

Maritime Mining Record

Sept. 13 1911

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Fig 2. HAULING



Lang's Lay Ropes.



Fig 26 WINDING



Fig 1. HAULING



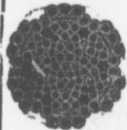
Patent Flattened Strand Ropes.



Fig 4. WINDING



Fig 13. SINKING



Advantages of Patent Flattened Strand Ropes.

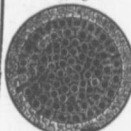
- 1 Greater wearing surface, therefore longer life of rope and less wear upon pulleys.
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- 3 Spliced easily and more effectively.
- 4 Less tendency to twist and stretch in working.

Fig. 13 for Sinking and Fig. 11 for Cranes, &c. are non-twisting.

Fig 11. CRANE, &c.



Fig 15 a



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Fig 20



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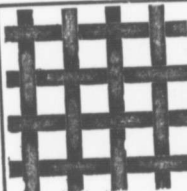
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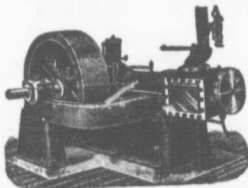
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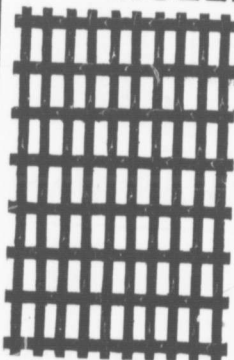
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—LICENSES TO SEARCH—

over five square miles for eighteen months, cost \$30.00; leases for three renewable terms of twenty years each can be selected from them at a cost of \$50.00, and are subject to an annual rental of \$30.00

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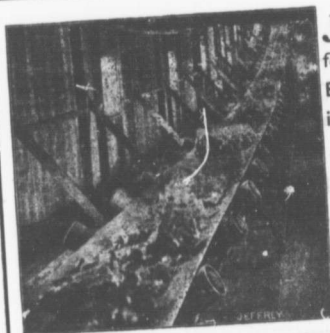
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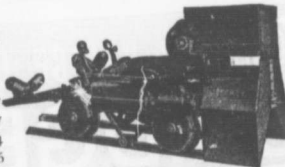


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Jeffrey Belt Trippers
discharge Material into bins or at any point along the conveyer line. They are automatic in operation, compact in construction.

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MARITIME MINING RECORD

Vol. 14, No. 5. Stellarton N. S., Sept. 13th. 1911. New Series

THE WABANA IRON MINES OF THE NOVA SCOTIA STEEL
AND COAL COMPANY LIMITED.

(By Thomas Cantley.)

During the summer of 1895, when the mines on Bell Island were being opened and preparation made for large shipments of ore, the writer was given the privilege of putting a new name on the World's Commercial Map. He chose for this locality the Indian word "Wabana," a literal translation of which would be "The place where daylight first appears"—"The easternmost place on the Continent," the root words being "Waban" light or "bright," and "Wobun" —"daylight."

The first systematic treatise upon the geology of Newfoundland, is that by Jukes, published in 1858. This report alludes to Bell Island and its fertility, and also mentions that "two beds of red sandstone" are noticeable in its cliff from the sea. This is the first specific reference known to have been made to Wabana ore, for at any considerable distance what is really red hematite may readily be mistaken for red sandstone.

Again, in the Report of the Newfoundland Geological Survey, for 1868, tabulated measurements are given of the stratigraphy of Bell Island, but no mention is made whatever of the outcropping of any ore body.

Eventually the value of the property being realized it was acquired by Messrs. Butler, of Topsail, from whom it was purchased by the Nova Scotia Steel and Coal Company in 1893.

The installation of a mining plant, tramway, and pier was then inaugurated, and on Christmas Day, 1895, the first shipment of ore was made to Ferrona, Nova Scotia, since which date an increasingly large output has been maintained.

In 1899 a portion of the areas was sold to the then recently formed Dominion Iron and Steel Company, the latter thus acquiring the lower bed while the Nova Scotia Company reserved for themselves the upper bed, the ore in which contains a higher percentage of iron than any of the other seams. This sale included a submarine area of three square miles adjoining the shore. Subsequently the Nova Scotia Company acquiring outlying submarine areas which it was believed would be workable because of the increased thickness of cover. The well known persistence of the beds also led to the belief that this submarine area would contain all the beds outcropping on the land.

Upon the submarine area each Company own all the beds upon the respective claims, while on the land the Nova Scotia Steel and Coal Company operate the "Scotia" or upper bed, the Dominion Company working the underlying seam.

As the work progressed, additional areas were secured; and, at the present time, the Nova Scotia Steel and Coal Company own 32½ square miles of the submarine areas within the supposed limits of the basin, and the Dominion Iron and Steel Company, 5 square miles.

To reach the Scotia Submarine areas, it was necessary to pass through the Dominion areas which, adjoining the land, extend almost 1,000 feet to the deep. An agreement was made by which slopes could be driven through these intervening areas and work was commenced accordingly in March, 1905. This progressed favourably and the Scotia submarine areas were reached in 1909. As the slope proceeded it was ascertained by diamond drilling that the lower bed had increased very greatly both in thickness and richness. At the outcrop this seam was eleven feet thick, but gradually increased to over double that thickness—indeed, in places to over 30 feet; while analysis of the ore showed that the iron content was higher and the silica correspondingly lower.

In view of the remarkable increase in the value of the lower bed, the Company decided to operate both it and the upper bed; and in March, 1910, the grade of the slope was accordingly increased to 30 degrees until the ore of the lower bed was entered in December, 1910.

Mr. James P. Howley, F. G. S., director of the Newfoundland Geological Survey, in a recent paper read before the Geological Congress held in Stockholm, estimates the ore in the Wabana basin as follows:—

"I have made an approximate estimate of the probable amount of ore in this trough may yet contain, taking into consideration all the beds over one foot in thickness. By the aid of the dips and strike of the strata, where accessible, it is possible to form a fair idea of the extent of the trough, and unless some unforeseen disturbance takes place, whereby the ore may be greatly diminished or thrown out altogether; and provided the bands maintain their thickness and stratified character, throughout, the result arrived at reaches the enormous total of 3,635,000,000 tons."

Mr. H. Kilburn Scott, M. I. M. M., of London, reported on the available mineral in the Scotia property early in 1900, as follows:—

"It has been shown that the Wabana deposit is exceptionally regular, both in thickness and quality of ore, this over several miles of the outcrop and underground workings as well as in the slope for a mile in the submarine area. Moreover, while the area of the Ore Basin is a matter of conjecture, the regularity of the dip of the beds is such that it must be of a width so great as not to disturb any conservative estimate of reserves. Small faults have been encountered from time to time in the slope of the submarine areas, but this is no reason to anticipate any great displacement of strata sufficient to cut out any of the beds, as the cover is gradually increasing and already measures 450 feet. Thus while strictly speaking the amount of ore in the Nova Scotia Company's area absolutely proved by the submarine slope is small, the present face being only 500 feet past the Dominion Steel Company's limits, yet so many important factors necessary are known that it is possible to make a reasonably safe estimate of the ore available for extraction.

"I therefore propose to take as mineral practically guaranteed that of the land area equal to 2,000,000 tons and also the mineral in the area between the outside of the Dominion submarine and a parallel line through a point one-third of the length of the Nova Scotia Slope measured from its present face, the figure being closed by the submarine outcrop.

