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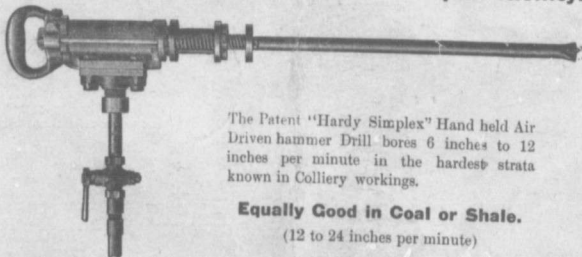
MARITIME MINING RECORD AND COAL AND METAL TRADES JOURNAL

Dr. R. Bell
Geol. survey dept.

Cumberland. * Pictou. * Cape Breton. * Inverness
New Series Vol. 11 No. 1 JULY 8th, 1908 STELLARTON, N. S.

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The Patent "Hardy Simplex" Hand held Air Driven hammer Drill bores 6 inches to 12 inches per minute in the hardest strata known in Colliery workings.

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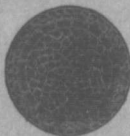
AGENT: **H. M. WYLDE,** P O Box 529 **HALIFAX N. S.**

Patentees and Manufacturers of

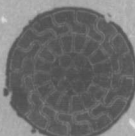
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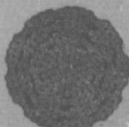
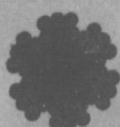
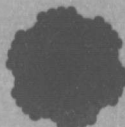
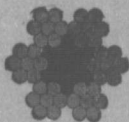
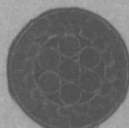
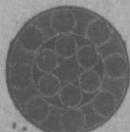
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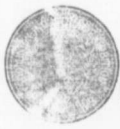
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High Grade Miners Tools,

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Dominion Coal Company, Ltd

Genuine Garlock Packings
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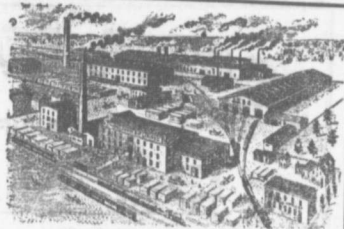
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Large Stocks of Foreign and Domestic Lumber on Sale.

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INTERCOLONIAL RAILWAY

On and after SUNDAY, JUNE 28th 1908 trains
run daily, (Sunday excepted,) as follows:—

-TRAINS LEAVE STELLARTON-

No 144 Mixed for Hopewell	5.55
No 79 Mixed for Treton	6.30
78 Mixed for Hopewell	6.55
18 Express for Halifax, and St. John	7.40
21 Mixed for Pictou Landing	7.40
62 Mixed for Pictou	7.45
56 Mixed for Mulgrave	8.30
19 Express for Sydn Y	11.00
25 Mixed for Pictou	11.05
56 Mixed for Truro	11.35
83 Express for the Sydneys	13.40
30 Express for Halifax and Montreal	13.50
140 Mixed for Pictou	13.55
191 Mixed for Pictou Landing	16.50
52 Mixed for Howell	18.10
80 Express for New Glasgow	19.30
62 Express for Halifax and St. John	20.30
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 Treton	6.55
61 Express from Pictou	7.30
18 Express from New Glasgow	7.55
21 Mixed from Hopewell	7.55
56 Mixed from Truro	8.00
20 Express from New Glasgow	8.00
27 Mixed from Pictou	10.45
64 Mixed from Mulgrave	10.45
19 Express from Halifax and St. John	13.15
229 Mixed from Pictou	13.20
83 Express from Halifax and St. John	15.35
30 Express from Sydney	15.40
32 Mixed from Pictou Landing	15.40
77 Mixed from Hopewell	18.10
85 Mixed from Pictou	18.45
80 Express from the Sydneys	19.30
66 Express from New Glasgow	19.40
17 Express from St. John and Halifax	21.05
	21.10

All trains are run by Atlantic Standard time Twenty
O'clock in midnight, Montreal, N. B. June 31th, 1908.
Sleeping and Pullman Cars between Halifax and Sydney.
Dining cars on No. 81 and 80 trains between Halifax and
Mulgrave. On Nos. 19 and 20 trains between Mulgrave and
South River.

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FACTORY, IN LACHINE, QUE.

We carry the Largest Stock in Canada of all kinds of Asbestos Goods,

Such as Asbestos Cement for Covering Boilers, Steam Pipe Covering, Asbestos Roofing, Asbestos Packings, Paper and Millboards, Asbestos Building Lumber and Roofing Shingles, 'Asbestine' Fireproof Cold Water Paint, Engineers' and Miners' supplies, Cotton Waste, Oakum, Flax Packing, Lace Leather, etc. etc. Write for Catalogue.

