

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

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 New Series Vol. 9 No. 9 November 14th. 1906 STELLARTON, N. S.

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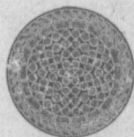
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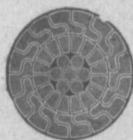
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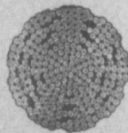
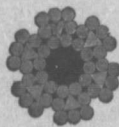
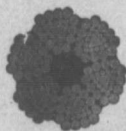
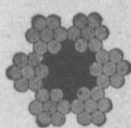
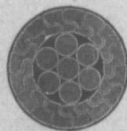
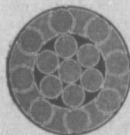
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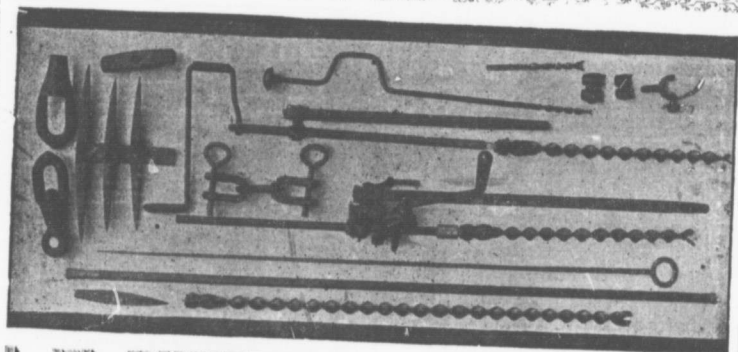
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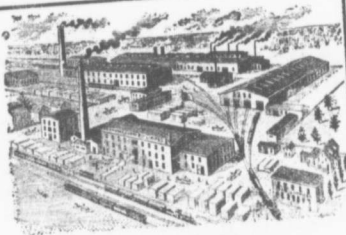
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|-------------------------------------|-------|-------|
| No 144 Mixed for Hopewell | | 6.55 |
| No 79 Mixed for Trenton | | 6.55 |
| 78 Mixed for Hopewell | | 7.30 |
| 18 Express for Halifax and St. John | ..... | 7.40 |
| 21 Mixed for Pictou Landing | ..... | 7.45 |
| 42 Mixed for Mulgrave | ..... | 8.30 |
| 19 Express for Sydney | ..... | 11.10 |
| 25 Mixed for Pictou | ..... | 11.15 |
| 26 Mixed for Truro | ..... | 12.35 |
| 8 Express for Sydney | ..... | 14.45 |
| 9 Express for Halifax and Montreal | ..... | 15.50 |
| 10 Express for Pictou Landing | ..... | 16.50 |
| 140 Mixed for Pictou | ..... | 18.10 |
| 141 Mixed for Hopewell | ..... | 18.40 |
| 65 Mixed for New Glasgow | ..... | 18.40 |
| 80 Express for Halifax and St. John | ..... | 21.15 |
| 17 Express for New Glasgow | ..... | 21.15 |
| 66 Express for Pictou | ..... | 21.15 |

| —TRAINS ARRIVE AT STELLARTON | | |
|--|-------|-------|
| 79 Mixed from Hopewell | ..... | 6.30 |
| 78 Mixed from Trenton | ..... | 6.55 |
| 41 Express from Pictou | ..... | 7.30 |
| 18 Express from New Glasgow | ..... | 7.35 |
| 21 Mixed from Hopewell | ..... | 7.55 |
| 42 Mixed from Truro | ..... | 8.00 |
| 19 Express from New Glasgow | ..... | 10.55 |
| 25 Mixed from Pictou | ..... | 10.55 |
| 26 Mixed from Mulgrave | ..... | 12.35 |
| 80 Express from Halifax and St. John | ..... | 15.25 |
| 19 Express from Pictou | ..... | 17.00 |
| 140 Mixed from Halifax, St. John, Quebec | ..... | 18.10 |
| 141 Express from Sydney | ..... | 18.10 |
| 21 Mixed from Pictou Landing | ..... | 18.45 |
| 77 Mixed from Hopewell | ..... | 19.20 |
| 65 Express from Pictou | ..... | 19.55 |
| 80 Express from Sydney | ..... | 21.05 |
| 66 Express from New Glasgow | | 21.40 |
| 17 Express from St. John and Halifax | | 21.40 |

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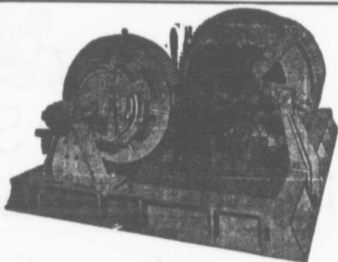
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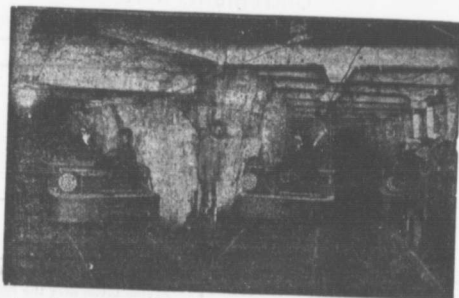
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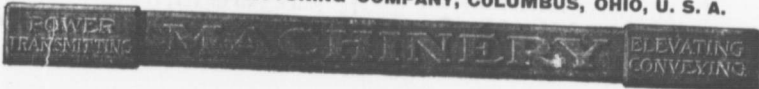
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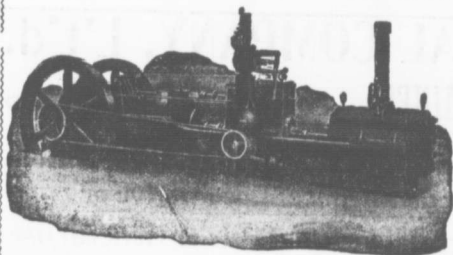


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To His....

MARITIME MINING RECORD

Vol. 8, No. 9. Stellarton, N. S., November 14th, 1906 New Series

CONTEMPLATED IMPROVEMENTS AT MABOU.

The Mabou Mines shut down on the first November for the season. The chief reason for suspending operations for a time was the unsound condition of the hoisting engine. The engine had been put to so severe strain the past season owing to the crookedness of the slope that it got out of order, and the management deemed it prudent to take no risk. A portion of the slope in its course assumes in form something the shape of a triangle. This came about through following the course of the coal, which was not regular, when the slope was being driven. On previous occasions a certain amount of straightening was done, and the time has arrived when it will require to be made quite straight if a big output is to come from the mine. The mine is so far developed now that the engine cannot haul all the coal, therefore changes must be effected, and the present is considered a suitable time to make needed improvements. The intention is to straighten the slope from the foot of the high angle coal down to about the first level. The two bad curves will thereby be cut out. An engine will likely be put in a considerable distance down the slope, which will gather the coal to that point from which it will be drawn by an engine stationed on the surface. By having two pulls instead of one long one it is hoped to haul all the coal the pit will be able to produce for the next two or three years. At any rate the two engines will be good for more than double the number of rakes now possible to hoist in a given time. It is proposed to install another compressor so as to procure a sufficient supply of air for additional mining machines. A new fan also may be necessary in view of the developments underground. An additional boiler or two will be necessary in this event. The rolling stock is not up to requirements in the way of coal cars, so some more of these will be ordered. A fine new locomotive has already been procured which is strong enough for any work that may be required. The plan for future operations includes the erection of a number more of workmens houses. All development work underground possible during the winter will be pushed, so that when next year's shipping season opens the mine will be in a position to send out 500 tons per day. The management would not set its heart on these extensive developments were it not convinced that the areas of the company contained lots of coal of a quality to command sales, and further that there is a ready market for all that can be produced. Mabou Mines up till lately were handicapped in the way of transportation facilit-

