is an indication of faith and prosperity combined.

The workmen at Dom. No. 2, in common with the workmen at the other collieries have increased the Doctors fee. There are a few who objected, but these are the common kickers who object to everything except an increase to their own pay.

Now that an examination for engineers is soon to take place it is to be hoped that the examiners will take heed to the instructions in the circular just sent out by the Department of mines and see that applicants papers are certified to by the parties qualified to do so.

The P. W. A. committees are negotiating with Sydney Mines Town Council committees regarding the erection of an Hospital in the near future. We trust that success may crown the efforts of these efficient committees at Sydney Mines.

Two large pulley wheels for the top of the bankhead, and two strong looking spur wheels for the haulage engines at Dominion No. 1, together with 1½ inch ropes, pumps and other machinery are lying waiting for use when the time comes. Dominion No. 1 is decreed to work again if appearances go for aught.

The cost to the Dominion Coal Co. of extinguishing the fire at Dom. No. 1 was \$36,000. The estimated cost of unwatering is placed at near \$100,000 and a vessel to the mine are not counted in this. There is a saving say \$15,000 and piping \$37,000.

Dom No. 2, has been promoted to be manager at Brigeport, Vice John Cadegan who has been appointed government Deputy Inspector of mines. John J. McNeil takes Mr. Debison's place, and Mr. McLeod from Caledonia, takes Mr. McNeil's place.

The workmen of Broad Cove are starting a co-operative store. This is commendable at the present stage of mining operations at Inverness town. For good common sense, and thrift, the miners of this town are not lacking. An honest, careful store manager who might be well chosen out of Star Lodge P. W. A. will go far towards making this enterprise a success.

In answer to a Glace Bay correspondent in reference to enginemens certificates it should be understood that the certificates of service to be granted on application at any time before May of next year will all be of the third class. If a man at present in charge of a 1,000 H. P. engine has no certificate he will only receive a third class certificate and will not be eligible to handle so big an engine. If he has a third class certificate then he must procure a first class certificate of competency. The men when they asked for amendments to the Act may have been a little hasty. Between now and next February they will have time to discuss the subject and have the Act amended before it comes into force.

# WANTED.

A number of good Machine Runners and Hand-Pick Miners can be furnished with Employment at a good wage. A limited number can be furnished with cottages.

Apply to Resident Manag Sydney Mines  
NOVA SCOTIA STEEL & COAL COMPANY

## AROUND THE COLLIERIES.

And still they keep increasing—the coal shipments. Mr. Horace F. Cameron has entered upon his duties as Postmaster at Stellarton.

The new post office for Dom. No. 2 is expected to be ready in a few weeks time.

James Ross has not been nearly so much in evidence since his return from a health trip as people generally had looked for. He denies however to have sold "steel."

The S. S. Gretlands 1,350 tons capacity took coal at the Port Hood Coal Co's pier on the 30th. April. The Gretlands is the first of the four steamers chartered to carry coal the present season.

The Wolf lamp (safety) burned in the afterdamp of the late gas explosion at Reserve when Marsants and all other close lights died out. This is due not only to its make up, but also to the use of naphtha instead of oil.

J. W. Carmichael the best esteemed and most highly revered man in Pieton Co. closed his life's work on Tuesday morning 1st. May. His was a very peaceful end. He died the death of the righteous. His funeral which took place on Tuesday was attended by a host from far and near.

Manager Cadegan of the International colliery was bound to make a record before resigning the position to become Deputy Inspector of mines. On a day the latter part of April, the International hoisted about 1,350 tons of coal, the best days work for the last two years.

The machine rates at Sydney No. 2 are. Undercutting 18 cents per ton, loading 14 cents, shot firing 19 cents per ton. Sydney No. 3 rates are, deeps \$7.50 and \$7.00 per lineal yard. Levels and headways 10 ft. wide \$5.50. Rooms 16 to 18 ft 6.60 per lineal yard.

Is Sydney the right place to hold the Summer School of mining especially to teach some of the subjects put down for Mr. Hudson. A trial will prove it. However some venture to say it is not the right place.

In an Iron refinery at Yon, Russia, is a machine to separate the iron from phosphorus and all other foreign matter without the intermixing of lime. Not only is the quality of the iron considerably improved, but the cost of refining and the use of other ingredients will be considerably lessened. The machine works entirely independent of heat or blast.