— Try Our "Gripoly" Solid Woven Belting. —

MONTREAL STEEL WORKS, Limited.

Steel Castings,
Forgings,
Springs,
Frogs,
Crossings,
Interlocking Plants

We Make a Specialty of

Manganese Steel Castings for MINING PURPOSES.

Point St. Charles,

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

Office, 2227 Jane Street.

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

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Head-quarters in Nova Scotia for

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Allan-Whyte and Company's Wire Ropes.

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MERCHANT BARS,

SHEETS AND PLATES—From 12 gauge up to 1 inch thick. Any Widths
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HEAVY FORGINGS,

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... NOTHING REQUIRED IN CANADA TOO LARGE FOR US. ...

Steam and Electric Car Axles

Fish Plates and other Railway Materials

Tee Rails - 12, 18, and 28 lbs per yard

Scotia Pig Iron for Foundry Use.

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Highest in Carbon, Lowest in Ash,
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The Best House Coal.

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Head Office, New Glasgow, N. S.

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MANUFACTURERS OF
Iron Pipe Fittings



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T. McAvity & Sons,
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Mining & Mili Supplies.

Valves,
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Boiler
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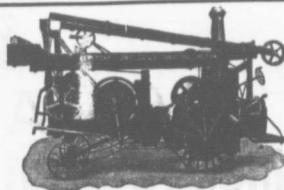
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**Iron Pipe for
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—Catalogues and Prices on Application.—

THOMAS ROBERTSON & CO.,
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MONTREAL, QUE.

—Established 1852—



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

It can be used in connection with any good "churn" drill, but operates best on the long-stroke KEYSTONE, thus making the cheapest and quickest method of boring to be found.
In operation a hole is sunk to the coal with the ordinary Rock Bit. The Bit and Stem are then removed and the Coring Attachment put on in their place. It takes a 4 ft. core out of the Softest as well as the Hardest part of the vein. Avoids all delay and expense of "rods" water wash, diamonds, shot, and heavy operating mechanism.

Price of Complete Attachment
\$200.00

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

Keystone Driller Co. Beaver Falls, Pa.

ONE MAN'S VIEW. A well-known mining man recently finished an inspection of the ANTHRACITE coal fields of Pennsylvania. When asked what impressed him most, he said:—

"The acidity of the water, and the fact that of all the pumps I saw there two out of three were JEANESVILLE PUMPS."

an indication at least that we know how to handle the acid water problem.

When you send us the lift and quantity of water and the available power, we will send you complete information about what we can do for you.

Our bulletin No. 8, fresh from the printer, is full of up-to-date information. Write for it now before you forget.

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Iron Works Co.,
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NOVA SCOTIA.
Mines of Gold, Silver, Coal,
Iron, Copper, Lead, Etc.

Titles direct from the Crown
At Moderate Royalties.

GOLD AND SILVER.

Licenses are issued for prospecting for Gold and Silver for a term of twelve months. They comprise areas 150 by 250 feet, and any number can be obtained, at a cost of 60 cents per area. Leases of any number of areas can be obtained, at a cost of \$2.00 per area, for a term of 40 years; subject to an annual rental of 50 cents per area.

Licenses are issued to quartz mills, which make returns and pay royalty on the gold at the rate of two per cent, on milled Gold, valued at \$19.00 per oz.

Minerals other than
Gold and Silver.

—LICENSES TO SEARCH—

over five square miles for eighteen months, cost \$30.00; leases for four 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

All titles, transfers, etc., are recorded free of charge by the Department. The royalty on coal is 10 cents per long ton, and on other minerals in proportion.

The Gold District covers over three thousand square miles, and the deposits of coal iron ore etc., are practically unlimited.

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Commissioner of Public Works and Mines, Halifax, N. S.

MINUDIE COAL COMPANY, L't'd.

Operating the **MINUDIE MINES** in the Celebrated **CUMBERLAND COAL FIELD**

Producers of High Class **SCREENED COAL, ROUND, RUN-MINE, SLACK.**

The best for Foundry or Furnace, Locomotive or

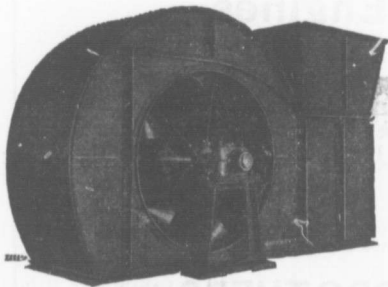
Stationary Engines, for Domestic or General use.

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Direct connection with the I. C. R.

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Mine Manager:—HY. McCARTHER. Business Manager, R. S. HIBBARD, River Hebert, N. S.
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The curved steel vanes discharge the air in a true radial direction and the conical scoops prevent the air gushing from the inlet.