ies. There is no outlet by rail, and there was not sufficient depth of water in the harbor to permit of the employment of big cargo class of coal carriers. The latter difficulty is being overcome. The member for the county, Dr. McLennan, has been successful in procuring the services of a dredge the past two seasons whereby the channel has been deepened. The work in this line, and in the extension of the breakwater has enabled the company to make a creditable showing the past summer. By and bye at comparatively small expense Mabou should become one of the best and safest shipping ports on the coast. The company has been encouraged by the result of the short summers work, conducted under great difficulties. When Mr. Deppe, the present Gen'l. Manager took hold it was decided to abandon all the old work left him as a legacy. The expensive trestle across the creek had to be abandoned and a new shipping pier provided. The work done in a portion of the pit was abandoned so that the best coal could be sent to market. The railroad from the mine to the pier has been put in good condition; the boilers were rebuilt it may be said; a new smoke stack was set up; a lot of pit cars were constructed and a few additional miners houses erected. Indeed it may be said that the property is now in first rate condition to be operated on a larger scale. Development work in the mine is at this time sufficiently advanced to permit of a 250 ton per day output. For a new beginner the management has done exceedingly well. The troubles incident to new coal mining operations. They are as a rule many and grievous. The coal shipments the past summer were approximately 16,000 tons. Instead of sixteen thousand the Record looks for sixty thousand for Mabou for next year. Those who have followed operations during the past year or so are of the opinion that Mabou with intelligent and progressive management can be made a property of which any Board of Directors may well feel proud.

THE SCOTIA PLANT AT TRENTON.

Some of the folk interested in stocks in Montreal are evidently of the opinion that the coals department of the Nova Scotia Steel & Coal Co. is the strong and the money making end of the concern. Indeed the writer heard it stated with some emphasis, in Montreal, that the reason for Nova Scotia Steel & Coal stock being so low was due to the coupling of the words coal and steel and that had the latter word been omitted Scotia common

would be nearer a hundred than seventy. It is possible that those who measure probable future dividends by the increase in the shipments of coal are losing sight of what is really a more important factor in making dividends. There is profit in coal, no doubt, but the coal end after all, at the present time plays second fiddle to the steel end. This conclusion has been come to, or rather this opinion has been confirmed, by a late visit to the company's works at Trenton.

At the beginning of 1905 or about the time when the open hearths, save one, were removed from Trenton to Sydney Mines, there were forbodings, and gloomy expressions of opinion to the effect that the works at Trenton would soon as a whole find their way thither. The Record on the contrary maintained that Trenton would continue to flourish and employ in the future more men than in the past. And time has borne out the correctness of the statement. If there has been a remarkable increase in outputs of coal, and a satisfactory output of pigs and billets at Sydney Mines, the outputs of the finished products at Trenton have been phenomenal. If the big steel plant at Sydney has doubled its output of late, a similar thing, with emphasis may be said of Trenton. Instead of being a heap of scrap as some predicted, the works at Trenton are humming with activity, more, much more steel is being produced than ever and in greater variety of finished product, and consequently, a much larger amount is being paid in wages monthly. Improvements are continually being effected which tend to efficiency, and of a kind that are not charged up to capital. A run through the plant a few days ago enables us to present a few facts as to the scope of operations.

The fish plate, or angle iron department is one of the strong features of the plant. For this class of goods there is a big and constantly growing demand. On the night shift previous to our visit a record was made, when seventy tons of finished plates were turned out, and turned out ready for shipment, cut to proper size, with holes punched in proper place. Before the goods are shipped a sample plate has to be fitted on to a rail, so that the inspector for the purchasers may see that they answer fully the specification. The output from this department averages 130 tons in the 24 hours. The plates are cut, punched, and straightened direct from heating mill, and therefore do not require as used to be the case to be reheated.

A hot bed and table was recently put in which enables the company to more than double the output of the mill—when bars of all kinds are wanted. The table has sufficient space to hold the output for ten hours. By the time the night shift begins the bars have sufficiently cooled to permit of their being handled and cut up, and this process goes on.

The capacity of the bar mill is 120 tons in 24 hours. The bars chiefly made are known as merchant bars, and railway car material. The sizes vary from 4 x 1½ down. The table takes the product of the largest of the two finishing mills, the combined product of the two being about 4,050 tons per month. The table has attachments for storing the bars in place, and being moveable conveys bars to the cutter.

The product of the forge is about 550 tons per month. Besides heavy forgings no fewer than

1300 axles were turned out the latter half of Oct.

A late addition to the plant is a couple of most ingenious spike making machines, capable each of turning out five tons in the single shift or twenty tons for both in the 24 hours. The bars come red hot direct from the heating furnace which is situated a few feet in front of the machine where the feeder stands. The red hot bar is drawn into the machine, a piece cut of proper length, the cut off is held in place by some device until it is butted and in the process receives its head. It is so cut that one end is made sharp for driving. The spikes when cut are carried in a red stream on a conveyor to a height of say eight feet when they are dumped on the floor. The days work makes a little pyramid. Each spike before being put in a box for shipment is examined, as only perfect spikes are sent to market. The spikes produced by these machines are much superior to the old class of railway spikes.

Many new devices are continually being introduced for the double purpose of reducing labor, and increasing output, and thereby decreasing cost. And for the further purpose of supplying demand for goods not previously produced. The plant as a whole is in excellent shape, doing more and better work than ever. At the present time there are some eight hundred men employed, and the amount paid out monthly in wages is \$40,000 This gives the high average of \$50.00 per man.

Evidently the watchword of the management is progress. At the beginning of 1905 2000 tons was considered good production for a month. Now, from practically the same plant the product has reached 4,000 tons, in other words has doubled within the past two years. We are referring to the product of the mills alone. Much of the credit for the greatly increased production, and for the great lessening of costs, making a dividend possible, is due to the intelligence, energy and progressiveness of Mr. John Fellows, the superintendent. He is a good general, evidenced by the fact that the best of harmony prevails between the workers and the management. As known, there was scarcity of labor in some branches of industry during the past summer, yet the Trenton works never suffered in this respect.

When one considers that this large steel plant—was evolved from a forge employing two or three men, he need not be surprised to find that the buildings are not so well situated for the work required of them or so compact as desirable. The machines are scattered in different buildings instead of being under one large roof. It is possible that in a year or two the works will be extensively remodelled, lines of railways laid through the works and more convenient sidings laid. This may be rendered necessary by the rapidly growing business, and is made possible by the large and increasing earnings. Mr Fellows has splendid lieutenants in Mr. Keny and Mr. Stairs.

As this visit was to the works and not to the general office, mention is not made of how much the company owes to Mr. Thos. Cantley, the managing director, or to Mr. Harvey Graham, whose department is coal primarily, or to Arch. McColl, Sedgwick, Lighthow, Ritchie, or Green, all efficient members of the staff, and each a master in his particular department.

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.

STELLARTON, N. S.

November 14 1906

- Rubs by Rambler.