Since the settlement of the strike at the mines in the Crow's Nest Pass region, British Columbia, the output has been steadily increasing, and the maximum tonnage of coal and coke will soon be produced. At Michel the daily average has reached 1,200 tons, and the coke ovens are in full blast. At Coal Creek between 700 and 800 tons of coal are being produced daily, and the output is steadily increasing. Of the 424 coke ovens at Fernie, over half of them are in operation and the others are being put in blast every day. At Morrissey the coal output has reached 600 tons per day.

Who is to be the new general manager of the Dominion Coal Co? The air is full of rumors. A. C. B. correspondent says the continual placing and replacing of good men by the company is a big shame.

Mr. Jas. Ross has no need to go to Britain for mine managers. It generally takes these men a year or two to find out what they are, and to accustom themselves to changed conditions of a new country. The talk that one reads nowadays of Mr. Ross, and his doings is enough to raise a race riot. Why are nearly all the old steel plants of Scotland and England stopped and shut down? Simply because they got behind in their ideas, and because mining has advanced more rapidly on this side the Atlantic, we are taking the old country trade.

Mr. J. W. Johnston, late manager of the Port Hood Coal Co. has been offered and accepted the position of assistant general manager of the Mabou and Gult Ry. and Coal Co. The Record congratulates Mr. Johnston on this promotion as it carries with it a very substantial raise in salary. Mr. Johnston has been in the employ of the Port Hood Co' for over three years, and by his energy and ability has the mine in a position to produce from 450 to 500 tons in ten hours daily.

The bore-hole at International mine, pierced down to the Phalen seam, has been of great service in showing the amount of water daily running into Dom. No. 1. The greatest rise in one day was 21 feet. This is vertical height and multiplied by 15.45 gives the distance the water travelled up the slope, which is 324.45 feet. It is estimated that 40,000,000 gallons were going in every day. The whole amount necessary to rise over the fire section is 495,000,000 gallons. The shore water ran in for ten days 6 hours making 405,000,000 gals., to which can be added 21,000,000 gallons which was already in the mine before the ocean was let in. This was up to April 31st. Great care is being exercised to prevent the water from rising too far and filling or blocking the main shaft which is needed as an air-way.

## MINERS WANTED

At the Port Hood Colliery.

Steady Employment and Good Wages assured to capable and Energetic hand pick Miners.

First applicants will have first claim on the new cottages—now in course of construction.—

APPLY AT THE WORKS TO THE RESIDENT MANAGER.

## AROUND THE COLLIERIES,

An eight ton locomotive has arrived at Sydney Mines for the Nova Scotia Steel and Coal Coy. It is of United States make.

Dom. No. 3 Colliery did very good work in April, getting close to 40,000 tons. For one rope this is more than good.

Dom. No. 2 produced over 72,000 tons of coal in April. On one day lately they produced 3,450 tons. A million tons for the year will soon be accounted under the average for this colliery.

Considering the fire at Dom. No. 1, the scare at Reserve, and the drawback caused by the open draw-bridge at Mira the output of the Dominion Coal Coy for April can be called nothing else than wonderful.

The motor roads in Dom. No. 2 are beginning to assume shape. When completed they will be model haulage ways, where motor men may run without fear of falling strata or heaving roadways. Steel eyebeams form part of the road bed as well as the overhead supports.

The Nova Scotia Steel and Coal Co. are adding 7 pockets to the 13 already built in their coal pier at N. Sydney. This will enable them to load steamers in much shorter time, as it gives them more than half the amount of coal at the pier ready stored for vessels. The ore pier which was blown down some weeks ago will be completed within a month.

The Record congratulates Mr. Jas. D. McGregor on his appointment as Senator. The choice of the government in this instance is universally endorsed. Any remark of the RECORD on the man and his mission would sound like faint echoes and flimsy imitation after the eloquent tributes of the Eastern Chronicle and other of the provincial papers.

A gas explosion at a colliery where gas is seldom found is another instance of the unexpected happening. Eternal vigilance is not only the price of liberty, but of life. The sudden and startling emphasizing this truth has been felt in the mining world of our province. By the death of four miners, and the serious injury of a fifth, suffering and sorrow has been brought to their families, and to the mine officials of our Island, a feeling of deep responsibility has come, for they, above all men, will no doubt seek a cause and try to profit by the recent sad accident at Reserve.