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The JEFFREY

CENTRIFUGAL FAN

develops

Larger volumes at low speeds and
Larger capacities against high gauges
than any other fan made.

A steel casing extending to the
ground eliminates the large amount
of masonry usually required with
fan installations.

**Complete Mine
and
Tipple Equipments.**

Electric Locomotives, Drills, Coal
Cutters, Hoists, Pumps, Elevators,
Conveyors, Screens, Crushers, Car-
hauls, Picking Tables, Coal Wash-
eries, etc.

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

BRIDGES

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

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

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**Air Compressors, Ventilating Fans,
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Largest Air Compressors in Canada are of

Walker Brothers (Wigan) Limited, Manufacture.

The following companies have installed **WALKER BROTHERS** Air Compressors, in capacity Ranging up to 6300 cubic feet of free air per minute, all of which are provided with **WALKER PATENT AIR VALVES**.

DOMINION COAL COMPANY, Ltd.

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DOMINION IRON & STEEL CO., Ltd.

BELMONT GOLD MINE Ltd.

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PEACOCK BROTHERS CANADA LIFE B'LG
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MINE VENTILATING FANS.

Under direct special arrangements with the Inventor, we are building the "Capell" Patent Mine Ventilating Fan, for the Canadian Coal Mining Trade. They are largely used in the Coal Mines in the United States and Canada, as well as in Great Britain and the Continent, probably exceeding in number any other high class fan in use to-day.

We invite inquiries, which will have our closest attention.

I. Matheson & Company, Limited,

ENGINEERS,

New Glasgow, Nova Scotia.

To Ad....
MARITIME MINING RECORD

Vol. 1, No. 1. Stellarton, N. S., July 8th. 1908. New Series

N. S. MINE EXAMINATIONS, 1908.

The following are the questions submitted to the several classes of applicants for certificates of competency at the examinations held recently:

MANAGERS.

SCHOLARSHIP—Time 2½ hours.

1. At what price must an article which cost \$1.20 be marked so that after a reduction of 10 per cent. is made, the merchant may still make a profit of 20 per cent.

2. The parallel sides of a trapezoid are 16 and 20 feet, the perpendicular distance between them is 5 ft. at what distance from the longer of the parallel sides must a line be drawn, to divide the figure into two equal parts?

3. Find the cube root of 94818816.

4. If it cost \$36.00 to carry 1½ loads of stone 54 miles, how much will it cost to carry 18 loads 49 miles?

5. The length of a cylindrical piece of timber is 24 feet, and its diameter is 30 inches, what will be its solidity when hewn into its greatest square?

6. A does a piece of work in 5 days, B in 6 days, C in 7 days; if they all work and receive \$21.40, how should the money be divided?

7. How fast must the water rise in a well whose diameter is 7 feet, so that it may remain at the same level when a pump is emptying at the rate of ¼ of a ton per hour?

SURVEYING—Time 2½ hours.

1. You have turned an angle of 30 deg. 17' left, where would you find it on the vernier, explaining upper and lower plate of vernier?

2. Two drill holes, 1,200 feet apart, are put down to a seam of coal. The depth of the first hole is 200 feet, and that of the second 350 feet. The surface at the second hole is 50 feet higher than that at the first hole. What is the inclination of the coal seam in inches per yard between the two holes?

3. A slope has a pitch of 60 feet in 100 feet, its length measured on the slope is 1,166 feet. What measurement in inches should be made on the mine map to represent the slope?

4. If a balance is driven S 85 deg. E., and the rooms N. 30 deg. E., what should be the horizontal distance between the centre line of rooms, measured on the balance, so that the rooms and pillars will measure 8 and 7 yards respectively?

5. Suppose you are working to an old mine which is shown on a plan 25 years old, what precautions would you take in regard to the meridian of the survey?

6. Plot and close by calculation the following survey. Scale, 1" = 100'

Stations.		
1 to 2	N. 35° 00 E.	270 ft.
2 to 3	N. 83 30 E.	129 ft.
3 to 4	S. 57 00 E.	222 ft.
4 to 5	S. 34 15 E.	355 ft.

Give course from 5 to 1 by calculation.

VENTILATION.—Time 3 hours.

Co-efficient .09000001.

1. In a coal field 2 miles square, both openings are at the lowest point of the coal property, and the seam rises on a grade of 2½ per cent. for a distance of 6000 feet. The depth of strata at the openings is 210 feet, and the surface is perfectly horizontal over the whole extent of the property. The ventilation is produced by a forcing fan 15 ft. in diameter. It is found to be unable to supply the lawful quantity of air at the face of the workings. Therefore, with a view to economy, what means would you adopt to insure the lawful amount of ventilation for the mine. Show by sketch or calculation, reasons for your answer.