"As mineral reasonably supposed to exist I take that found in the area between the limit of the mineral practically proved and the outside area of the Dominion Company closing the figure as before by the submarine outcrop.

"The contents of mineral which may exist not so characterized as mineral which may exist not so much owing to its existence being less certain than in the other areas, but because its development must be deferred for such a long period owing to the large reserve of ore practically proved."

And gives the gross tonnages:—

| | |
|--------------------------------------|------------------|
| Mineral practically proved | 204,000,090 tons |
| Mineral reasonably supposed to exist | 448,500,000 tons |
| Total | 652,500,000 tons |

Then deducting the mineral lost in pillars and by faults and poor zones; arrived at the total recoverable ore as follows:—

| | |
|--------------------------------------|------------------|
| Mineral practically proved | 104,000,000 tons |
| Mineral reasonably supposed to exist | 291,625,000 tons |
| Total | 395,625,000 tons |

Since this report was written, the submarine slope has advanced a further distance of half a mile seaward without meeting adverse conditions. From 1894 to 1896, the Company operated the lower bed by open-cut mining.

At the latter date, mining employing similar methods was commenced upon the Scotia bed, and in 1902 slopes were driven to develop the land areas. Surface and underground mining was carried on simultaneously, as it is to day, although the larger tonnage is now derived from underground.

Two mines, known as No. 1 and No. 2 (see Fig. 6 and 7) are now operated on the land areas and are mined by the room and pillar system. These slopes were driven on the dip half a mile apart, the main levels being broken off simultaneously on both sides at 250 foot intervals and driven nearly at right angles to the dip but sufficiently against it to give a grade in favour of the load toward the hoisting slope.

At various distances in the levels, headings are driven on the dip and off these rooms are broken, parallel to the level and opposite one another. The rooms are placed at 35 feet centres and thus are 15 feet wide, separated by 20 foot pillars. Every forty feet the pillar is broken through from the lower side.

The drills employed are 3 inch and are worked by a crew of two men, one driller and a helper. Labour conditions on the Island, while good on the whole, yet suffer from the fact that the working population is almost constantly on the move. This is due largely to the circumstance

(Continued on page 17)

MARITIME MINING RECORD.

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

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

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

R. DRUMMOND, PUBLISHER.

ST. LARSON N. S.

Sept 13 1911



RABIDLY GRITTY.

Replying to a short criticism in our issue of 25th. ult. the Glace Bay Gazette says:

"It is a fact that the coal duty has, as the Mining Record points out, been gradually reduced from 75 cents a ton to the 45 cents now prospective. Notwithstanding this, it is also a fact that the wages of mine workers have been steadily advanced. Why then should the Mining Record and its fellow scare-mongers among the Tories undertake to say in effect that this 8-cent reduction of the duty is the last straw and that reduction of wages will follow? It is simply a case of trying to create a scare that is not warranted by experience. When the duty was reduced by seven cents the self-same cry was set up by the Tories to make political capital. Fourteen years experience has shown that they were talking nonsense. Fourteen years after this the Mining Record will, we are confident, see that there was no ground for the present effort to create alarm among the miners. The 7 cent reduction then was the last straw; now the last straw is being piled on again. It gets rather monotonous after a while, but like predictions of the end of the world there is a limit after which prophets of disaster only become objects of ridicule.

"As we have already pointed out, it is a pure assumption to claim that the coal companies, under a 45 cent duty in future, will make less money than they have under a 53 cent duty in the past 14 years. Are saving methods and appliances? After a certain point does not increased output mean a lessened cost per ton and therefore a greater margin of profit? Who will undertake to prove that the companies are going to make less money per ton?"

"To which we reply: It is quite true that wages have gone up since 1890, not since 1896 as the Gazette claims, and it was right that rates should go one up and be maintained. If wages have 'steadily' advanced, the price of coal since 1900 or 1901 has been stationary. How then did the companies manage to advance wages? By economies in management and by withholding fair dividends to their shareholders.

The MINING RECORD did not say that this eight cent reduction was the last straw—presumably to break the back of the coal trade, nor did we say that as a result of the agreement being ratified, mine employees would suffer a reduction of wages, and in suggesting that we did both, the Gazette betrays a lack of material for good argument.

The Gazette is presumptuous and affects a know-

ledge of the coal trade beyond that of those engaged in the business, for 98 per cent. of the coal operators of the province, in a memorial sent to Mr. Fielding toward the close of 1910, declared that ANY REDUCTION in the coal duty would 'disastrously' effect the coal trade, and that is a stronger argument than the RECORD has used.

When the Gazette, inflated by pride of advertisement, says contemptuously, "it is pure assumption to claim that the coal companies under a 45 cent duty in future will make less money than under a 53 cent duty for the last 14 years", one is at a loss whether to be sorry, or annoyed or mirthful, sorry for its blindness, annoyed at its perversity, or mirthful at its revelation of, in its case, the school master being abroad. A majority of the companies during recent years made no money, and quite a few of them went into bankruptcy. The Gazette, no matter how keen it may be as a partizan, is the last paper that should make the assertion, even by implication, that there has been money in the trade of late years, for it is asserted that one largely interested in the Gazette was largely instrumental in promoting a coal company which has lost to its bondholders thousands upon thousands of dollars.

The last sentence in the extract from the Gazette is a dazzler. "Who will undertake to 'prove' that the companies are going to make less money per ton". If lack of ability to 'prove' is a reason why the reduction in the coal duty should not be opposed, then surely the inability to prove that the agreement as a whole will make Canada more prosperous than it is, is a sufficient reason why the agreement should be opposed. The old saw has it "The proof of the pudding is the eating of it." If that be so how is it possible to furnish 'proof' as to its quality before even it has been put in the pot. Party over-zeal is responsible, we fear, for a mental apoplexy which divests the patient of all ability to reason.

BOUNTIES AND BILLETS.

Very many people run away with the idea that notwithstanding the removal of the bounties on iron and steel, the industry is still highly protected and should be able to hold its own against all comers. We will at this time make no reference to the bounty on pig iron as possibly as much could be said on one side as the other. Our intention at this time is merely to demonstrate that the people who are possessed with the idea that the steel makers are highly protected, are hugely mistaken. And here, though we may have occasion to say it again, some protection to steel products is necessary for the reason that it costs in Nova Scotia about 25 per cent. more in labor alone to produce the iron and the steel that it does in Britain. Nova Scotia's chief competitor. If the Nova Scotia steel and iron makers could secure labor at the same cost as in Britain they might be in a position to be independent of all government favors to the industry. That the steel industry secures its due proportion of protection, so long as protection is in vogue, is imperative to the success of the industry.