There is evidently going to be strong competition shortly between the coal companies. It is to be hoped that it will not be of the cut throat kind of former years. The Montreal water commissioners called lately for tenders for a few thousand tons of coal delivered at the "Low level." There were numerous bids. The price asked per ton was from \$3.95 for Gowrie to \$4.20 to \$4.25 for Dominion, Sydney, Acadia, and Cardiff (U.S.). The contract was not awarded as there was a difference as to which coal was the best value at the money. In order to settle the point twenty five ton samples of the several coals are to be tested. It sounds a little surprising to hear that Clearfield coal is offered at the same price as Pictou or Sydney. If it is not an

inferior article then there will require to be a readjustment of prices.

By the middle of August Dominion No. 2 will be fully equipped for hoisting. No less than 64 feet of rock was blasted to give room for a sump, elevators and coal pockets. This is half the depth of some of the C. Breton shafts, but this is the day of big things and 64 feet added to the depth of a 900 ft. shaft isn't much after all. The man whose duty it will be to sit among the multitude of levers that are to set in motion all the shaft machinery, and who, we are told, must while at work be buried many feet below the pit bottom, will be able to pose as a hermit, after years in his lonely cell.

Dominion No. 1 is now full of water. Very much uneasiness was felt by the residents, until they learned that the fire section was completely submerged. The theoremonsters show that the mine has been gradually cooling off. It is now only a question of time when work on the material shaft will be begun with the view of putting in water tanks. This shaft has so far been practically unused since it was sunk two years ago. A sump 20 feet deep will be made at the bottom which will receive water from the many pumps to be put in. What water these tanks will be unable to lift will be thrown out at the surface by the joint action of all the pumps together, as all will be throwing water into a common receiver fitted up with pipe columns of large area. No less than twelve large pumps will be used for the purpose of draining the mine. These are supposed to throw a stream of 10,000 gals. per min. It is calculated that there is not less than 585,000,000 gallons of water in the mine. With the quantity of 30,900 gallons per hour attributable to themine itself, the average mine student should be able to tell how long these pumps will take to get to the bottom. Of course allowances must be made for the loss of time in moving, and repairing. Delay from falls may have to be reckoned. This is certainly the largest pump question ever placed before provincial pupils. We trust they will answer rightly.

There may be doubt in the minds of some as to the power to operate this number of pumps. There need be none as Dominion No. 1, has a large double haulage engine, which alone can use within 100 H. P. of that necessary to keep these pumps running. Twice the number of pumps with power enough to operate a fair sized colliery could readily be supplied. To keep in mind better state that the boiler power, is given at 1,996 H. P. A battery of 7 Babcock boilers supply this power and there is room for another boiler if it is required. The pumps are mostly of the Knowles make; unwatering of this mine is a feat that would not have been thought of twenty years ago, and impossible if it had been. Three months will find Dominion contributing again to the output of Cape Breton collieries,



A steel chimney in America, 110 feet high and weighing twelve tons, was lifted bodily and moved from one part of a factory grounds to another.

Ottawa, on Sunday last, had another extensive fire, the work of an ex-convict, who set fire to several buildings out of revenge for imprisonment. Many people were rendered homeless.

The earliest data respecting mining shows that the necessity of engineering skill was recognized in the pursuit of the business. The few copies of Agricola extant in its ancient parchment binding, has many rude wood cuts showing men at work underground, with engineers engaged in taking levels or establishing angles by means of plummet and level. Some of these cuts also show the method of timbering employed. In most cases the timbers were not framed, but were selected and cut with forked limbs. These were used as posts.

The term "porphyry" is the most used of any name given by miners to rocks of unknown character. They are familiar with slate, quartzite, limestone, etc., and often with green-stone as a class distinctive with the former, and call most crystalline rocks of grayish appearance and granitic habit by the general name granite, whether proper or not; but any rock of unknown character is called porphyry, particularly if it is fine-grained, more or less decayed and generally unlike the type rocks above mentioned. The term answers well enough, as a raisinomer has no particular significance. Porphyry is a term describing a structural condition in rock and has no particular reference to its mineral composition, excepting as indicated by some qualifying adjective, as quartz-porphyry, meaning a fine-grained rock in which occurs crystals or blebs of quartz, also, sometimes, of feldspar (orthoclase) and mica or horn-blende. Hornblende porphyry is a rock of granitic type in which hornblende occurs in prominent crystals. Feldspar porphyry is the name applied to a fine-grained grayish rock in which feldspar crystals are prominent.