2. The figure of a section of an airway is a right angled triangle, the base and perpendicular of which are equal, and the length of the hypotenuse is 15 ft. What is the area enclosed by the figure, and what will be the quantity passing along this airway when the velocity is 300 ft. per minute?

3. Give the various modes of ventilation you are acquainted with. Give the merits or demerits of them in full.

4. There are 50,000 cubic ft. of air passing per minute, with a pressure of 10 lbs. per square foot, and 18 H. P. Some accident occurs, and to maintain the same quantity it is necessary to increase the H. P. to 28. What is the pressure per square foot with the increased H. P.?

5. When the air current passing in a mine is divided into two or more equal splits, is the resistance of

the mine thereby diminished or increased, or does it remain the same after splitting as before, assuming the power on the air is constant?

6. In a mine ventilated by three splits of air A, B, and C. A taking 3,000 cubic feet per minute, B taking 2,000 cubic feet per minute, C taking 3,500 cubic feet per minute. What will each split take if the total ventilation be increased to 77,500 cubic feet per minute?

7. Describe the equivalent orifice of a mine, give formula and state what symbols represent.

8. Two shafts, 6 feet by 6 feet each, 1000 ft. deep, pass 45,000 cubic feet of air per minute. How much must they be enlarged to reduce the power one half?

9. An airway 8 feet by 6 feet, and 6000 feet long, is passing 28,800 cubic feet of air per minute, with 15 horse power. Find value of K. & W. G., give the formula in each case, and work out each calculation in full.

10. Draw a sketch of board and pillar workings, for a mine with one hundred and fifty miners, show number of workmen in each district, course of air showing air splits, and crossings, stoppings, doors and regulators. Give size of return air-ways, also quantity of air in each split.

MODES OF WORK—Time 3 hours.

1. Show a form of timbering in a pitching seam where the coal is soft, and falls to a height greater than that required for the gangway.

2. What per cent. grade would you have on main level haulage road? Give reasons.

3. Define (a) Creep, (b) Thrust, and dangers arising from same.

4. What points must be carefully considered while working contiguous seams?

5. State fully your opinions as to the shooting of coal in a dry, dusty mine, generating fire-damp, and what precautions you would take to insure the safety of workmen, and produce the maximum percentage of large coal.

6. Give the comparative advantages and disadvantages of the long-wall and bord and pillar methods of working a coal mine, and state under what conditions you would accept either of these methods, and show by sketch how you would carry out each system.

7. If you had a number of men in a certain district, and fire was to take place in an intake airway, state how you would proceed to rescue the men.

8. How would you timber an airway when the bottom is soft and wet?

GEOLOGY—Time 1 hour.

1. (a) What are the two classes of rocks forming the earth's crust?

(b) In which of these classes is the carboniferous system?

2. Describe briefly a coal field in Nova Scotia with which you are familiar, stating the principal features of its geological formation, taking into consideration faults which have been encountered.

3. Describe briefly what is meant by Outcrop, Strike, Dip, Synclinal, Anticlinal, Bed, Seam, Vein and Dyke.

4. What are the principal constituents of Bituminous Coal?

5. Describe briefly what you consider objectionable ingredients in Bituminous Coal, and percentages of same from general analysis which lessen the value for

- Steam Coal,
- Metallurgical purposes,
- Domestic use.

6. What is the difference between a coal seam and a mineral vein?

MECHANICS,—Time 2 hours.

1. What course would you pursue if it is found that water is low in a boiler and you do not want to stop fan only for the shortest possible time?

2. Why should the steam pipe leading from the boiler to the cylinder be inclined toward the boiler?

3. If you are to hoist 200 tons an hour from a depth of 500 feet, what type of engine and boilers would you choose? Verify your choice by figures.

4. Show by a sketch how you would set a guide pulley on a curve on a slope to keep the rope in the centre of the track.

5. Explain the advantages and disadvantages of the use of compressed air in mining operations.

6. Explain the principle of the siphon.

7. Water is running into the mine at the rate of 500 gal. per minute. Depth of mine 600 feet. What horse-power would it require to keep the water out? What would be the diameter of the plunger of pump, running at 100 feet piston speed, steam pressure 60 lbs?

8. Describe how you would make a good concrete for foundations for your engines.

9. In staying a pit frame against the pull of the engine, how would you place your stays?

UNDERGROUND MANAGERS AND OVERMEN

SCHOLARSHIP—Time 2½ hours.

1. The base of a right angle triangle is 60 feet, and perpendicular 80 feet, what is the hypotenuse?

2. A can do a piece of work in 5 days and B in 7 days, how long will it take B to finish the work after A has worked 2½ days?