The duties on iron and steel products instead of being fabulous are insignificant and paltry. Take for instance the selling price of billets in Britain at \$22.00 per ton, and the preference duty here at

\$1.50 per ton, or say a 7 per cent. duty. Nova Scotia's chief market is Montreal and points West. One would think that this duty of 7 per cent. and the shorter distance would enable the Nova Scotia makers to successfully capture the trade. The fact is that the shorter distance counts in a contrary direction to that of cheap transportation. The British exporters of finished steel products have an advantage of no less than \$2.50 per ton in the matter of transportation alone, and the British maker's labor or costs are no less than six dollars a ton in his favor. And then in the way of material he is favored. He has his fire-brick on hand, while Nova Scotia has to import all fire-brick for furnaces, etc. The duty in favor of the Nova Scotia steel maker is some \$4.25 per ton but this is far, far, more than offset by the fact that his labor, transportation and other charges are \$9.50 greater, so that, instead of being favored he has actually to face a handicap of about five dollars per ton. Further, if we take the case of pig iron alone—now that the bounty has been withdrawn—it will be found that our makers do not get anything like a fair show. In fact if the average tariff on importations be placed at twenty per cent., then the tariff on imported pig is only ten per cent., as the duty is \$1.50 per ton and the selling price of pig \$15.00 per ton. Even when the pig iron is imported from the United States the duty is two per cent. less than the assumed average tariff.

- Rubs by Rambler.

When it comes to discussing the coal question, the two most amusing speakers, from C. B. to B. C. are, beyond question, D. D. McKenzie of North C. B. and J. W. Maddin from the Southern part of that wonderful gem of the sea. Maddin can move to tears and laughter, as he describes the miner, lying flat on his stomach, directing the movements of a puncher coal cutting machine. He makes no halt in his speech, but tells his wonderful story with a glibness that is arresting. I have referred to some of John William's oddities of speech and his lapses—lingual—on previous occasions, and now comes D. D.'s turn. Funny how many men get beyond their depth when they attempt to wade into the coal situation, and D. D. makes as much fun as any other. I turned for information to a speech of his delivered to a mining audience, in the hope of getting light, and of learning what was the necessity to have coal mentioned in the reciprocity agreement. I got little—D. D. says the duty was reduced eight cents because the Conservatives always cried for the same duty in each country. The reduction of the duty, on coal, one is led to infer, was made solely because the Conservatives believed in equalizing the duty. But why did 'nt D. D. denounce his friends for having since 1896 imposed a less duty on American importations of coal than the Americans imposed on Nova Scotia coal. Why did 'nt the equalizing process come in force when it might have done Nova Scotia a little good, and not now when it is possible we may suffer from the process. Mr. McKenzie contends that because Messrs. Cantley, Harris and Brown have no letters in the press denouncing the reciprocity agreement, these gentlemen have nothing against the eight

cents reduction on coal. Let me tell Mr. McKenzie that if these gentlemen are silent the reason is not far to seek. Prudence dictates a policy of silence. The I. C. R. uses some 500,000 tons of coal, and this may be their reason for not looking a gift horse too critically in the face.

A. B. Wilmott, Consulting Engineer, Toronto, writing from an upper province standpoint, presumably, has this to say of the proposed reduction in the coal duty:

"Owing to the American duty of 45 cts. a long ton, Nova Scotia coal is shut out of the New England market which it could otherwise reach. This coal is, however, shipped by the St. Lawrence as far as Montreal, ever, where it begins to meet Pennsylvania coal. The reduction of the Canadian import duty from 53 to 45 cents a short ton will undoubtedly make the competition for the Nova Scotia miners in the St. Lawrence valley much more difficult. Their market will practically be restricted by the terms of the pact, no compensating advantages in the New England market being given them, as the American duty remains unchanged."

Mr. Wilmott is astray in assuming that it is the duty that prevents exports of Nova Scotia coal to the New England, or any of the States. Discussing the free exchange of salt Mr. Wilmott says:

"One of the chief items of expense in producing salt is the evaporation of the brines. The Canadian producer pays 53 cents a ton duty on his coal which the American across the Detroit River receives free. Further in the vicinity of Bay City waste slabs from the saw mills provide the necessary fuel. There are good reasons why the import taxation on coal should be kept up. One of these is that this country requires large sums of money for running expenses and there is probably no easier or more equable form of taxation than one on coal. The transportation companies and through manufacturers are the original payers, and through them it is distributed fairly equally over all classes of the community. But if the salt producers, cement producers, and other mining industries are called on to pay this coal taxation they should be given compensating protection for their own products."

The argument in favor of compensating protection to salt producers, cement producers and others, may be used and applied by the coal operators. They have to pay duty on very many of the thousand and one things that enter into the proper equipment of a modern colliery. Why then should not the article they produce be adequately protected? Mr. Willmott's plea on behalf of coal furnishes proof that the upper province manufacturers are realizing that their outcry of years ago against the coal duty was unfair and unreasonable. The RECORD is of opinion that the principal howlers to-day for duty free coal are the big railways who are getting coal at a price which makes the ordinary consumer envious. The C. P. R. surely has no reason to be wail the coal duty seeing it can earn enough to pay a fifteen per cent. dividend while a majority of the coal companies cannot pay five.

The Liverpool G. B. Justices of the Peace who were kept busy dispensing justice during the late strike have drawn up a memorial, which they are asking their fellow magistrates in other districts to sign, calling attention to the evils which have followed the law of 1906 authorizing picketing. The justices maintain

that had it not been for picketing, or the form the supposed harmless picketing assumed, there would not have been half the misery and idle time there was. Thousands of men abstained from work and thousands more left work, when asked by the pickets, in mortal terror of their lives. Picketing in the late strikes in Great Britain, as at times in the late strike in C. B., was nothing short of vicious intimidation.

Picketing, if by that is meant persuasion, is of course permissible and admissible, but when it means intimidation it should be sternly dealt with. If the employers are to be condemned for discharging men because they belong to a union, then the workmen are likewise to be blamed if they seek the discharge of workmen who do not belong to their union. For long have we been accustomed to the refrain, "The tyranny of the bosses." To-day the phrase is meaningless. The new tyranny, that of the union leaders, puts the old tyranny in the shade. The last is incomparably harder than the first. The tyranny of the masters has at times caused distress and hardship to a portion of the people, whereas the Tillett type of tyranny has caused suffering to the whole community and been the cause of many deaths in the localities where it prevailed. The labor leaders in the British parliament denounced the Home Secretary for sending troops to quell disturbance and, in short, charged the government with killing, if not wanton murder. Men had been shot down needlessly by the military, they declared. Mr. Churchill made an effective reply. He admitted that in the discharge of a public duty men had lost their lives at the hands of the military but, he asked, "how many lives did the acts of discipline save." That is a question to set people thinking. If it is true, as asserted, that a thousand children died in Liverpool for lack of food to sustain them, food that the mob kept them from obtaining, how many more thousands would have died if the rioters had been permitted longer to continue their work of intimidation, interruption and obstruction.

There are some things which one cannot see at a glance and I am up against one such and make appeal to the members of the lately formed Cape Breton Mining Society to help me overcome the difficulty, or, in plain terms, to give me a leg up. In the new tariff agreement may be found the following, in reference to coal:—

"COAL, slack or culm, of all kinds, such as will pass through a half inch screen fifteen cents per ton of 2240 lbs.

"Coal, bituminous round and run of mine, including bituminous coal such as will not pass through a three quarter inch screen forty five cents a TON."

First. What are the various kinds of slack or culm. Would it not have been easier to say, "COAL, all bituminous coal that will not pass through a half inch screen."

Second. Do you admit that pieces of slack that have passed through a three quarter inch screen, pieces under three quarters of an inch, say five eighths of an inch—will not pass through a half inch screen?

Third. Could a factious customs officer take a fistful of pieces five eighths of an inch in size and say: "Here; that coal will not pass through a half inch screen it is therefore subject to the 45 cent duty."

Fourth. What disposal is to be made of the coal that has passed through a three quarter inch screen and will not pass through a half inch screen?