The Toronto Farmers' Sun has this to say of the New Zealand Arbitration Act:—Compulsory arbitration, which New Zealand boasted had made a land without strikes, seems to have come to the end which was foreseen. So long as the courts were simply endorsing the demands of the unions, and the employers, times being good, were willing to comply, the system apparently worked well. But the courts having begun to give decisions against the unions, trouble ensues. The unions protest; the judgments are denounced and the judges are traduced. Mediation may do much but little apparently is to be hoped from legal and compulsory arbitration.

Unionists should remember what they are apt to forget, that the real employer, after all, is not the capitalist, who engages and organizes their labor, but the customer of the capitalists who buys the products of their industry. The customer will not give for those products more than he chooses, and can afford; so that the result of pressing their demands upon the capitalist beyond reason will be the ruin of their trade. If the building of houses is made too expensive, houses will cease to be built. Unions have had a taste of this in England.

An American thought-reader is reported to have performed a remarkable feat in London. Two gentlemen hired a cab and took a complicated drive through Battersea and Chelsea, leaving the thought-reader locked up in a room under strict surveillance. Subsequently they returned to him, closely blindfolded him, re-entered the cab and were driven by him over exactly the same route at a rapid pace. The blindfolded driver, who it is declared was totally unable to see, evaded cabs, buses, motor-cars, bicycles and pedestrians with remarkable dexterity. During the journey the gentlemen in the cab kept hold of a copper wire which passed round the thought-reader's head, and they were told to concentrate their whole attention upon the route previously taken. It is stated that the blindfolded thought-reader, who made this journey, not only covered exactly the same route, steering clear of all traffic, but he pulled the cab wherever the gentlemen had halted.

The miners at Albion colliery came out on strike Tuesday on a days notice. It seems that a miner went to work in a place before the committee had agreed as to the price to be paid. The manager had repeatedly called upon the committee to set a price for his consideration, but they neglected to do so. As the work had to be done this miner went to work. After a time a price was set and this price was paid the miner. Buller Lodge fined the man \$15.00. This he refused to pay. Then an undated ultimatum was sent the manager which amounted to a request that the man be dismissed. Of course as the manager had no quarrel he did not see how he should interfere. If the fine is a debt why not collect it at law?

Five hundred union longshoremen went to work at the harbor front this afternoon and mixed among the non-union men who have been working during the period of the strike. There will not be employment for all the strikers, but most will find places, inasmuch as a large percentage of the non-unionists consists of Italians, Syrians and Armenians, whose work is unsatisfactory handling cargo, and they will probably be replaced by men accustomed to the work. "After the settlement Peers Davidson, legal advisor for the shipping interests, gave out this statement. We are satisfied with the settlement as a whole, and consider that if its terms and spirit are lived up to, there will be no further friction on the docks."

The union has not been recognized, and the principle of free labor has been maintained. The labor bureau remains open, though union men are not required to sign at the bureau. Old employes, whether union or non-union will receive first consideration as respects the vacancies now open. The Steamship companies, however, under the agreement, are quite at liberty to employ either union or non-union men as they see fit:—Montreal despatch Hx. paper 11inst.

The ability of the machine is beginning to outrank the ability of the man, and in the test it is the man that is beginning to fail. The locomotive to go 100 miles an hour is less difficult to build than it is to get the locomotive engineer who can drive it and retain his nerve control.

## ROMANCE OF A MINE.

There are no romances of fiction half so fascinating or picturesque as the true tales to be heard in each of a thousand mining camps the world over. Stories of men who have begun with nothing and who have climbed with dogged determination through every obstacle and difficulty to the pinnacle of wealth, are heard on every mountain side where Providence has been lavish in the deposit of treasure, but has surrounded all this wealth with barriers which are broken down only by those whose courage and persistency do not consider the possibility of failure.