3. Find the specific gravity of a stone which weighs 21 lbs. in air, and 12.25 lbs. in water.

4. At 90 cents a cubic yard how much will it cost

to build a wall 72 feet long, 7 ft. high, 3 feet thick at the bottom and eighteen inches at the top?

5. Divide \$3,600 among A, B and C, in proportion of 5, 6 and 7.

6. Find the square root of 4.7 to four decimal places.

7. Find the sum of $2\frac{1}{2}$, 13-14, 5 3-7, 19-24.

8. On a railway there are 30 telegraph poles to the mile. If a train passes 17 of these in a minute, at what rate in miles per hour is the train moving?

SURVEYING—Time 2½ hours.

1. How should a compass be set in relation to the operator?

2. Why is the compass plate marked W. on the right hand side and E. on the left?

3. Plot the following compass survey to a scale of 100 ft to 1 inch:—

STATION	BEARING	DISTANCE
1 to 2	N. 35° E.	270 ft.
2 to 3	N. 83° E.	120 ft.
3 to 4	S. 57° E.	222 ft.
4 to 5	S. 34° W.	355 ft.

and give course from 5 to 1, and find the distance from 5 to place of beginning by protractor and scale.

4. What is the angle made by two lines, the bearings of which are respectively N. 25 deg. W., and S 12 deg. W.?

5. How would you set off a right angle with a tape.

6. A Surveyor's chain is 66 ft. in length, a link is the 100th part of a chain. An oblong field, having all its angles right angles, measures 5 chains and 72 links in length, and 3 chains and 45 links in width. How many square yards does it contain?

MODES OF WORK.—Time 3 hours.

1. Give reasons why different methods of mining are used, and why one method will not answer for all mines?

2. Show clearly, by means of sketches, the two common methods of working a coal field, giving the conditions favorable to, or requiring the application of each of these methods.

3. In developing a mine, and mining a seam of coal generating large quantities of gas, how should the mine be planned?

4. In opening up a colliery, what precautions would you use for the future protection of your slope or shaft?

5. Do you consider electricity, as a motive or lighting power, dangerous in mines producing explosive gases? Give reasons for your answer.

6. To what cause or causes can squeezes in mines be traced?

7. What must be carefully considered before the

work of drawing pillars is begun.

8. Define (a) Creep. (b) Thrust.

VENTILATION.—Time 3 hours.

Co-efficient .00000001.

1. Name the different kinds of safety lamps with which you are acquainted, and say in your opinion which is the best, and why?

2. Describe the action of the flame of a safety lamp in a mixture of C. H₄ and C. O₂.

3. In a section of a mine there are 12 rooms. An explosive mixture of gas is discovered in the 6th. room. What precautions would you take to guard against an explosion?

4. Find the weight of a cubic foot of air at 60 deg. Fah and barometer 30 inches.

5. If 80,000 feet of air are passing with a pressure of .75 inches, what will the pressure be if the quantity is decreased to 65,000 feet, and what will be the difference in the H. P.?

6. Describe a water gauge, and how you should read it?

7. The H. P. of a fan = 20, and the W. G. = 2 inches. What quantity of air is circulating per minute?

8. Find the water gauge that is necessary to force 10,000 cubic feet of air per minute along an airway 6,000 feet long, 10 feet wide by 5 feet high.

MINES ACT.—Time 3 hours.

1. What does the Act say about the employment of boys?

2. What does the Act say about the liabilities of persons working in or about a mine?

3. What does the Mines Act say about the liability of mine officials?

4. What are the duties of a mine examiner?

5. State what the law says about sub-marine arcas

6. What is meant by special rules?

7. What is the procedure in the case of prosecution under the Mines Act?

8. Under the Mines Act, what is meant by the term Mine?

9. What certified official can act in the capacity of shot-firer?

Owing to the high cost of production compressed air can only be economically applied for the purpose of ventilation in rare instances. It would be ruinous to adapt a system of ventilation by compressed air in any of our modern mines, owing to the large quantity of air required and the high cost of production; but compressed air may be adopted in metal mines economically.

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STELLARTON, N. S.

JULY 8

A NEGLECTED N. S. ASSETT.

Gypsum is one of the most important minerals of our country, which has been very much neglected. The deposits of Nova Scotia, and New Brunswick, exceed anything known to the world in quantity, variety, and quality; yet, although this is a fact and though some deposits have been operated for nearly a century, they have only been developed in their primary stage.

For the year 1907 Nova Scotia produced 324,945 tons and received a value of about one dollar per ton. It was practically all shipped to foreign markets in the crude state and manufactured there into many different products. If this amount was manufactured at home, its value at the mills (present wholesale prices) would be about \$3,000,000.