Fifth. Why is the ton of slack, a ton of 2240 lbs.,

and the ton of bituminous simply called a 'ton'. Are there two kinds of ton in the tariff.

Have the mine operators and employers generally of Nova Scotia—and of Canada—anything to learn from the late strikes of seamen, firemen, and dockers in Great Britain. Yes, there is at least one lesson to be learned, one that the RECORD has often inculcated for the benefit of men and masters. The lesson is summed up in these few words "Never underestimate the strength of your opponents." Had the ship owners not scoffed at the idea of an effective strike of seamen, had they, at the first request of the Seamen's union, conceded a slight advance, the country would not have heard of renewed strikes and of broken promises. The men were put to their mettle, succeeded in drawing blood, and having tasted the sweets of victory, entirely lost their heads and demanded more, and again more, till people wondered when it was all to end. The ship owners were terribly short-sighted. Had they, before refusing the first demands of their employees, taken pains accurately to gauge their strength, there should have been no strike or at all events there would not have been a repetition of strikes, and encouragement to hot headed leaders to make further demands.

A great deal of nonsense in reference to the coal duty is being written by papers taking opposite sides on the reciprocity agreement. The Dartmouth Patriot says that Mr. Fielding has made things mighty satisfactory to the coal operators. That betrays crass ignorance and stupid blindness on the part of the Patriot. Again, it says that coal costs every household thirty dollars more a year than it did formerly. Let us see. The price of coal of late years has not increased—at the most—more than a dollar a ton. If it costs now \$30.00 more that means that each household burns thirty tons of coal in a year. There should be in Nova Scotia a hundred and twenty thousand householders. If 120,000 be multiplied by 30 we have a consumption of three million six hundred thousand tons for Nova Scotia. As railways, factories and Steel works in N. S. consume three times the quantity used in households, we have as their share ten million eight hundred thousand tons. The two added make a total consumption in Nova Scotia of over fourteen million tons or three times the quantity sold last year. The householders of Nova Scotia do not consume more than five tons on an average. When referring to coal the Patriot is silly, and simple.

In his absence the editor was not forgotten by his dear friends in Glace Bay. He is in receipt of a new series of picture post cards, with legends and scrolls. One of the latest shows a countryman driving along the highway seated on a market wagon, quietly smoking a pipe, and seemingly at peace with the world. The wagon is labelled P. W. A; the horse's neck bears the letters S. B. Mc N; the driver is named John Moffatt; the umbrella shading from the rays of the sun is marked D. C. Co. and the solitary passenger is the editor of the RECORD who seated on the hind part of the wagon placidly surveys a party of U. M. W. roosterers in an automobile, the chauffeur tooting for room to pass. The driver of the wagon smokes on, contenting himself with

(Continued on page 15.)

AROUND THE COLIERIES.

The Great Northern Mining Co. Cheticamp, purpose making extensive improvements and additions to their plant. The company will attempt refining on a larger scale.

The list of fatal accidents for 1911 is growing at a too rapid rate. In Picton County there were three such accidents of late one at the Drummond, one at the Allan Shafts and one at Thorburn.

A Cape Breton candidate said the other day that there were some "17,000 persons engaged in Cape Breton in the production of coal." That is going it some, if persons directly engaged is meant.

Some exploratory work is being done to the deep in No. 2 Drummond Colliery. This is for the purpose of determining what is the condition of the places and pillars where coal was formerly extracted.

According to the Coal Trade Journal, Canadian railways are buying coal for the Canadian North West Territory, formerly served from Crow's Nest Pass. A contract for 200,000 tons was closed lately for the Canadian Pacific and was split up as between Pittsburgh and Ohio, No. 8 producers.

There are close on 10,000 members on the roll of the Dominion Coal Co's benefit fund. There are reports on the mainland that no benefits are to be paid new comers or new members for a rather lengthened time of, say, probation. The RECORD has heard of no such drastic change in the constitution.

For the seven months ending July the United States exported to Canada 5,134,007 tons of bituminous coal against 2,767,957 for the corresponding period of 1910, an increase of 1,366,050 tons: These are figures that should arrest attention. The figures, among other things, furnish proof of the great prosperity of Canada.

The importations of American coal into Montreal and ports East during July amounted in all to 230,757 tons. Of this 79,820 was bituminous round and slack, and the remainder, 150,937, anthracite. With the exception of six tons of slack to Nova Scotia, all the soft coal came to Montreal. Nova Scotia imported 13,050 of Anthracite, and Quebec 123,929. It would be interesting to know how much of the latter was dust, dispersing Nova Scotia coal.

Mr S. O. Greening, senior of the B. Greening Wire Co. died ten days ago at Hamilton. He was one of Hamilton's most honorable and warm hearted residents. Deceased who made Hamilton his home for the past 55 years was born in Manchester, England, in 1847. He came to Canada with his father, the late Benjamin Greening in 1856. In 1877 he succeeded, on the death of his father, to the head of the B. Greening Co. and since 1899 until his death was its active president. Deceased was noted for his charities.

The staid old Drummond colliery has again by strict economy been enabled to pay its shareholders five per cent. dividend. Not as much as one might receive for money on a good mortgage, but still better than nothing.

The shipments of the Dominion Coal Co. in August month in the past ten years are as follows in round figures:

| | | | | | |
|------|-------|---------|------|-------|---------|
| 1902 | ..... | 306,000 | 1907 | ..... | 365,000 |
| 1903 | ..... | 225,000 | 1908 | ..... | 353,000 |
| 1904 | ..... | 307,000 | 1909 | ..... | 248,000 |
| 1905 | ..... | 323,000 | 1910 | ..... | 350,000 |
| 1906 | ..... | 343,000 | 1911 | ..... | 415,000 |

If the artificial roof in the Drummond colliery holds out as good throughout the pit as in the places that have been tested, then there is coal enough in the old works to keep the old colliery in life for ten years without much further sinking.

The C. B. politicians are teasing each other over John Johnstone Supt. of the Nova Scotia Steel & Coal Co., and how he will vote, and what he stands of reciprocity and so forth. John Johnstone, plain John as he calls himself, is a first class mining man, that is practical mining man, and John, one of the most modest, and least dogmatic of men, would be the last to say that he knew the least wee bit about the commercial end of the business. He knows how to get coal and leaves to others the disposal of it. Those who dispose of it hold views contrary to that of Mr. Johnstone.

We are gravely told by one 'high up' that fancy pressed hay in Charlottetown sells at \$10.00 per ton, while it sells in New York at \$28.00. Now why do the sellers in Charlottetown let it go at \$10.00. They surely don't mean to say that the American duty keeps them from sending to New York and from realizing more than \$10.00 per ton. Let the duty on hay be placed at \$4.00 per ton, and transportation charges as high as \$10.00, the two added make \$14.00. Why then is'nt the hay sent to New York where it will net, in face of the duty and charges, \$14.00 a ton instead of being sold in Charlottetown at \$10.00.

The foundation for the new brick engine-house for No. 4 slope of the Intercolonial Coal Co'y is under way. The building of an additional engine house and the erection of more plant, means the determination of the company to maintain, if not to increase, its output. Though Nos. 1 and 2 slopes are close to each other, the No. 1 engine big as it is could not, owing to the extremely long haul—8000 odd feet—overtake more work than at present. The new plant will be utilized in drawing coal from 'lost' places, and from places with artificial roof. The roof in the places where the top coal was taken out only three years ago, and 'packing' put in, has so far been found to be as good as roof where the packing has been subjected to fifteen or more years great pressure.