Of the dozen or more letters which have appeared in the Halifax Herald, in the prize library competition, on the subjects: 'What are the most pressing needs of labor in Nova Scotia to-day' and 'How best to secure these', there are only three that take my fancy as being in the race. The majority deal in glittering generalities. One of the letters that I like is written not by a laborer, and for this confession I may be deemed as one without the root of the matter in me. In these three letters some good advice is given labor, which it will be better to follow. Were I a competitor for the Herald's prize I could answer the first question in seven words instead of seven hundred. For instance my reply might be "To know that it is indeed." Indeed I could put it even in fewer words and make the reply "To know it is needful" 'Imp' some one may say 'that is no answer.' Well, from my own view point I may confess it is not, but from the standpoint of the sorrowing socialist it fills the bill. You see, its this way. The socialists,—there are a lot of new fledged ones in our midst, fellows who, so far, have made failures of life—are most solicitous to impress labor with the belief that it is very badly used. The employers, labor is told, get all the cream, while it, poor ill used thing, only gets the skim milk,—swine's diet. Labor is told that it is tyrannized over; that it has no freedom of thought, or tongue or trade; and, would you believe it, does not see, indeed does not believe that it is in so terrible a plight. Can you wonder, that our friends of the red neck tie, are sore grieved and that for very sympathy and on their behalf, I say the greatest need of labor is to discover that it is needy. If labor cannot be brought to see that it is being ground under the iron heel of capital,—I think that is the way to say it,—how can there be hope that labor will become a tyrannicide. No hope; and therefore the first and great duty of the socialist is to keep pegging away until he has aroused somnolent labor to the belief that its surroundings all are servile, its condition cringing. I fancy it will take some hammering to drive it into the present day worker at the mines that he is bereft of independence. Things, he knows, are to-day not what they were a certain number of

years ago. In those days the Centurion said to his servant 'go', and the fellow was off like a flash, or 'come' and he was here with a bound, and without waiting to button his waistcoat. It is all the other way to-day. The servant,—I mean the employee—says to the Centurion,—or the 'wee cork', having the privilege of looking at the work done by fifty, or the superintendent with a like privilege where there are five hundred—'I goes' and he is off before you can say Jack Robeson, or 'I comes' and forthwith marches to his place, voiceless, the only recognition accorded the superintendent being the reputed free masons sign, plus an outward and sideways motion of that unruly members, his tongue.

I have long held the opinion that lawyers are poor fists at drawing up intelligible or understandable contracts, more especially when the matter treated of refers to lands, including coal lands. By the way, that reminds me that a thought to be capable lawyer was the innocent means,—though his ignorance, was reprehensible—of helping to have me mulcted to the tune of a few hundred dollars. If his knowledge of law did not extend beyond that of coal, then he must be debited with the loss of the suit. Long ago I was held responsible for the assertion that there had been loss of coal through the unskilful or negligent manner in which some pillars had been removed. What do you think the legal advisor said in his plea. He said the manager was guilty of having removed the pillars and of having failed to replace them. The manager who could remove a pillar of coal and afterwards restore it to its original place in the mine, would fill all Alex. McNeil's requirements for a modern mine manager, even if he had never attended a technical school or acquainted himself with German methods. The contract between the Steel and Coal Co. was without doubt drawn up by one or more lawyers. Several no doubt had a finger in the pie. Well they made a pretty mess of it. I am not impugning their legal knowledge, while I assert their acquaintance with coal mines and mining was of the most rudimentary kind. The Sydney Record gives the following as clause 3 of the agreement:—

"All coal furnished shall be freshly mined, and of the grade known as 'run-o-mine', reasonably free from stone and shale, and shall be supplied from such seams then being worked by the coal company, as the steel company may designate."

The word 'seams' plays the mischief with the intention of the drafters of the clause acting for the steel co. Presumably the steel co. designated the Phalen seam as the one from which coal was to be supplied them. 'Well,' the coal co. may retort, 'we are giving you coal from the Phalen seam.' 'Ah but,' says the steel co., 'we don't want it from 6 pit, we want it from No. 5, or 1, or 2.' The coal company then retorts, 'the agreement says you are to designate the seam, but is wholly silent as to the pit or mine. We are giving you coal from the Phalen seam.' And so they are, but possibly from a part of the seam that contains the largest proportion of sulphur and ash. In Nova Scotia there may be two shafts or pits, on the same seam, and ten chances to one the coal in the one is not of the same quality as the other. Indeed, the principal seams have a bad side and a good side. No, that is injudiciously expressed. Well they have a good side and a better side. The framers of the agreement evidently overlooked the fact that from the same seam may be produced good coal and better coal. It may still hold good, as hinted long

ago, that a fountain cannot at the same time produce water sweet and bitter, but it is true that from the same seam may be produced bad and good coal—there I go again—I should say, positive, comparative and superlative coal.

The Herald of Saturday last contains a long, wild, and consequently incoherent article dealing with the trouble between the big Steel and big Coal Co. The article is of the most alarming kind, a combination of red and yellow journalism. From beginning to end there is apparent trifling with truth. Let me notice a few of the sensational assertions, Says the Herald:—"We feel that a crushing blow is being aimed at our industries." This sentence means one thing only, and that, the Dominion Coal Co., in cold blood, is trying to put the Steel company out of existence. The writer of such incendiary talk can only be acquitted on the ground of insanity. Further says the Herald:—"Everybody deploras that the large minded and progressive policy inaugurated by Henry M. Whitney has been succeeded by measures that savors of the tricks of sharpers and jews." And yet that same progressive policy, credited to Mr. Whitney, is in great part responsible for a condition of affairs which the Herald during the past eighteen months, if not in its editorial columns, in its headlines, and through correspondents, has not ceased to declare as outrageous and villainous. Never a word has the Record uttered against Mr. Whitney as a man, but that does not prevent us now from questioning his judgement in all cases. If the Dominion Coal Co. charges, as alleged, a higher price to local coal consumers than they think they ought to pay, to what is the extra cost chargeable? To the progressive policy of Mr. H. M. Whitney which the Herald now lauds. It was Mr. Whitney who bargained for a supply of coal to the Steel Coy. at a rate which leaves the Coal Co.'y a heavy loser. The directors of the Steel Company may say, the public may say, and a few who call themselves experts and should therefore know better, may say that the Coal Co. ought to be able to sell coal at \$1.24, and make profit. The Record is prepared to say, and those best informed on the subject will stand by the statement, that the Coal Coy. can't supply the Steel Coy. at \$1.24 and make profit. And further, if with the highest price yet obtained the Coal Coy. are losing a hundred or two hundred thousand dollars this year on the Everett contract: Who is responsible? Again the answer must be, the one who the Herald lauds. The Herald ought to have known these things all along and yet it has been expressing wonder at the price of coal to local consumers. The Herald further says:—

"The coal coy. is generally regarded as best, only an annex to stock jobbing business in that city (Montreal) and it cannot be said to be operated in the interests of the people of Nova Scotia or even as a square commercial proposition, but to meet the vicissitudes of the stock exchange."

I will not say that in former years, the Company's operations were not influenced by stock jobbers, but there has been none of that since Mr. Ross took an active, rather than secondary, part in the management of affairs of the company. That the Dominion Coal Coy. plays no important part on the Montreal stock exchange is evident from the fact that of the 150,000 shares of common, less than 30,000 were traded in during the whole of last year. Allowing for turn overs, or speculators, the number of shares actually brought out may not have been 10,000. No one will venture to say that the Nova Scotia Steel and Coal Co. is conducted with an eye to the stock market, and yet fifty per cent

more of the common stock of that company was traded in than of coal stock. The Herald says that the company has floated \$13,000,000 of common stock. True, but it was all floated in the "progressive policy" days.