Here is one true mining story—one out of a thousand which might be told of miners who have toiled and won. It is interesting because it is true.

The New Rambler mine, on Douglas Creek, Wyoming, was located by a man "grubstaked" by a number of Laramie, Wyoming, people. The surface showing was fairly promising, although there was nothing to indicate the greatness to which the mine has since risen. Still the property looked well enough to justify modest expenditures by way of proving the length and breadth of the vein. It did not occur at first to the men who were putting up the money that before any mine could be developed at a point 40 odd miles from the railroad, there would have to be an enormous outlay, both for labor and machinery and other surface equipment.

It did not require a great deal of time, however, before this idea found lodgment in the minds of the members of the little syndicate. The first few feet of depth obtained not only failed to disclose improvement in assay values, but really did less than bear out the original promise of the surface showing. The men who had started into the proposition regarded it as an expensive flyer, and began to realize that they had undertaken a pretty big contract. All expenses were in the Grand Encampment mining district, thirty miles west, where there were stocks of permanent mining supplies and where a wagon load of coal could be hauled up the mountain, and a wagon load of ore hauled down, without the necessity of building new wagon roads over territory which would otherwise be impassable. The membership of the syndicate gradually grew smaller. Some of the members sold their interests at a loss, others gave up what claim they had to the property without receiving any equivalent, and one or two more made arrangements so that by giving up portions of their interest they were not obliged to pay any further assessments. There was but one man of the Laramie party who retained implicit confidence in the mine and who was willing to back the courage of his convictions by putting up every dollar which he could raise, and who, besides, added to that the labor of his two strong arms.

This was R. F. Holmes. He expressed himself by saying that he would stay in the camp even if it came to a point where he had to play solitaire. Holmes was a poor man, and his bank account, while it represented the savings of years, was not of a proportion to startle any one. This board was used up shortly after his fellow partners had discontinued putting up money. It came to a point one day where the showing in the shaft being sunk disclosed a fair sized body of exceed-

ingly high grade ore, and there was not enough money in sight even to take out a few tons for a trial shipment. Holmes had only one means of raising money. He mortgaged the cottage where he and his wife had lived for many years. The determination of the man and his belief in the future of the mine were proof even against his wife's entreaties to dissuade him from this final step. She told him that the house would be lost to them under the mortgage, and she was right. When the mortgage fell due, the house was sold under foreclosure. And the mine appeared to be as far away as ever from profitable productivity.

It was but natural that being without a home and having sacrificed that home for the mine on the success of which he had set his heart, that Holmes should go to the New Rambler. He moved to the mine and built himself a cabin there. He and two others worked on the property all through the rigors of a winter in the Wyoming mountains. The property greatly improved and a well-defined body of chalcopryite was exposed. One night the men put in a blast and retired until the next morning. When they re-entered the rock knocked down the night before was azurite, running as high as 80 per cent. in copper. The mine was made, and with it the fortune of the man who had believed and who had maintained the courage of his belief.

Boston people have since bought control of the property, but Holmes is still a member of the corporation, and his holdings are worth very close to a million dollars. He has bought back the cottage which went under foreclosure proceedings, and for good measure he bought the entire block in which that cottage is located. His wealth would warrant him in building the finest mansion that stands in the State of Wyoming, but he is a man of modest desires, and the plain living which characterized his early days will unquestionably always be characteristic.

The town which has sprung up at the New Rambler mine is named in his honor, and the mine itself will be an eternal monument to the courage of one determined miner.

The ability of the machine is beginning to outrank the ability of the man, and in the test it is the man that is beginning to fail. The locomotive to go 100 miles an hour is less difficult to build than it is to get the locomotive engineer who can drive it and retain his nerve control.

A drift is a term generally inclusive of all horizontal mine openings. In a more restricted but common use it is a horizontal mine opening of dimensions convenient for working out the rock and for use for transportation or travel after completion. Where it has its start at a station it is termed a level; if at about right angles to a trend of the ore body it is called a crosscut; if outside of but parallel to the trend, it is sometimes called a gallery. Working horizontally in the ore body wider than a track and passageway, as in a drift, placer mine, the entire opening would be called a drift; the face of the rock, ore or gravel being mined would be a breast, and the track and manway opening through the drift would be a gangway.