AROUND THE COLLIERIES.

It was stated in a leading Liberal paper the other day that Mr. Fielding had said "and the duty on flour has also been lowered." Well, the Pictou Advocate prints Schedule D of the Agreement which gives the duty as fifty cents per batrel of 196 lbs., or twice what it was when the pact was made in 1879 or thereabout—25 cents per barrel on flour, 75 cents per ton duty on coal. At that time the duty on a ton of coal was three times that on a barrel of flour: At the present time duty on flour is some cents more than that on a ton of coal. No wonder the big millers have nothing to say against the agreement, and no wonder the coal operators are uneasy.

The Sydney Record—highest brand liberal—of Sept. 8th., and E. M. McDonald,—refractory grit— at the River John picnic, say that the coal miners favor the agreement because it makes the coal tariff permanent. Edward said that because of this permanency Managers Cll and Floyd were supporting him. These gentlemen may be supporting him but not on the ground stated for they must know that the arrangement of Messrs. Fielding and Patterson is not a treaty but an agreement, clauses 3 and 4 of which distinctly demonstrate that either side can abrogate it at any time. Permanent; not a bit of it, but subject to the whim of noisy western farmers.

The editor was called up on the phone the other day and asked. "Did you see that piece in the Eastern Chronicle hauling you over the coals for your ideas on reciprocity in coal." The reply was that we had not noticed it, and were sorry. We were advised to get it as it would certainly make us 'bristle' We replied "Oh no, we long ago learned to view with equanimity anything written or said by the courteous—whiles crusty, kindly—oft cranky, garrulous old gentleman of the Eastern Chronicle. It is a habit of his. He has at many times, and in unexpected manners, broken vials of perfume over the heads of the commoner people as well as over those of the more courageous prophets. Let the dear old man have his fling. It cannot be for long now."

The Dominion Coal Co. did it this time. The shipments for August reached 415,000 tons. This is splendid and reflects credit on Messrs. Butler, McDougall, and J. R. McIsaac, without whose hearty cooperation such figures would have been impossible. This is probably the first time that August has made record shipments. In previous years June and July were the months when big shipments were made, as witness the following best month's shipments in the years specified:

| | |
|------------------------|------------------------|
| Sept. 1902.....313,000 | June, 1907.....386,000 |
| July, 1903.....273,000 | July, 1908.....391,000 |
| June, 1904.....346,000 | June, 1909.....393,000 |
| July, 1905.....342,000 | Sept. 1910.....369,000 |
| June, 1906.....362,000 | Aug. 1911.....415,000 |

August beats the best previous month's shipments, June, 1909, by 22,000 tons.

Some papers assume that the eight cents reduction on the duty on coal may tend to a lowering of the rates paid for mining. The RECORD has stated that what effects the employers eventually effects the workmen; we have not stated that the reduced duty will result in reduction in wages. Still the reduction may effect the workmen. It will be an argument against any increase in wages, and workmen these days have increased wages ever in view. It will be much safer and probably easier for the operators to add twenty-five cents a ton to the price now being paid by Nova Scotia consumers. In face of American competition they cannot well advance the price in Montreal; there can be no American competition in Nova Scotia, though consumers may forcibly protest.

One of the Scottish newspaper men who lately visited the Country said that on the 5th. of August the chairman of Gammell, Laird & Co. had stated that his firm had secured a contract from the Canadian government, and that a shipbuilding plant would be erected, St. John being the likely location. In connection with this report the writer was a fellow passenger of a gentleman, from Ottawa crossing the Atlantic the latter part of June. This gentleman without hesitation and in the most decisive manner said, in reply to the writers expressed belief that Sydney would likely have the shipbuilding plant, that neither Halifax or Sydney would be the favored locality but St. John, and he asserted boldly "I know whereof I speak." We'll wait and see. Mr. Fielding asserts positively that no contract has as yet been let.

Continued from page 13.

muttering. "Toot and"—but John as a rule never condescends to slang. The next p. c. will likely show the wagon still on the road and the U. M. W. automobile in the ditch.

The dockers, sailors, and railway men in Britain may have been receiving too low wages, in short, they may have been justified in striking, but they were not justified in their attempts to stop men from working who were willing, and of cutting off food supplies. And least of all were they justified in resorting to, or in countenancing, violence. The leaders of the workmen have, seemingly, lost their heads; prudence is no virtue of theirs. The public, it is said, are getting disgusted with the tactics of the men's leaders. If that be so the men will certainly be the losers in the long run. After this Great Britain will not be in a position to throw stones at methods of French or American strike leaders.

By the way, things are still lively among the warring U. M. W. factions in the Pittsburg district. Feehans opponent offered to resign if he would, and abide the result. To this Feehan would not agree and asserting that he has President Whites assurance that he would stand by him. Each faction has a separate treasury, and the dues are being paid by the

respective adherents into their own treasury. This is warranty that there is more controversy in store.

Whether he does right or does wrong the poor capitalist must bear the brunt of it. Previous to the adoption by the committee, considering the British Mines Act, of the clause referring to baths at pit heads the Durham miners, by an overwhelming majority, decided that their adoption should not be compulsory. The committee finally took that view, and now the rejection of the compulsory clause is laid to the door of the operators.

There's no pleasing of some folks. The complaint of the Springhill people was that the ex. General Manager had far too much dignity; now the complaint is that the functionary who supposedly succeeded him has not quite enough. Possibly he may attain to the happy medium some day and make glad the hearts of the wailing ones.

THE JEFFREY SINGLE ROLL COAL CRUSHER.

The knowledge of the higher efficiency obtained by using stoker coal in a finely divided state has led to a demand for as small sizes as may be consistent with practical firing. The two or three inch lump formerly considered satisfactory has been reduced to one inch and smaller depending upon type of stoker.

Conditions in the coal trade are changing rapidly. The demand for screenings is growing to such an extent that, in many sections it is already greater than for lump or run mine and exceeds the output of the mine screens.

To meet this demand and to dispose of the surplus lump, many operators are finding it necessary and highly profitable to install crushers for reducing lump to the sizes called for. The Jeffrey Single Roll Crusher is capable of giving any product required, from the largest to the smallest size, in a single operation, and by a single process of adjustment.

The Jeffrey Single Roll Crusher will reduce large lumps and run-of-mine coal to stoker size in a single operation.

It will receive coal in any volume direct from a track hopper, grab bucket or mine car without the use of any mechanical device for regulating the feed.

It can be started up under full load and cannot be flooded or choked down.

It is easily adjusted and has large range for size and capacity.

It consumes but little power.

Costs little to install.

Occupies small space in proportion to its capacity.

It is ruggedly built, simple in construction and will work well under adverse conditions.

All joints are machined.

All parts are easily accessible.

It is provided with an efficient safety device which protects against shock and accidents.

The construction of this crusher is very rapid, and it will stand the most severe service. Our designs may almost be called brutal for the care the crushers receive and the use to which they are put call more for brute strength and endurance than for any over refinement of parts, and yet these machines are well proportioned.