The Herald alleges that the I. C. R. pays her \$3.25 for its coal, while the C. P. R. and the G. T. R. get it for \$2.75 at Montreal. The Herald is in ignorance of the facts. The I. C. R. does not pay \$3.25 for its coal. The Herald displays utter ignorance of conditions at our mines when it says "The miner gets no more for mining coal when the price is \$3.00 or \$4.00 a ton than when it is \$1.24 per ton." This is malignant, inexcusable ignorance. When the price of coal was increased in 1923 and the miners became aware of it, they very soon demanded and received an increase in rates for cutting. If the price of coal reverted to the price at which it sold in 1900, then the miners' wages would likewise have to revert to the wages of these days—and the miners would not like that. The Herald says the extra cost of coal since 1923 is due to stupid, blundering, unskillful management. There have been, let it be admitted, mistakes in the past; yet it be further admitted that experience has been costly; yet it cannot be said that the management at the present time is either blundering or unskillful. The Company has as an intelligent class of superintendents of collieries as in any part of the world. Of the whole staff with Gen'l. Manager Duggan as chief, it may be said that they are as cautious and capable as can be met with anywhere.

It must not be understood I am taking any side at this juncture—in the grievous quarrel of the companies. As I have not fathomed the intricacies of the situation, I am merely trying to offset certain ill timed remarks and mistatements.

After being "led to exclaim with one great thinker: "

"Honor and tame from no conditions rise

Act well your part for there the honor lies,"

a writer for the Herald prize library goes on to say:—

"I have sat at the feet of reason, and I have listened to its flowery tongued orators. They have led me out into galaxies of space. (I could imagine you had taken a milky mixture.) They have shod my feet in the murmurings of the wind. (I should fancy your understandings were unstable.) They have opened the trepannings of the ear, (The beasts.) and when the time (what time) has ceased I have felt a lonesome feeling (poor soul) and I have thought how glorious." (lucky dog.)

Leaving out what is in parenthesis the above contains sufficient gas to blow up the Joggins mines. If instead of having sat at the feet of reason he had sat for a few minutes at the feet of Poole he might not have given us a garbled quotation from that writer.

The Canadian Copper Company, of Copper Cliff has bought from Allis-Chalmers-Bullock, Limited, Montreal, a pumping plant consisting of an 8 inch single stage turbine pump driven by a 70 h. p. induction motor.

The Calumet Mining & Milling Co., Calumet, Que., has increased its plant by a 12½ by 18 "Ingersoll" Air Compressor, driven by a 50 h. p. induction motor, both bought from Allis-Chalmers-Bullock, Limited, Montreal.

A heap of brass coil snoudering at Caledonia has been removed, to prevent further conflagrations at C. B. Collieries

AROUND THE COLLIERIES.

The Reserve is booming again. McVey is not by any means a slow coach.

Another lift is being driven in Dom. No. 6 and the coal is looking fine.

During the coming winter it is proposed to draw some pillars above the water line in the Inverness mine.

If there is a scarcity of labor at some of the C. B. collieries the Hub is not so affected, as there is sufficient labor available of all kinds.

The coal in the deeps in the Hub is looking well, and though the mine is submarine there is no roof water found below the second level.

James Ross on his present visit to the collieries let the smaller matters and the smaller duffers severely alone. He had bigger things to attend to.

The tank system of handling coal is not what it was cracked up to be. Cages and boxes are as yet the only reliable way of bringing coal to the surface.

The long wall at the Reserve—Emery,—is an assured success. The face can now be safely kept. Mr. Boch has some reason to be proud of his long wall men.

With the last pay sheets at Sydney Mines circulars were issued asking the men to work steadily during November in view of the early closing of navigation.

Little is heard these days of the Logans Glen iron ore deposits. Were the explorers a little too sanguine at the start. Has the vein thinned and not thickened.

The average output of the Hub or Dom. No. 7 is 600 tons per day. The highest days output this season was 850 tons. The pit has been on single shift since the 16th. July.

There is some talk of again opening the East slope at No. 6. The coal of No. 6 is going to the market in such good shape that the management are encouraged to give the East slope another trial.

The Cape Breton papers now set down O'Dell as among the coal seam discoverers. O'Dell may take out an injunction restraining persons from calling his discovery an extension only of the Mullins seam.

A new pump house is being erected at the shore line for the Hub, the size 31 x 15 x 13 feet. The walls will be of brick with steel girders. In this house there will likely be installed a new three throw Hawthorn—Davy pump, capacity 500 gallons. A new Centrifugal, 600 gallon pump will be installed below No. 1 level. Both of these pumps will be driven by electricity.

The Ottawa Citizen suggests that the members of the Geological staff are the most devoted and intelligent group of men in the civil service of Canada. The Record applauds.

November will witness the start in sinking for twomore lifts in the Inverness mine. This will mean an addition of some 1400 feet to the length of the slope. It is proposed to work the new lifts on the long-wall system which at the present time is in much favor.

Endless haulage is to be introduced in the main deeps at the Hub during the coming winter. In preparation for its introduction the deeps are being widened, straightened and cleaned, and after this work is done, double tracked. This new haulage will be operated by electricity.

It is expected to get a thousand tons per day from the Hub next season. This will be a big output from a submarine mine, where more coal is left in pillars than taken out. When the cover is 300 feet the pillars require to be 75 x 30, and larger as the cover increases,—up to a certain point of course.

The No. 1 North and South levels of the Hub are driven into 180 ft. cover line. There are now only 4 rooms working in the South level; there is probably 6 months work yet in the No. 1, North. The No. 2 North and South sections of the mine are being rapidly opened out. The bulk of next years output will be from these sections.

From the Sullivan Machinery Co., Chicago, &c. has been received their Plug Drill Bulletin. The drill of which the bulletin gives a description has been in service for the past ten months and is giving excellent satisfaction. These drills are well adapted for quarry work and for contract service, and can be run either by compressed air or by steam.—Descriptive bulletin on application.

The No. 3 North and South levels have been broken off in the Hub. The distance of these levels from the shore line is 3,790 ft. The main deeps is 4011 feet from shore line and the cover is 380 feet at face of deeps. The gain in cover with distance is not great but gradual. The main deeps are double shifted as are also the No. 2 and 3 North and South levels. It is hoped to have these levels and the deeps driven to No. 4 levels by May of next year.

Dom. No. 6 is beginning to show up. The best days output was on the 24th. Oct. when 1035 tons were hoisted. On the day after Underground Manager McDonald met with a most severe accident when coming up the main deep. He did not notice the trip coming down and it struck him, breaking the left leg below the knee. He is doing as well as can be expected. James McCuish is acting in his place while Mr. R. McDonald takes McCuish's place.

AROUND THE COLLIERIES.

Mr. D. M. Burchell, who has been since the formation of company superintendent of the Dominion Coal Co.'s stores, has severed his connection with the company.

The stoppage of work at Westville was due to a difference between workmen, the stoppage at the Sydney steel plant is due to a difference between capitalists or companies. Honors are therefore easy.

The middle of next week will likely see the close of the shipping season to Montreal. The stores of last week upset calculations somewhat by delaying the arrival and despatch of steamers.