In the United States, where this industry is developed to its fullest extent, the trade has increased very rapidly during the past decade. The production for 1900 was 594,462 tons, in 1906 it was 1,540,585 tons. It is a known fact that gypsum exported from Cape Breton to Chester Pa., paid a duty of fifty cents per ton, was manufactured there and sent back to Canada, paying 12 1-2 per cent. duty per ton, to be used in the building of fire proof walls in different buildings in the Upper Provinces. This is simply true because our people know practically nothing of the great extent of our deposits.

Some who have made a special study of this subject for many years, both from a scientific and practical point have secured much valuable information, which leads us to say that it can be proven beyond doubt that it is possible to manufacture gypsum in this country, under the existing circumstances, and supply not only our own but the greater part of the United States market.

There is nothing in the mineral industry in our province that has the opportunity for expansion as that of gypsum. The Mining Branch of the Department of Mines, Ottawa, under Dr. Haanel, its Director, has written monographs on graphite, asbestos, zinc, resources of B. C. and some others.

What has been done for these ought to be done by a Nova Scotian expert for gypsum. Let some one capable write a monograph on gypsum, so that the reader can determine from its con-

tents the location, the quantity and quality of all the deposits, at least in Eastern Canada; the possible shipping facilities and costs, the uses, demand and methods of operating quarries and preparing the product for the market on the most modern principles with detailed specifications and costs.

If such a work were published, it will, no doubt bring our latent resources to the front and give us full value, not only for what is being produced to day, but also that of an increased production. It is a peculiar fact, which possibly explains to some extent the reason for so little development in this line, that all of the quarries with one exception, of any importance, that are being operated are controlled by American capitalists who prefer to manufacture this product at home rather than abroad.

The exception is the Great Northern Mining Co., of Cheticamp. The company is not yet, it is true, in active operation, but work on the erection of mills and the requisite machinery is being pushed vigorously. Those at the head of this concern, Father Bissett and Mr. Grandon, M. E., among them, desire the greatest praise for their enterprise; we had almost said daring, for it needs courage to embark on a wholly new enterprise. The Record hopes that the Great Northern Co. is but the pioneer of an industry that, after coal, may dominate the mineral section of our province. Let a monograph be prepared and published soon as possible.

It is said that the United States Steel Corporation is now operating at 49 per cent. of capacity, which means a half increase over the early part of the year when operations were on a basis of 30-35 per cent.

Judging by the returns for May as detailed in the Labor Gazette, lumbering, including logging and saw-milling—is a very dangerous occupation, the next dangerous being in connection with railways, the third in order being mining. There were 23 lives lost in lumbering 22 in railroading and construction, and thirteen in mining and prospecting in Canada in the month of May last.

The world's coal supply for 1906 totalled 1,013,000,000 tons, an increase of 72,000,000 tons on the preceding year. Of this amount Great Britain accounted for 255,097,000 tons, the largest from any country save the United States, which contributed 375,721,000 tons. Over a third of the people engaged throughout the world in mining and quarrying—nearly five and a quarter millions—are employed in the British Empire, and nearly one-fifth in the United Kingdom. Great Britain employs 867,000 in coal mining alone, the United States coming next with 641,000. The death-rate of coal-miners in the United Kingdom was 1.29 per 1000; in the United States, 3.21 per 1000.

- Rubs by Rambler.

A loyal P. W. A. man writes me, as one who knew a little about P. W. A. matters in the past, asking my opinion of the present position of the society, and what is best to be done. To answer the last question first, my answer is "stand pat." The P. W. A. is in the province to stay and if the loyalists keep a stiff upper lip they will find by and bye that theirs has been the manly and patriotic course and that their position is so strong that several U. M. W's, with more astute leaders than Lewis, and far smarter and shrewder organizers than Patterson, will be powerless to dislodge them. The P. W. A., I should fancy is as strong to-day as ever it was. True, it may not have the numerical strength of two years ago, but it has a large number of solid, hard headed, common sense, tried and true men to carry it safely over the hill presently filling it. The referendum vote proves only that there is a large number of men who would like a change and that is all. It does not in any great measure affect the standing of the P. W. A. Between you and me the referendum was a high old joke, engineered to give the men a day off, with something approaching an excuse. It could not possibly effect any purpose, good purpose at any rate. I go as far as to say it was beyond the power of the Grand Council to order. The Gd Council had power to order a referendum on the question, say, of affiliation, or co-operation with some other society, trades union or otherwise, but it had no power to call for a referendum to see if the P. W. A. would allow itself to be submerged, absorbed, or form a part of the U. M. W. Every Grand Officer, every delegate, every ordinary member of the P. W. A. was and is at perfect liberty to forswear allegiance, or quietly resign from the P. W. A. and go over to the U. M. W's. But as the constitution stands, no lodge—far less the Grand Council as the mouth piece of many lodges—could decide to go over as a lodge. Every mothers son of them outside of the lodge room, or in the place even where the lodge meets could decide to go over in a body to the U. M. W., but as a body of individual men and not as a body comprising a lodge of the P. W. A. I have said the P. W. A. is as strong to-day as ever. Perhaps stronger, for it has been purified. The loyal members know now who's who. Again the referendum alters nothing. The vote determines nothing, the majority was not decided enough. The paper headings have it that the 'Miners turned down the P. W. A.' and that the U. M. W. won out by between 400 and 500. That is not the case, The U. M. W. lost by between 600 and 700. Instead of receiving only 2746 votes to "win out" they should have received at least 3400 votes. It may be said that the arrangement made at Gd. Council was that a majority vote should decide the question. Any such arrangement was 'ultra vires' of the Gd. Council and therefore not binding on the members at large. The arrangement may—from the stand point of honor,—be binding on the delegates or some of them, but it does not in the slightest affect the position of the mem-