The design is extremely simple consisting of a heavy cast iron frame in which are mounted a crushing roll and breaker plate. The breaker plate is hinged at its upper edge and is held in position by a pair of

adjusting rods at the lower edge by means of which the clear opening between the breaker plate shoe and the surface of the roll can be varied to give any product required.

The concave breaker plate acting in conjunction with the roll makes a form of maw with a very small angle of repose; hence the machine will readily grip a very large lump and reduce it to such a size as to pass through the opening between the roll and plate. A countershaft is mounted directly on the machine and drives the roll through such a heavy pair of gears that sufficient torque is obtained to start the roll under all conditions of load. The machine cannot become overloaded or clogged up under any volume of coal. By making all reductions simultaneously, it accomplishes in a single operation results which usually require two operations in two separate machines.

Toothed segments are bolted to the convex surface of the drum so as to completely cover it. The frame and hopper are so arranged that by moving the light steel guard plates access may be had to the bolts and the segments removed and replaced by new ones without disturbing either the roll or the hopper. This will be found very convenient when crusher is installed in connection with a large hopper or complicated chute. The long hooked teeth not only act as feeders but they positively grip the large pieces and break them up to a size to readily enter the maw of the machine.

Narrow gaps in the shoe of the breaker plate enable the long teeth to pass without dragging oversize pieces with them. This arrangement makes it possible to handle large pieces and reduce them to the requisite fineness.

By making the smaller teeth on the segment of the peculiar shape shown, the proper reduction is made with a minimum amount of slack. The toothed segments are usually of a very hard iron, each segment being in a single piece. This forms a very durable and satisfactory roll surface. For exceptionally severe work, the long teeth are made of cast steel and inserted into the body of the segment or the segments are made entirely of manganese steel.

The driving pulley is not keyed to the shaft but is mounted on a separate hub which it drives through a set of wood pins inserted in holes in the arms of the pulley. When undue strain comes on the machine from any cause, these wood pins shear off and the roll stops while the pulley keeps on revolving, thus forming a very efficient safety device. After the cause of the trouble is removed, new wood pins put the machine in operative condition.

A pair of heavy springs are placed on the tension rods. These springs do not move under ordinary working conditions but when an undue pressure comes on the breaker plate, act as cushion giving way slightly, taking up the inertia of the parts and allowing time for the pins to shear without breaking more important elements in the machine.

The frame is of the box type section very stiff and rigid. All joints are machined and all parts made to jig so that repairs can readily be furnished. Bearings are liberal and lined with the best grade of babbit metal. Lubrication is obtained through compression grease cups.

The Jeffrey Single Roll Crusher is especially adapted for electric motor drive. A belt from the motor pulley to the band wheel on the crusher being usually all that is required. When space is very limited the pulleys and belts are replaced by a pair of gears, having the same safety device.

The Jeffrey Company will shortly issue a bulletin giving full details of this excellent machine.

Coal Shipments August, 1911.

DOMINION COAL COMPANY, LTD.
Output and Shipments for August, 1911.

| —Output— | | —Shipments— |
|------------------|-----------|-------------|
| Dominion No. 1 | 52 767 | |
| Dominion No. 2 | 71 404 | |
| Dominion No. 3 | 17 717 | |
| Dominion No. 4 | 38 763 | |
| Dominion No. 5 | 28 666 | |
| Dominion No. 6 | 26 673 | |
| Dominion No. 7 | 18 146 | |
| Dominion No. 8 | 17 451 | 415 294 |
| Dominion No. 9 | 39 487 | |
| Dominion No. 10 | 18 095 | |
| Dominion No. 12 | 27 590 | |
| Dominion No. 14 | 24 404 | |
| Dominion No. 15 | 3 962 | |
| Dominion No. 16 | 1 272 | |
| Dominion No. 21 | 1 530 | |
| 387 927 | | |
| Shipments Aug. | 1911..... | 415 294 |
| Shipments " | 1910..... | 330 033 |
| Increase " | 1911..... | 85 261 |
| Shipments 8 mos. | 1911..... | 2 344 654 |
| " 8 " | 1910..... | 1 948 344 |
| Increase 8 " | 1911..... | 396 310 |

—NOVA SCOTIA STEEL & COAL CO. LTD.—

| | | |
|------------------|-----------|---------|
| Shipments Aug. | 1911..... | 79 010 |
| " " | 1910..... | 100 364 |
| Decrease " | 1911..... | 21 354 |
| Shipments 8 mos. | 1911..... | 419 461 |
| " 8 " | 1910..... | 514 415 |
| Decrease 8 " | 1911..... | 94 954 |

—ACADIA COAL CO.—

| | | |
|------------------|-----------|---------|
| Shipments Aug. | 1911..... | 32 902 |
| " " | 1910..... | 25 360 |
| Increase " | 1911..... | 7 542 |
| Shipments 8 mos. | 1911..... | 253 519 |
| " 8 " | 1910..... | 168 545 |
| Increase 8 " | 1911..... | 84 974 |

—INTERCOLONIAL COAL CO.—

| | | |
|------------------|-----------|---------|
| Shipments Aug. | 1911..... | 20 102 |
| " " | 1910..... | 21 380 |
| Decrease " | 1911..... | 1 278 |
| Shipments 8 mos. | 1911..... | 166 188 |
| " 8 " | 1910..... | 164 038 |
| Increase 8 " | 1911..... | 2 150 |

—INVERNESS RY. & COAL CO.—

| | | |
|------------------|-----------|---------|
| Shipments Aug. | 1911..... | 23 145 |
| " " | 1910..... | 25 597 |
| Decrease " | 1911..... | 2 452 |
| Shipments 8 mos. | 1911..... | 175 267 |
| " 8 " | 1910..... | 171 502 |
| Increase 8 mos. | 1911..... | 3 765 |

(Continued from page 10.)

that for generations the fisheries have given employment to the Newfoundland, and a relatively small class has as yet forsaken this vocation to engage in mining. It is thus difficult to secure the steady service of efficient drillers.

To overcome this difficulty a "drill boss," was appointed whose duty it is to keep constantly on the move from drill to drill, locating the holes to be drilled, the inclinations, etc. The drill "boss" at the end of each day measures the number of feet drilled by each drill crew, which data he enters upon a report form, giving the date, the number of the working face, the name of the driller and helper, number of hours worked, the number of drill used, and the number of holes drilled. By this method of supervision, tolerable efficiency is obtainable from even unskilled labour, and the work of each driller is systematically checked. In the ordinary room face, 15 feet wide by 8 feet high, twelve holes are drilled, the 8 feet steel being employed last. An ordinary driller's day's work (ten hours) represents from 75 feet to 80 feet, while the best machine-man accomplishes from 85 or 90 feet.

Each drill is numbered and when sent for repair is tested by means of a pneumatic tester invented by the Company's Engineer, A. R. Chambers, M. E.

After refitting, it is again tested and the data in respect of the increase in efficiency, as well as the nature of the repairs and their cost are recorded in a Drill Book, which thus contains the complete history of each drill from the time it was put in use.

The sets of drill steel for each drill are also marked with the same number as the drill, and regular notes are made of the steel as it is sent to the surface each day for the sharpening. This enables a record to be kept on the steel used by the respective drillers.

A pneumatic drill sharpener is employed to sharpen the drill-bits, and no difficulty is experienced in supplying bits for fifty machines.