Dom. No. 6, with its numerous appendages is pronounced a success even if in actual working everything does not come out as planned. The empties do not run of themselves from the creeper to the brow of the slope. On the grade as laid out only the designers were willing to wager that they would. A donkey engine at the slope brow pulls the empties forward. The picking tables are magnificent, but whether the tippie will be able for a two thousand per day output has yet to be demonstrated. Mr. Mitchell says the tippie is quick enough, and one dars'nt sass him.

At one time it was proposed that twenty boxes holding two tons each of coal should constitute a rake at Dom. No. 6. It has been found that it is more economical to run the rake with a dozen boxes. Experiments were made with sixteen on a trip but eleven on a rake is found to be the most suitable. Though the pit tubs have nominally a capacity of two tons, few boxes coming out of the pit contain so small a quantity. The box permits of 'pitching' and this is so well done in some cases that the contents of a box are nearer three than two tons.

The shutting down of the furnaces and other parts of the plant at Sydney is an unfortunate and regrettable occurrence, and this may be said no matter whether the blame lies with the Steel Co'y. or the Coal Co'y. It has been known for some time that the Steel Co'y. was not getting all its requirements filled by the Coal Co'y., and had been forced to procure 30,000 tons of coal from across the harbor. It is possible that the purchase of this coal from outside brought on the crisis. No statement that can be called definite has been made by either side, and it may be unwise at the present juncture for outsiders to interfere. The stoppage is a serious matter for the shareholders of the Steel Co'y., as it will greatly diminish the profits for November even should the differences be soon adjusted. It has been stated that the loss to the Steel Co'y. is three thousand dollars a day. If that were all it would be little to make a wry mouth over.

Dom. No. 1 angle and south deeps are being extended. The coal and roof in the sub-marine districts are good, and give every indication that as yet the Dominion Coal Coy. are only working the fringe of the great Phalen coal field.

A second advertisement appears in this issue for miners to work at Minto, N. B. The offer of the N. B. government of ten acres of land applies to all the mines at Minto. The writer has never been at Minto and cannot speak as to the character of the land. It has one thing in its favor—proximity to the town of Minto and close to line of railways. Minto being a new mining town is not as yet equipped with the comforts of older towns, but arrangements are being made to meet the demands of modern living, such as school houses, water, etc. The building of the Transcontinental Ry. will, it is claimed, greatly benefit the mines, and lead to extensive developments affording good opportunities to mine workers.

Mr. Chas. Mitchell, Supt. of Dom. No. 6 is the prominent one among the superintendents of the Dominion Coal Co., who refuses to take colliery life too seriously. He has more dry jokes than all the others combined and sometimes they take a practical shape; for instance: A member of the office staff at Glace Bay, and a stranger, lately visited No. 6. They fell a talking in the office and forgot the flight of time. The top coat of the stranger had been taken from him on his entrance and hung in the outer office. Looking at his watch and noting the time he made a dash for the outer office and seized a coat hanging on a peg. Putting it on he went to shake good-bye with Mitchell. The latter said "That's a new coat you have since you were last down, how did you manage to get it." As this was held to be blarney no answer was returned. Mitchell followed the pair to the waggon with seemingly a covetous eye on the coat. Reaching over the waggon wheel he so stroked and fondled the coat that the wearer was on the point of making him a gift when the horse, going off, interrupted any such good intentions. Shortly after arriving at his destination the visitor went to his coat to get his pipe and pouch, neither could be found. Further investigation showed that the coat which Mitchell had been admiring was his own and not the visitor's, and the conclusion came to that the sounder knew this all the time. The joke was not wholly with the Sup't. for he was induced to send for his own and return the other. The visitor would have been fully compensated had there been a single document in the pockets giving secret information about the colliery. He went carefully and religiously through every pocket, but got no information nor any scrap that might compromise the owner, or, say, wearer, as his present ownership may be the result of a joke perpetrated on some other countryman.

Around the Collieries.

The east travelling road in Caledonia Mine has been repaired and put in splendid condition.

The Old International moves along with all the speed of the younger collieries, but with much less noise.

The old wash-house at Dom. No. 3 has been abandoned for a bran new one, built at the mouth of the slope.

Phalen, Dom. No. 2, produced 2,800 tons on one day last week. The biggest output in the history of the colliery.

Dom. No. 1 produced 524,361 tons of coal this year of which 118,595 were extracted from pillars. Two fatalities occurred.

A water system has been put in at Dom. 6. The residents are supplied from Schooner Pond reservoir. The water is filtered and can be used for all domestic purposes.

The levels of Dom. No. 6 are the only places now driven with hand picks. The longwall system is giving good results. The average cut of the machine is 200 ft. long by 5 feet deep.

The Emery shaft is all ready for the spears. The bottom is being opened out, and will have three main ways. Two for coal and one for men and material. The shaft is lined with pitch pine.

Although the foundation for the new compressor engine at Dom. No. 6 is laid, and the compressor is on the ground, it will not be placed in position this winter. The compressor in use can supply all the necessary power.

A new underground engine house is being made at No. 3 colliery. When complete the haulage system will be augmented. The engine will be run by electricity transmitted from Dom. No. 2, conducted down a bore-hole to No. 7 west level. This auxiliary engine was needed owing to the great distance No. 3 coal is now being hauled.

The workmen of Reserve never showed the material of which they are made to greater advantage than during the day of the fire and the days succeeding it. Every man worked with a will. Within a week a mountain of duff, dirt and debris was removed, two new bank-heads laid and the slopes producing coal almost up to their daily average. Officials and men were one in getting the mine under way, and they did it sooner than the most sanguine expected.

Mr. H. J. McCann has been appointed General Manager of the Dom. Coal Co.'s stores vice Burchell resigned. The Record is uncertain whether first to congratulate Mr. McCann on his promotion to so important a position, or first, the one responsible for having made so worthy a selection. Than Mr. McCann the Record knows of no one in C. B. so well adapted for the special work for which he has been chosen

The output of the Allan shafts is gradually crawling up. On one day last week 270 tons of an output was reached. Harry says he will be up to Higson in Jan., and Higson says—well he doesn't say anything but he looks as if he was ready to gamble.

The new management of No. 7—the Hub—made a new record on the 7th. inst, when 841 tons were hoisted. Twelve of the thirty trips came from No. 1 level which is equal to the best previous performance of the double shift. On Wednesday the 8th. there was also another output exceeding that of Sept. 25th.

The Nova Scotia Steel & Coal Co.'y. have sold fifty thousand tons of coal to the Dominion Iron & Steel Co. This is in addition to thirty thousand tons previously delivered. The effect of this sale will be to keep the collieries at Sydney Mines busy making shipments till the 1st. of January, with no coal to be banked in December as has happened in former years.

The shaft of the Mulloch Hill Copper Co.'y. at Whyccomagh has been sunk thirty feet. The parties interested are greatly elated over the latest reports. The improvement in the quality of the ore surpasses what was expected at that depth. The company are enthusiastic and intend sinking a series of small shafts along the vein, to a depth of from 50 to 100 ft. By this method it is hoped to prove beyond doubt the value of the property.

Down Inverness way they believe in fast days, fast days, holy days, and holidays. Indeed, as at some of the C. B. collieries any old day will do for an excuse for cessation from labor. The Inverness people having overwrought themselves on Hallow eve, made up for it by resting the day after, and made the pretext that they were idle in honor of All Saints Day. This is a new wrinkle, and whether the credit of the thought belongs to the management or the men is not certain.