## THE MAKING OF STEEL RAILS.

An Engineer, writing to the Montreal Herald on the subject of steel rails quotes Mr. Baker of the Dominion Iron & Steel Co'y and makes comments as follows:—"The other contribution, to this interesting subject is from Mr. D. Baker, the general manager of the Dominion Steel Company's works, and a thoroughly practical and experienced man. He replies promptly to Mr. Drummond's suggestion that the Dominion Steel Company will, in consequence of Mr. Fielding's pronouncement, put in a steel rail mill. He shows in the clearest possible manner that the company will do nothing of the kind, and why it is impossible. He very properly points to the fact that rail competition in this line will come neither from Germany nor England, but from the United States, and that we may again see what we saw three years ago, viz; steel rails selling at \$15.00 at the works. In view of this fact he is too wise a man to suggest the Dominion Steel Company, whose pig is said to be costing them \$11.00 a ton instead of \$5.50 as originally estimated could entertain the idea of going into this branch of trade, and even goes so far as to say that with \$14.00 of protection it would not pay a conclusion with which I entirely agree, but for other reasons than those stated by Mr. Baker. It could hardly be expected that he would give to the public the fullest information affecting the ore deposits of his Company, but they are practically in the same position as the Lake Superior Company in having in their Belle Isle deposits an ore containing so high a percentage of phosphorous and so low a percentage of metallic iron that it is not likely that by any mode of treatment they could produce a marketable rail.

When the Dominion Steel Company commenced operations they did so upon assays showing at least 55 per cent. of metallic iron in their ore. Their present shipments and indeed the shipments for some time past have averaged about 10 per cent. less than this, whilst there has been no diminution in the percentage of phosphorous. Mr. Moxham's idea of eliminating and marketing the phosphorous, like many of his predictions, has not materialized, and the only way in which the Dominion Steel Company could by any possibility manufacture steel rails of satisfactory quality would be to import the bulk of their ore. This however, is not possible, both because there is a dearth of such class of ore and because it would be too costly to enable them to use it and compete with their American neighbors.

In directing their attention to the manufacture of steel products of lower grade, and which in their use are subjected to less severe tests than steel rails, they are undoubtedly wise, but even here I entirely agree with Mr. Baker that American producers will always be able to undersell them in Canada unless there is very heavy protection."

## APPALLO LANDSLIDE.

The mining town of Frank, 55 miles this side of Fernie was wiped out by a gigantic land slide ten days ago. About seventy lives were sacrificed. Twenty one of these were miners. At the time of the slide there were nearly a score of miners in the mine, but they all escaped though the mouth of the mine was clogged

with debris, which they had to cut through in effecting their escape. The mine, as at Fernie, went into the mountain called Turtle. The houses of the workmen were at the bottom. Every house and all the occupants were crushed and buried by the monster rocks which slid down its side. It is reported that the mine which has not been much damaged will be operated again shortly, though all the people have fled from Frank.

## INTERVIEW WITH A HALIFAX WHOLESALE GROCER

"Our sales of Ogilvie's Hungarian flour are increasing every month, and we hear none but the best reports of it from our customers," said H. W. Wentzell & Co., wholesale grocers of Halifax. "It is one of the signs of the progress of the times," said Mr. Wentzell, "that people are now using higher grade food-stuffs than ever before. A few years ago only the well-to-do thought it necessary to buy Ogilvie's flour, but today everybody who appreciates a first-class loaf of bread is willing to pay the extra cost and get Ogilvie's. Of course I am bound to say that while the price of Ogilvie's is higher than ordinary brands, the flour itself goes so much farther that it is really the cheapest flour on the market. I never hesitate to recommend Ogilvie's to all classes of trade, as it combines economy and quality, two things most essential in an article of such general use."

Wm. Pearce, the Government official, has returned from Frank, and in a published interview says:

"The loss of life and property are as follows: killed: 38 men, 8 women, 20 children; injured, 11, only 2 or three of whom are hurt dangerously; dead bodies recovered 12. Of those killed 21 were miners, and the balance ranchmen, merchants, engineers, and labourers.

Six miners' cottages were completely destroyed, being swept away like feathers. One was partially destroyed. Beside these ten habitations of ranchers and others outside of Frank were totally destroyed. All the mining company's machinery, both new, recently delivered and not yet in place, and that already installed, was completely destroyed.