A bonus system has been in practice for some years past; details of which may be of interest:—

From the daily reports made up by the "drill boss" the "muck boss" and the blaster (the duties of the two latter officials will be explained more fully later) which give the number of feet drilled, hours worked, dynamite used and tons broken for each working face, the driller's efficiency is calculated as follows:—

A normal value is placed on the ore, at the rate (say) of \$1.40 per car, and put to the driller's credit. On the debit side of the account is placed the value of the labour, dynamite, and drill-repairs incurred in gaining this ore. The amount remaining to the driller's credit is called his efficiency and if above the minimum bonus efficiency, falls into one of three classes: 1, 2 and 3. Those entitled to be included in the respective classes receive a bonus of twenty, thirty, and forty cents per day of ten hours during which that standard of efficiency was maintained.

The system tends to make the driller more careful; for in order to attain to a high efficiency standard, he must place his holes to good advantage, take care of his drill, and drill a large number of feet per day.

An average output of forty-four tons of ore per drill per day is expected.

The "HARDY PUNCHER" RADIAL



Coal Cutter.

(1911 Model)

Completely eclipses
all imitations.

It has attained a speed of 180 square feet per hour
- 15 feet wide x 6 feet deep in 30 minutes.

THIS MACHINE HAS MINED _____
_____ **AS MANY AS SIX ROOMS IN A SHIFT**

For Mining in Flat or Pitching Veins, taking out
Dirt Bands, etc., it is without a rival.

It is unquestionably the most Durable, Reliable,
Fastest, and Handiest Radial Coal Cutter made.

THE HARDY PATENT PICK CO., LTD.
SHEFFIELD, England.
AGENTS - Thompson & Sutherland.

NORTH SYDNEY.

Reduce Your Costs

It will pay you to investigate and see what is being accomplished by the

Holman Steel Rock Drill.

Let us send you particulars of the records made right here in Canada.

We can show such amazingly low costs for maintenance, while, at the same time, drilling an increased footage.

Ask us about our positive guarantee.



MUSSENS LIMITED.
MONTREAL, QUE.

Sole Canadian Agents.

EXPLOSIVES

OF EVERY
DESCRIPTION.**BEST QUALITY ONLY.**

Dynamite,
Gelignite,
Gelatine Dynamite,
Blasting Gealtine.



Blasting Gunpowder,
Compressed Pellets,

**PERMITTED
EXPLOSIVES**

For use in Caseous mines.
Suitable for all Kinds of Work

Bobbinite, Curtisite, Excellite, Kolax, Rippite, &c., &c.

MANUFACTURED BY

CURTIS'S & HARVEY, Ltd.

HEAD OFFICE: 3 Gracechurch St., London, E. C.

Supplies of all Explosives and
Accessories to be obtained from,
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AUSTEN BROS. Halifax.

Contractors to Admiralty and War Office, also Colonial Governments.

ALLAN, WHYTE & COY

Clyde Patent Wire Rope Works,

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

Codes: Western Union,
A B C (4th & 5th Eds)
A. I. Libers and Private.

Wire Ropes for
Winding & Haulage
in
Collieries and Mines.
Aerial Ropeways, Suspension Bridges, etc. Specially
flexible for Ore & Coal Discharging Cranes, Winches, etc.

The use of SPECIAL GRADES of Wire, drawn to our own specifications and rigorously
TESTED before us keeps our Ropes ahead in QUALITY of any others. We are regularly supply
ing the LARGEST USERS in the Maritime Provinces, to any of whom we willingly refer enquirers.

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

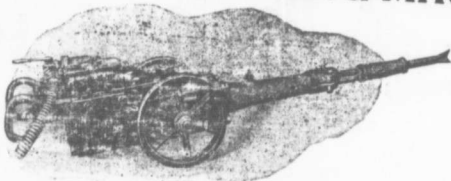
Agents in New Brunswick:—W. H. Thorne & Co., Ltd., Saint John.

—Different Sizes and Qualities kept in Stock—

THE H. A. COAL MINING MACHINE.

Built in several sizes to meet various requirements.

Almost entire absence of repairs.



Simple, Durable, and Effective. Will run with less Air than any other machine. Will run successfully with high or low pressure.

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BELLEVILLE ILL., U. S. A

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PATRONIZE HOME INDUSTRY

The DOMINION WIRE ROPE CO., Ltd., Montreal

INVERNESS IMPERIAL COAL

INVERNESS RAILWAY and COAL COY.
Inverness, Cape Breton.

Miners and Shippers of INVERNESS (BROAD COVE)

Screened, Run-of-Mine Slack.

—First Class both for Domestic and Steam Purposes.—

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

Apply to Inverness Railway and Coal Company, Inverness, Cape Breton; J. McGILLIVRAY, Superintendent.

INVERNESS RY. & COAL CO'Y

Time Table No. 28, Taking effect at 1 a. m. OCT 17TH., 1909.

| WESTBOUND | | | STATIONS. | | EASTBOUND | |
|---------------|-------|--|--------------------|--|---------------|-------|
| Superior Dir. | | | | | Inferior Dir. | |
| 55 | 51 | | | | 54 | 52 |
| P. M. | A. M. | | | | P. M. | A. M. |
| 2 20 | 10 40 | | P. TUPPER JUNCTION | | 3 45 | 11 00 |
| 8 25 | 15 37 | | INVERNESS JUNCT. | | 3 50 | 11 05 |
| 9 17 | 16 29 | | PORT HAWKESBURY | | 3 55 | 11 11 |
| 9 50 | 16 15 | | | | 4 00 | 11 20 |
| | 16 07 | | PORT HASTINGS | | 4 13 | 11 30 |
| | 9 57 | | TROY | | | A. M. |
| | 9 44 | | CHERISH | | 4 25 | |
| | 9 37 | | CRAIGMORE | | 4 28 | |
| | 9 08 | | JUDIQUE | | 4 50 | |
| | 8 55 | | CATHERINES POND | | 5 05 | |
| | 8 41 | | | | 5 18 | |
| | 8 35 | | PORT HOOD | | 5 32 | |
| | 8 23 | | GLENCOE | | 5 38 | |
| | 7 50 | | MADOC | | 5 53 | |
| | 7 40 | | GLENVILLE | | 6 10 | |
| | 7 25 | | BLACK RIVER | | 6 28 | |
| | 7 12 | | STRATHLOUNE | | 6 48 | |
| | 6 55 | | INVERNESS | | 7 00 | |
| | A. M. | | | | 7 15 | |
| | | | | | P. M. | |

CAPELL VENTILATING FANS.

Capell Fans have shewn themselves to be more efficient than those of any other make.

Built under special arrangement with, and from the designs of the Inventor by

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NEW GLASGOW,

NOVA SCOTIA.

Makers of Complete Equipments for COAL and GOLD Mines.

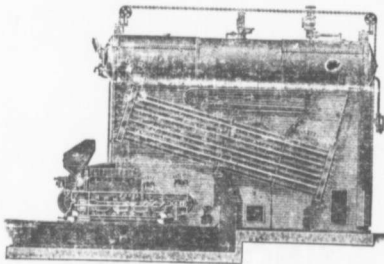
CANADA FOUNDRY COMPANY, LIMITED
HEAD OFFICE AND WORKS: TORONTO

DAVENPORT WORKS, CANADA FOUNDRY COMPANY, LIMITED

Largest General Engineering Works in the Dominion of Canada

BABCOCK & WILCOX, Limited.

"B. & W." PATENT WATER TUBE BOILERS.