bers at large. I understand the Pietou lodges, at any rate, intend to stand by the P. W. A. and are already preparing to make their position secure. Certain of the Island lodges have no present intention of resigning from the P. W. A., indeed in Pietou and the Island the late fuss has only strengthened their love and affection for it.

More and more as the years roll on, public opinion will become an arbiter in industrial strife. I think those who take any interest in the relations between capital and labor, the serious and unselfish among them, must have come to some such conclusion. Neither the weight of capitalistic gold, nor the weight of numbers of the wage earners is to be the dominant factor in the prevention of open feuds between masters and men, but the weight of public opinion. In view of this assumption, justified by happenings in recent years, it is a marvel to many that so large numbers of the P. W. A. expressed a preference to be swallowed up by an alien society. It may be asked, "Will the fact of the miners of Nova Scotia attaching themselves to a foreign organization have any effect on public opinion?" To my mind most certainly. Nova Scotians, as a whole, had, if anything, a rather friendly feeling towards the P. W. A. and took considerable interest in its doings, and in not a few cases seemed to be on its side rather than that of the operators. The P. W. A. was a home society, led by men from among ourselves, therefore peoples sympathies were with it. But should there be troubles in the future under the U. M. W. it is possible that the public may lay the blame on agitators outside the province. They will say, "Oh this trouble is fomented by foreigners, who cannot know of conditions in N. S. and to whose interest it may be to provoke strikes," and whether they blame the foreign society or not as the makers of mischief, they will not have as lively an interest in the troubles of members of an alien organization as of members of a home one. The present policy of the P. W. A. is dictated by Nova Scotians, or British subjects if not born in the province; should a portion of the miners allow themselves to be infused into the U. M. W., then their policy will be dictated by foreigners. Patriotism includes pride in the institutions of one's country. It is therefore natural that the public will have much more sympathy, friendliness, leaning, towards an institution guided and managed by Nova Scotians, Canadians, than to any foreign organization, however big and however boastful.

During the past few years, at intervals, there has been some vociferous shouting, by would be reformers on the rampage, in favor of government operation of coal mines. From the grinding greed of the coal kings, and the cruel craftiness of the middlemen, these reformers prayed—as they shouted—for the good George Murray to deliver them. I am not sure that I did not join in the petition. But I would not like to say that it was from motives similar to theirs. It would be worth more than a dollar of any man's money to look upon the local government trying to manage a coal mine, with say the genial Dr. Kendall as managing director. I felt convinced in my

mind that they would make a bonnie mess of it. They would surely have dear bought experience. The government of New Brunswick has in an indirect way been trying its hand in coal mining, with results judging from the following report not satisfactory, at least to those most concerned.—
 "Fredericton, N. B., June 23.—This morning the time of the Central Railway Enquiry Commission was taken up with the New Brunswick Coal and Railway Company's affairs. Ald. Winslow, the secretary of the company, being on the stand most of the time. He told of the company being formed and said 500 shares of stock, with \$100 as the apparent par value, were distributed without any actual payment of cash, so far as happened that 430 shares of stock fell into the hands of Mr. C. N. Skinner, of St. John, and after holding it for a short time, he started distributing it about to some others, largely friends and relatives of Hon. Wm. Pugsley. This company handled a large sum of money through getting advances from banks when the road was being constructed, more upon advances from the People's Bank with subsidies and an issue of bonds as security. Of books the company had little or none. It is true that there was a stock certificate book and a stock transfer book, but there was no actual cash book. A ledger was made up, however, for checks, letters and a few vouchers, but there is nothing to show that it is accurate.

Before Mr. Winslow was on the stand, Deputy Receiver-General Babbitt was recalled and in his evidence he told of the issue of \$450,000 bonds, but he said that although it was the practice of the Government to register all its bond issues these lots were not registered.