"A record was made in unloading coal on the docks in Superior, when on Thursday, Friday and Saturday, Oct. 4, 5, and 6, there were 12,340 tons of coal unloaded on the docks without working the forces overtime. The average per hour per hour was 152 tons on cargo steamer L. C. Hanna containing 9,274 tons. This work was started at 7.15 a. m., Oct. 4, and was finished at 9 a. m. Oct. 6. Steamer J. W. Moore, containing 3,066, was then taken up at 9 a. m., and was finished at 6 p. m. of the same date."

The above is from the Coal Trade Journal. We can do far better than that. The four towers of the Dom. Coal Co. at Windmill Point, Montreal are each capable of lifting a thousand tons per hour. A vessel carrying six or seven thousand tons is discharged in much less than ten hours.

Around the Collieries.

Coal Shipments October, 1906.

DOMINION COAL COMPANY, LTD.

—Output and Shipments for October 1906.—

| | —Output— | —Shipments— |
|----------------|----------|-------------|
| Dominion No. 1 | 52 569 | |
| Dominion No. 2 | 52 241 | |
| Dominion No. 3 | 34 036 | |
| Dominion No. 4 | 56 269 | |
| Dominion No. 5 | 48 701 | 337 139 |
| Dominion No. 6 | 19 719 | |
| Dominion No. 7 | 14 598 | |
| Dominion No. 8 | 26 542 | |
| Dominion No. 9 | 38 655 | |

| | | |
|------------------------|---------|---------|
| | 350 000 | |
| Shipments October 1906 | ..... | 337 139 |
| " " 1905 | ..... | 323 884 |
| Increase " 1906 | ..... | 13 255 |

| | | |
|------------------------|-------|-----------|
| Shipments 10 mos. 1906 | ..... | 2 763 613 |
| " " 1905 | ..... | 2 447 041 |
| Increase " 1906 | ..... | 316 572 |

INTERCOLONIAL COAL CO.

| | | |
|------------------------|-------|---------|
| Shipments October 1906 | ..... | 26 518 |
| " " 1905 | ..... | 20 805 |
| Increase " 1906 | ..... | 5 713 |
| Shipments 10 mos 1906 | ..... | 236 464 |
| " " 1905 | ..... | 160 234 |
| Increase " 1905 | ..... | 76 234 |

ACADIA COAL CO.

| | | |
|------------------------|-------|---------|
| Shipments October 1906 | ..... | 27 222 |
| " " 1905 | ..... | 26 994 |
| Increase " 1906 | ..... | 228 |
| Shipments 10 mos 1906 | ..... | 218 490 |
| " " 1905 | ..... | 216 078 |
| Increase " 1906 | ..... | 2 412 |

NOVA SCOTIA STEEL & COAL CO.

—SYDNEY MINES.—

| | | |
|------------------------|-------|---------|
| Shipments October 1906 | ..... | 62 585 |
| " " 1905 | ..... | 56 369 |
| Increase " 1906 | ..... | 6 216 |
| Shipments 10 mos 1906 | ..... | 542 726 |
| " " 1905 | ..... | 428 468 |
| Increase 10 " 1906 | ..... | 114 258 |

CUMBERLAND RY. & COAL CO.

| | | |
|------------------------|-------|---------|
| Shipments October 1906 | ..... | 32 221 |
| " " 1905 | ..... | 41 904 |
| Decrease " 1906 | ..... | 9 683 |
| Shipments 10 mos 1906 | ..... | 344 712 |
| " " 1905 | ..... | 336 634 |
| Increase " 1906 | ..... | 8 078 |

INVERNESS RAILWAY & COAL CO.

| | | |
|------------------------|-------|---------|
| Shipments October 1906 | ..... | 27 452 |
| " " 1905 | ..... | 19 617 |
| Increase " 1906 | ..... | 7 835 |
| Shipments 10 mos 1906 | ..... | 167 522 |
| " " 1905 | ..... | 114 319 |
| Increase 10 " 1906 | ..... | 53 203 |

The Nova Scotia Steel & Coal Co. had some record shipments last week. On one day the output was 3,180 and on two other days it went over three thousand tons. The total for the week was over 17,000 tons. The request of the management that the men work steadily seems to meet with compliance.

Formerly there were but two classes of houses for workmen at the collieries. At some of the mines there are five different sizes. For instance at the Hub the old houses rent for \$6.00, while the new ones rent for \$5, \$6, \$7, and \$7.50, according to the accommodation. If a miner had been told twenty years ago that to-day he would be paying over \$7.00 for rent he would have laughed the informant to scorn. We are progressing and adding to our comforts if not to the length of our purses. Not a few of the workmen at the Hub are buying the houses they live in.

The shipments of the N. S. S. & Coal Co. for the ten months ending Oct., are some six thousand tons ahead of the twelve months shipments of last year.

The Port Hood mine is producing 250 tons daily. Development work is being driven with the view of a larger output next year. The workings to the deep have flattened off a little.

Dom. No. 1 co-operative in October did a business of \$4,900. Every colliery town ought to have a co-op. Strange that co-operative stores are not considered by a majority of Herald prize library writers as one of the pressing needs of labor. Possibly these are too practical, and do not afford opportunity for gas.

SAFETY FOR MINERS AFTER EXPLOSIONS.

The appalling explosion which has caused the death of twenty-four miners at the Wingate Colliery in Durham is a reminder of the dangers which attend the workers in mine. It is not generally realized how large a proportion of the men killed in a colliery explosion die from suffocation caused by the irrespirable gases or 'damps' which are found in mines. A large number of miners, we are reminded by the 'Hospital', lose their lives every year solely for the want of a temporary supply of Oxygen. Choke-damp is another name for black-damp, though it is sometimes used to designate after-damp. Black-damp or choke-damp differs from air in the fact that it contains a slightly greater per centage of carbonic acid and a slightly less per centage of oxygen, the diminution of oxygen being more marked than the increased carbonic acid. The danger from choke-damp arises from a deficiency of oxygen. There may be little or no warning of its action on the body before the limbs and senses are paralysed. The lamp which the miners carry fortunately announces the danger, and should prevent them from walking into an atmosphere of choke-damp. When the quantity of oxygen is diminished to about 3 per cent, the light goes out. A diminution of 11 per cent. of oxygen is required before life is endangered. The so-called 'white damp' may have fatal effects on a miner, and yet not extinguish his lamp. Mr. Dickinson before the 1879 Commission described after-damp as "having a pungent gaseous taste and an irritating action on the eyes, producing a feeling of malaise and torpor, which is a warning of eminent danger. Those who get far into it lose the power over their legs, fall down, and are suffocated through lack of oxygen while in this helpless condition." This appears to have been the case with the miners killed in the Wingate explosion.

Death causes the appearance of suffocation and appears as follows:—When the carbonic acid present in the air reaches 3 per cent, there is an increase in the number of respirations, which gradually extend until 18 per cent. is reached, and the distress becomes acute. These indications are independent of the quantity of oxygen present. provided there is not less than 10 per cent. The action of the increased carbonic acid would be to prevent entirely the free interchange of gases in the lungs, so that the blood would become intensely charged with the products of combustion. The distress caused by diminishing the oxygen below 10 per cent. is less acute than in the case of increased carbonic acid. The latter constitutes a serious danger, for the danger point, as in the case of various anaesthetics, is reached quite suddenly. The effects are not felt by the person subjected to the action of these gases. All at once the loss of motive power occurs, followed by paralysis of the cerebellar function and loss of consciousness. Eight or nine respirations of air containing but 2 per cent. of oxygen will render a person insensible without any previous inconvenience having been felt.