"B & W" PATENT WATER TUBE BOILER.
HEATER AND IMPROVED MECHANICAL STOKER.

Over 8,000,000 h. p. in use.

Also, Steam Superheaters,
Mechanical Stokers, Piping,
Coal Handling Machinery
and Electric Cranes.

Text Book "STEAM" sent on request.

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Rule and Print Special Blank Forms for Mining and other Industrial Corporations. BLANK BOOKS ruled to pattern and in de in any Style of BINDING.

Loose leaf supplies of all kinds made to order.

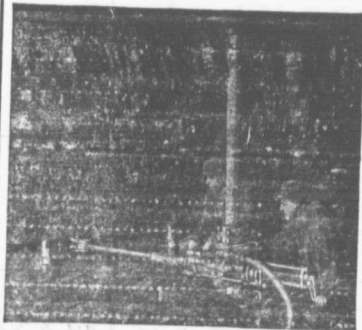
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JERSEY - LILY - FLOUR.

Best all round flour on the market
Uniform in quality

can be depended upon. This flour is
sold by all the leading flour dealers of the States
and is the standard for all first class



The RAND New Radial Coal Cutter

The Rand No. 37 Coal Cutter is a Thoroughly up-to-date machine, built entirely of Steel.

The weight of this machine has been reduced far below anything on the market, and the cutting capacity wonderfully increased.

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THE BOILER INSPECTION & INSURANCE CO. OF CANADA.

(COMMENCED BUSINESS 1875.)

Head Office: Continental Life Building, Toronto.

Issues Policies of Insurance after a careful inspection of the Boilers, Covering

ALL LOSS OR DAMAGE TO PROPERTY

and Loss resulting from

LOSS OF LIFE AND INJURY TO PERSON,

caused by **STEAM BOILER EXPLOSIONS.**

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H. N. ROBERTS, Vice-President.

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R. W. W. FRINK, St. John, N. B.

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for Air Drills Pneumatic
Tools, Steam, Suction, etc.

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For highest pressures with Steam, Hot or Cold Water and Air.
The most durable and satisfactory Packing on the Market.

RUBBER BELTING

For Transmitting, Conveying and Elevating
Unequaled for Durability and Power Transmitting Qualities.

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CABLES:—"EDGE" Shifnal
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Bedford McNeill's

SHIFNAL, (England),

Have always in Stock every size of their standard

TREBLE BEST SPECIAL CRANE CHAINS

Manufactured in our own Workshops under Strictest Supervision and every Link carefully Tested.

We welcome your inspection.

Mine Car Drawbars and Hitchings a SPECIALTY.

MARITIME COAL, RAILWAY, & POWER CO.

Miners and shippers of

CHIGNECTO High Grade

—AND—

JOGGINS.

STEAM

AND

Domestic

COAL.

Unexcelled for General Use.

Shipments by Intercolonial Railway and Bay of Fundy.

Colliers:—CHIGNECTO and JOGGINS.

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—Manufacturers of—

GARLOCK PACKINGS

"Be sure you get the Genuine."

Everything in PACKINGS,
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MINING SHOVELS

our 'FENERTY' Brand

COOK'S PAN SHOVELS,

COAL TRIMMERS SHOVELS,

SCRAPER SHOVELS, ETC.

—ARE USED BY—

The Largest Mines in Canada

MANUFACTURED BY

The HALIFAX SHOVEL Co.

HALIFAX, N. S.

ALL GOODS GUARANTEED

DRUMMOND

COAL

High Grade Fuel
for Steam Domestic and General
Purposes.

COKE

From Coal Washed by Latest Process
Growing more popular daily—and considered to
give as good results for Foundry purposes
as the United States Article.

FIRE CLAY

of Fine
Quality.

FIRE BRICK

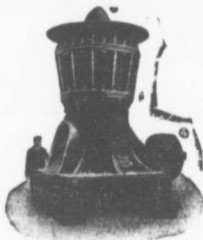
Better than
Scotch seconds for
Ladle lining etc.

SHIPMENTS BY RAIL OR WATER.

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HADFIELD'S STEEL Foundry Co. Limited. SHEFFIELD



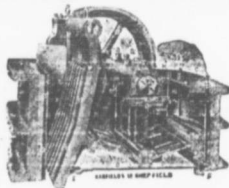
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CAST STEEL
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WHEELS & AXLES

WE MANUFACTURE
CRUSHING ROLLS
ELEVATORS,
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HADFIELD'S PATENT

JAW CRUSHER

(Solid Steel Construction)

The Parts which are subject to Excessive Wear are made of

Hadfield's Patent 'Era' Manganese Steel.

Sole Representatives of the Hadfield Steel Foundry Company, Limited Sheffield, for Canada.

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Amatite ROOFING

For Mine Buildings.



AMATITE is exactly suited to mining buildings because:

1. It can be laid by unskilled labor.
2. It has a real mineral surface which requires no painting.
3. Its cost is lower than that of other roofings of less weight.
4. It comes in rolls ready to be unrolled on the roof and nailed down.
5. The necessary nails and cement are supplied free, packed handily in the centre of each roll.

The mineral surface of Amatite is somewhat of a novelty; and the fact that it obviates the old painting nuisance, is giving to this roofing the leadership of the ready roofing industry.

The surface consists of mineral particles embedded under great pressure into a tough plastic matrix of pitch.

A sample of Amatite will be sent free on request.

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Limited.

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HORRIBLE!

That is What One Farmer's Good Wife Exclaimed

When she first used a cream separator and saw all the dirt from Milk.

What do You Say? We Say Use

HOMOGENIZED FRESH MILK AND CREAM

Absolutely Clean and Free from Microbes.

Protect Your Family.

HOMOGENIZED MILK

keeps pure and fresh for weeks and months.

For Sale at Leading Grocers.

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RAILWAY AND

COAL COMPANY.

OPERATING THREE
THICK SEAMS
NOS 1, 2 AND 3.

—Miners and Shippers of the Well Known—

FRESH MINED SPRINGHILL COAL

... ANALYSIS ...

| | NO 1 | NO 2 | NO 3 |
|-----------------------------|---------|---------|---------|
| Moisture..... | 2.02 % | 1.41 % | 2.71 % |
| Volatile combustible matter | 18.94 % | 27.93 % | 28.41 % |
| Fixed Carbon..... | 75.29 % | 67.47 % | 64.69 % |
| Ash..... | 3.75 % | 3.19 % | 4.19 % |
| | 100.00 | 100.00 | 100.00 |
| Sulphur..... | 1.15 % | .58 % | .79 % |

BEST COAL FOR
LOCOMOTIVE USE.

Delivered By Rail or Water

BEST COAL FOR
GENERAL STEAM PURPOSES.

The year Round

BEST COAL FOR
DOMESTIC CONSUMPTION.

IN Lots To Suit Purchasers.

BEST GAS COAL

Mines

SPRINGHILL

Mined in the Province.

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MANUFACTURERS OF



MERCHANT BARS,

SHEETS AND PLATES—From 12 gauge up to 1 inch thick. Any Widths
up to 50 inches!

HEAVY FORGINGS,

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An Unsurpassed Evaporating Coal.

Highest in Carbon, Lowest in Ash,

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The Best House Coal.

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QUICK DISPATCH LOADING—BEST RESULTS STEAMING!
Two points that always appeal to Shipowners.

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