It is uncertain yet whether the six thousand foot tunnel was seriously damaged, but Mr. Pearce thinks it probable that it could be used again.

The slide has covered over a thousand acres to an average depth of thirty feet. Its action was similar to that of a snow slide running out fan shaped, and throwing up rocks to a height of at least 490 feet, probably 500 feet, on the opposite mountain.

The large quantity of powdered lime and dust, and the friction on each other of the hard blocks of limestone, when falling, according to Mr. Pearce's theory were the cause of the flames, and fumes of gas, which lead the people of Frank to adhere to the theory of an earthquake or volcanic explosion.

Mr. Pearce thinks the Canadian Pacific Railway will probably rebuild on the top of the slide at, or about, the same location as the old line.

Telluride gold ores are often found to be free-milling at and near the surface, though this is not universally the case. Ores containing tellurides of gold may be made free milling by roasting; but there is often considerable loss of value when this is attempted on a commercial scale.

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The Nova Scotia Steel and Coal Co. are adding 7 coal pockets to the 13 already built in their coal pier at North Sydney. This will enable them to load steamers in much shorter time, as it gives them more than half the amount of coal at the pier ready stored for vessels. The new ore pier which was blown down one weeks ago will be completed within a month.

Andrew Carnegie is coming out in a new role as a maker of history. He will attack the alleged British war office clique.

He has offered the sum of \$200,000. it is stated here to secure certain evidence which will restore the character of Sir Hector MacDonald, the Scottish general who committed suicide at Paris, because of rumors affecting his honor as a British officer.

Mr Carnegie takes this step because, as a Scotsman by birth, he believes that one of the most gallant generals his country has ever given to the King's service has been foully wronged by a despicable conspiracy.

Moreover, he believes that there is proof that the death of General MacDonald was due to a plot as base as anything known to history.

That the proof exists, the American millionaire has good reason to believe. Somebody in the war office, under the seal of confidence, has told him enough to make him morally certain of that. The only question is whether an outsider can get the proof.

Dr. Gowing Middleton, who examined the body of Sir Hector after the latter's awful death in Paris, is supposed to know a good deal that can be useful to MacDonald's friends.

## INTERCOLONIAL RAILWAY.

Tender for Building for Baggage and Express Rooms at  
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Scaled Tenders, addressed to the undersigned, and marked on the outside "Tender for Building at Levis," will be received until  
**Monday, the 25th Day of May, 1903,**

for the above mentioned work.  
Plans and specifications may be seen at the office of the Assistant Engineer at Levis, and at the Chief Engineer's Office, Moncton, N. B. Specification must be complied with  
Railway office, Moncton, N. B.  
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General Manager.

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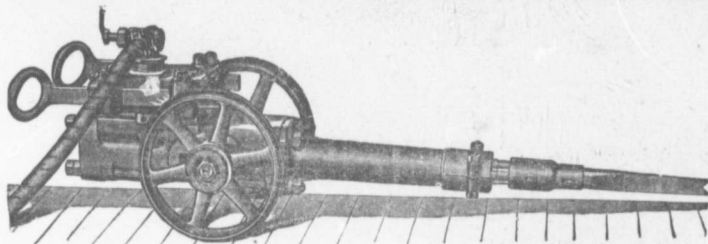
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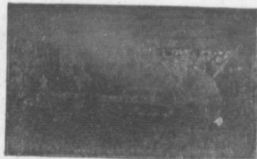
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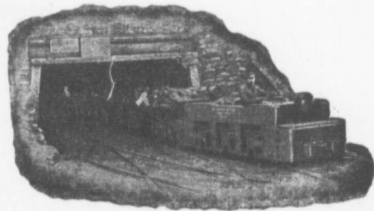
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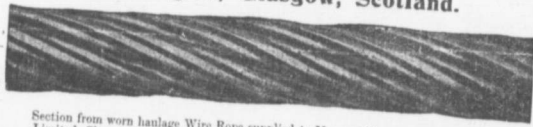
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Volatile combustible matter	18.94%	27.93%	28.41%
Fixed Carbon.....	75.29%	67.47%	64.69%
Ash.....	3.75%	3.19%	4.19%
	100.00	100.00	100.00
Sulphur.....	1.15%	58%	.79%

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