Authorities are agreed that the loss of life in explosions in coal mines is due to the want of oxygen, and if imprisoned miners could be supplied with sufficient oxygen to last them for twenty minutes they would be enabled after an explosion to pass through the fire-damp by the various passage ways which lead to the bottom of the shaft and obtain the requisite supply of oxygen from the atmosphere. It does not seem a difficult feat to provide the sixty or seventy litres of oxygen required for an hour's respiration to each worker in a mine. The Davy lamp is supplied to him as a protection. Dr. Haldane contends that at an expenditure of 6d, a miner

could be supplied with a small steel tube containing the requisite amount of oxygen to last for an hour, and an indiarubber connection with a regulating valve would enable it to be brought into operation when its use was required. It is useless to urge that the mining men are so little careful of their own safety that they would object to carrying such a life-saving agent into the seams and galleries in which they have to work. The safety appliance might be deposited close to where the men were working in small pockets or pouches near their pit clothes, so that they could always be at hand when required. The whole subject has been carefully gone into by Dr. J. S. Haldane, but we regret to say that his recommendations on the subject have so far been generally ignored by proprietors and managers of the mines and by those who are generally responsible for the safe conduct of the mining industry.

The greatest opportunity for a mine manager to rise above his associates and competitors lies in his ability to discriminate between methods entailing greater expense and those securing economy. There should be no items of cost, pertaining either to mining, shipping, or the generation of power, with which the operator is not thoroughly familiar. Where machines are used, it is necessary that the superintendent should know which machine gives the greatest proportion of lump, and the most favorable quantities of nut and slack. Supposing one machine gives 70 per cent lump, worth \$2.25 per ton, and 30 per cent nut and slack, worth \$1.25 per ton, if another machine produces 60 per cent lump and 40 per cent nut and slack, the use of the first machine would save \$30,000 in 300 days when the average output was 1,000 tons per day.

The Northern Pyrites Company of Dinorwic, Ont., has bought from Allis-Chalmers-Bullock Limited, Montreal, a mining plant consisting of a one-half duplex 'Ingersoll' Air Compressor, 'Ingersoll' Rock Drills, 'Lidgerwood' Hoisting Engine, Boilers, Ore Buckets, etc.

On the 26th. of October notices were posted up in the vicinity of the Drummond colliery requesting all emaleeys of the colliery eligible for membership in the P. W. A. to join within a specified time, and intimating that the union men would not work with the men out of the union. On Tuesday, the 6th., the men at the colliery stopped work. The papers called it a strike, but if it can be called that it was of a unique character for the issue was not between employer and employed but between union and non union men. It is on record that the union men had no grievance with the company. The manager may have been asked to allow a committee of union men to canvass the pit, and he may have refused permission, but he was not informed that if the committee was not given permission the men would stop work. The sole object of the stoppage was to get all the men in union and in that it was successful. Work at the colliery was resumed on Friday though there were many absentees. It is to be hoped the men will work steady for the remainder of the month so that even with the loss of three days November may not prove to be an exception to the unbroken record of monthly increases in output which has characterized this years performance.

CANADIAN PICTORIAL.

The Record as a rule sets its face against "clubbing" with other papers. It has stuck in the past to the axiom that every tub should stand on its own bottom, but we are constrained from the impression produced by carefully looking over the publication to make an exception in favor of the Canadian Pictorial a new magazine or paper to be published monthly. The first number displays excellent workmanship and every illustration is a work of art. The pictures are fine; some fit for framing. The pictures moreover are clean, without taint or suggestion of coarseness. Very many Records find their way into the homes of workmen, and because we think the Canadian Pictorial will have a healthy and refining influence, have we consented to the publishers proposition to enter into a clubbing arrangement. To either old or new subscribers, we will cause the Pictorial to be sent one year for fifty cents. If the reader owes for 1906 let \$1.50 be sent to the Record and he will be credited with his subscription for 1906 and credited a dollar for subscription to Pictorial for a year from date of first receipt of the magazine. This is giving \$2 worth for \$1.50. The Publishers maintain that a twelve-month of the Pictorial will be worth binding.—MINING RECORD AND CANADIAN PICTORIAL FOR A YEAR FOR \$1.50

The Canadian Copper Company, of Copper Cliff has bought from Allis-Chalmers-Bullock, Limited, Montreal, a pumping plant consisting of an 8 inch single stage turbine pump driven by a 70 h. p. induction motor.

The Calumet Mining & Milling Co., Calumet, Que., has increased its plant by a 12 1/4 by 18 "Ingersoll" Air Compressor, driven by a 50 h. p. induction motor, both bought from Allis-Chalmers-Bullock, Limited, Montreal.

WANTED.**A COLLIERY BLACKSMITH.**

Must be a steady man, familiar with colliery work, and also a good horse-shoer. **Good wages.**

APPLY TO

INTERCOLONIAL COAL COMPANY, LTD.,
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Coal Miners Wanted

—at—

Minto Mines. Minto, N. B.

APPLY TO

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WANTED!**50 Miners and Laborers**

BY THE
MARITIME

Coal, Ry. & Power Co., Ltd,

AT THE

Chignecto Mine.

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Miners Wanted.

Steady Employment, Good Wages,
and Free Land for Homes for Coal Miners,
at MINTO, NEW BRUNSWICK.

The New Brunswick Provincial Government will give 10 Acres of Land FREE to Coal Miners who will settle at Minto, N. B. The conditions being the erection of a house and the occupation of the land for three years, and working in any of the Mines. For further information apply

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New Brunswick Coal and Railway, (operated for the province of New Brunswick by a Government Commission,) Norton, N. B.

WIRE ROPE

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

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

AUSTEN BROS.—HALIFAX AGENTS.

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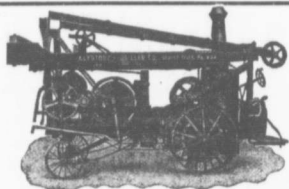
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**Percussion Core Drill Attachment
is an economical appliance for
TESTING COAL LANDS.**

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

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

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Catalog No. 2 B. is a book on the subject.
We make Water, Oil & Test Well Drillers
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The TORNADO AIR POWER COAL DRILL

is used extensively

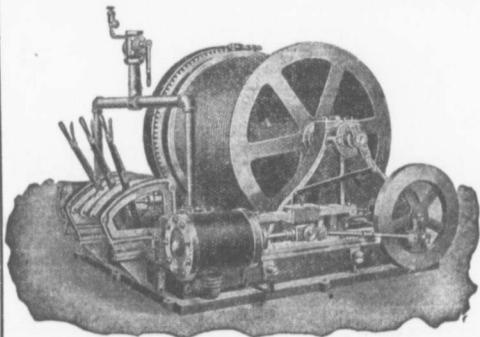
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**Manufacturers of the
H. & H. Coal Cutters & Tornado Coal Drills,
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"Lidgerwood" HOISTING ENGINES.



This is a view of our combined friction drum and brake and reversible link motion hoist.

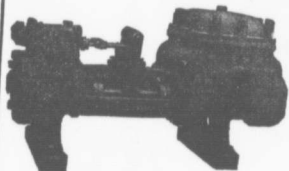
The most economical mining hoist built.

Works, MONTREAL.

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PUMPING MACHINERY.



Fairbanks Morse Duplex,
Piston Pattern,
Boiler Feed Pump.

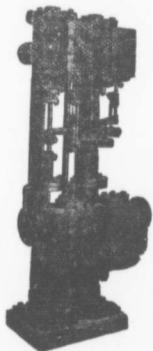
**Steam Pumps,
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**We make pumps for all Purposes,
and have a VERY Extensive Line of
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Our aim is to Build a High Grade
Line of Pumping Machinery.

The Material and Workmanship entering into the Construction of Our Pumps is kept up to the highest Standard at all times.

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



Fairbanks Morse,
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**EVERY PUMP IS THOROUGHLY TESTED
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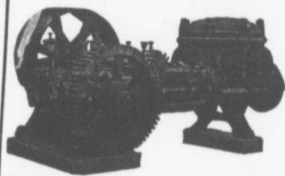
Send for our Catalog 48c, or have our representative
in your vicinity call on you.

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Fairbanks Morse Horizontal Duplex Power Pump

The Canadian Fairbanks Company, Limited.

Montreal, Toronto, Winnipeg, Vancouver.



Synopsis of Canadian North-West. Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba and the North-West Provinces, excepting 8 and 20, not reserved, may be homesteaded by any person the sole head of a family, or male over 18 years of age, to the extent of one quarter section, of 16 acres, more or less.

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

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

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

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

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

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

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

DUTIES.—A settler is required to perform the conditions under one of the following plans:—

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

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

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

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

SYNOPSIS OF CANADIAN NORTH-WEST MINING REGULATIONS.

COAL. Coal lands may be purchased at \$10 per acre for soft coal and \$20 for anthracite. Not more than 320 acres can be acquired by one individual or company. Royalty at the rate of ten cents per ton of 2,000 pounds shall be collected on the gross output.

QUARTZ. A free miner's certificate is granted upon payment in advance of \$2 per annum for an 100' vein, and from \$5 to \$100 per annum for a company according to capital.

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

The fee for recording a claim is \$5. At least \$100 must be expended on the claim each year or paid to the mining recorder in lieu thereof. When \$500 has been expended or paid, the locator may, upon having a survey made, and upon complying with other requirements, purchase the land at \$1 per acre.

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

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

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

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

W. W. GORR

Deputy of the Minister of the Interior.

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Miners Wanted To Chew BULL DOG TOBACCO,

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

TRY IT!

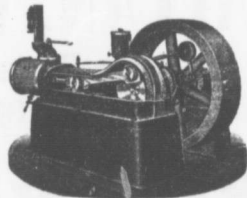
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—Montreal—

—W. B. Reynolds, Halifax Representative—

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Beyond Comparison. The Finest Pilot Biscuit Made.

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Codes, A. B. C. (4th & 5th Eds)
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Wire Ropes

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Specially

Aerial Ropeways, Suspension Bridges, etc. flexible for Ore & Coal Discharging Cranes, Winches, etc.

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Miners and Shippers of INVERNESS (BROAD COVE)

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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.

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| EASTBOUND | | STATIONS. | WESTBOUND | |
|-----------|--------|--------------------|-----------|--------|
| Read Down | | | Read Up | |
| No. 52 | No. 54 | | No. 53 | No. 51 |
| A. M. | P. M. | | A. M. | P. M. |
| L 11 10 | L 3 50 | P. TUPPER JUNCTION | A 11 00 | A 5 30 |
| R 11 16 | R 4 00 | PORT HAWKESBURY | L 10 20 | R 5 27 |
| A 11 25 | A 4 10 | PORT HASTINGS | L 10 45 | L 5 10 |
| | L 4 18 | TROY | A 10 37 | |
| | F 4 26 | CREGONIBH | F 10 27 | |
| | R 4 48 | JUDIQUE | R 10 13 | |
| | F 4 55 | TRAGIMORE | F 10 07 | |
| | S 5 10 | CATHERINES POND | R 9 45 | |
| | F 5 20 | PORT HOOD | F 9 20 | |
| | A 5 28 | GLENCOE | L 9 12 | |
| | L 5 43 | MABOU | A 9 10 | |
| | R 5 56 | BLACK RIVER | R 8 55 | |
| | S 6 11 | STRATHLOUSE | R 8 35 | |
| | R 6 23 | INVERNESS | R 8 15 | |
| | N 6 35 | | F 8 00 | |
| | R 7 07 | | R 7 47 | |
| | A 7 20 | | L 7 30 | |
| | P. M. | | R. M. | |

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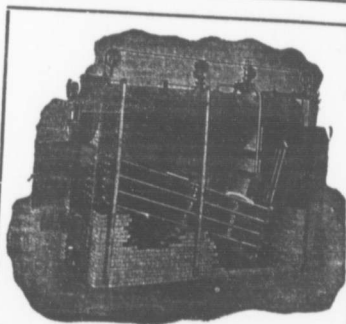
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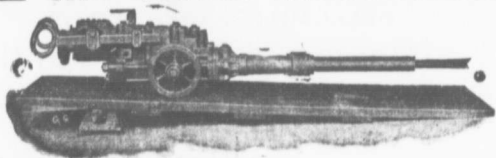
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*Best all round flour on the market.
Uniform in quality. Every barrel
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only be had in Cape Breton at the stores
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Successors to the plants and Water Tube Boiler business of The Stirling Company, Barberton, Ohio, and The Aultman & Taylor Machinery Coy., Mansfield, Ohio.

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"RELSSTONE SHEET PACKING,"For highest pressures with Steam, Hot or Cold Water and Air.
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Coal and Gold Mining Machinery a specialty

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

GOWRIE AND BLOCKHOUSE COLLIERIES, LIMITED.

OF NEWCASTLE ON TYNE.

MINE AND LOADING PIERS, PORT MORIEN, COW BAY.

CAPE BRETON, N. S.

Miners and Shippers of **GOWRIE COAL.**

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

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

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

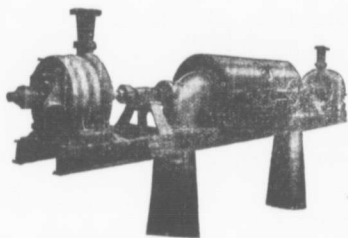
The JOHN McDOUGALL Caledonian Iron Works Co., Ltd.

Montreal Que.

BOILERS: All Sizes and all Pressures.

PUMPS

Worthington Pumps for
Water Works and Mines.



Water Wheels

Doble Water Wheels for high heads.

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

Mill Machinery

Etc. Etc.

Dominion Coal Company, Ltd.

✎ Miners of ✎

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

—Yearly output 3,500,000 tons.—

ANALYSES.

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

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

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

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

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

:: BUNKER COAL ::

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

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

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

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

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

112 St. James St., Montreal, Que.
171 Lower Water St., Halifax, N. S.
Quebec, Que.

—and from the following agents—

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

Peake Bros. & Co. Charlottetown, P.E.I.
A. Johnston, and Co., Stockholm, Sweden.

G. H. DUGGAN,

2nd. Vice President

CUMBERLAND

RAILWAY AND

COAL COMPANY.

OPERATING THREE

THICK SEAMS

NOS 1, 2 AND 3.

—Miners and Shippers of the Well Known—

FRESH MINED SPRINGHILL COAL

... ANALYSIS ...

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

BEST COAL FOR
LOCOMOTIVE USE.

Delivered By Rail or Water

BEST COAL FOR
GENERAL STEAM PURPOSES.

The year Round

IN Lots To Suit Purchasers.

BEST COAL FOR
DOMESTIC CONSUMPTION.

BEST GAS COAL

Mined in the Province.

Mines
SPRINGHILL

N. S.

Head Office

MONTREAL