He submitted a statement showing that \$1, 019,599.22 was the amount of provincial moneys put into the enterprise and that since the Government took over the road until March 19th., 1908, the government had paid \$345,599.22 in interest and in meeting other obligations, exclusive of the issue, many of obligations being involved before the government took charge.

.. .. .
 We have not had it, in Nova Scotia anything like as bad as they have had it in the States. The Coal Trade Journal referring to the depression 1908 has passed into history, and it has probably been the most unsatisfactory six months in the business experience of all of the younger element in the trade. Of course the older people can recall the hard times of 1873 and 1898, but almost a new generation has sprung up since the Chicago Fair era, and to them the depressed business conditions have been a sad revelation. The lack of activity subsequent to the Chicago convention is a new indication of the slow progress that will be made toward recovery, and illustrates at the same time the seriousness of the situation that has prevailed in the past few months."

.. .. .
 In the British old age pension scheme as originally introduced, if a man's savings or income amounted to ten shillings per week, he received a pension of five shillings, whereas if his income was ten shillings and sixpence he got no pension at all. On a discussion on the subject in the Brit-

ish House of Commons, Mr. Lloyd George admitted the unfairness of this and will favor a sliding scale so that there may be no inducement for men to be less thrifty. On the merits of a contributory or non-contributory scheme, Mr. George was altogether in favor of the latter, and said the former was cumbersome and would not work in Britain. Whatever the rank and file of both parties may think on this point, both parties as a body are afraid to speak in favor of a contributory scheme. Mr. George's main argument against the idea that a non-contributory scheme was after all a charity, was that so long as tea and sugar were taxed, all men contributed to the national funds. This is a monstrously weak argument and would only hold good if all contributors to the national funds were to receive a pension. A weak point too about the argument is that the man who receives a pension not only gets his own contribution to the revenue back, but a portion of that contributed by his thrifter fellow man. Mr. Harold Cox, a lively radical member, made a telling speech against a non contributory scheme and to my mind had far the best of the argument. Mr. Cox claimed that men were quite willing to tax themselves for their trades unions and that all taxation was compulsory. He held that it was better for a man to tax himself for his own pension than be taxed to pension somebody else. Mr. Cox seems to favor the view expressed many times in the Record, that the best scheme of all was to raise wages so that men could provide for themselves. I am opposed to collections for old and infirm ministers on the ground that they ought to make provision for themselves. If it is argued they cannot do this on account of the smallness of their stipends, my ready reply is 'raise them.' When a call is given to a minister the old formula, so much, and a manse might be extended by the addition of the words 'and half the sum necessary to secure a pension of ten dollars a week after the age of 65.' Our Nova Scotia contributory scheme is far away ahead of the B-itch. In Nova Scotia, as yet, we are independent self helpers.

.. .. .
 It is asserted that Ladysmith, Westville, which voted at the late "referendum" for the P. W. A. will stick to the Association, in face of everything, and even if it is the only lodge which shall so determine. I never for a moment thought that Ladysmith and, indeed, the several lodges in Picton, and I may add Inverness, would come to any different conclusion. In Westville was fought the first battle for the recognition of a trade union in Nova Scotia, or if there be a forgotten previous instance, then for the recognition of unionism as embodied in the P. W. A. It was not to be expected that the men of Westville, who had played so important a part in the starting of the society, would readily consent to cast it from their memories. The men of Westville played a part in the starting of the P. W. A., which the younger men of to-day may never have heard of. When the Springhill men struck in August 1879 against a second reduction in that year, an agent, Tim Leadbetter—was sent to Westville to request assistance, if needed. He came back with \$100 dollars, but the money was not needed for its original purpose. The men of Springhill decided that the money should be employed in paying the

services of one in organizing lodges in the various parts of the province. With that hundred dollars lodges were formed in Pictou Co., Cameron, No. 2, Fidelity No. 3 and McBean. It is a question whether but for that hundred dollars the P. W. A. had ever been started, though a local union of some kind might probably have been started in Springhill. The example set by Ladysmith will be followed by the other Pictou lodges. Indeed I hear that even in South Cape Breton it will be found that several of the lodges will decide on no account to bow the knee to an alien organization.

MINING MACHINES

The first coal mining machine was installed in a Pittsburgh district mine in 1893; that is, the first that was regarded as having within it commercial possibilities. As far back as 1882, a Harrison punching machine was installed in the Laurel Hill No. 2 mine of Col. W. P. Rend, and that veteran innovator in all that pertains to mining, was so sanguine of its successful use that he ordered seven more of them installed. Then occurred a strike of the miners against the use of the machine, and the result was that they were taken out. In September, 1883, ten machines and a Norwalk compressor were installed in the Biddle shaft of the Westmoreland Coal Co., at Irwin, but they were not as successful as had been expected. All of the early types of mining machines were modeled on pick mining, and were, moreover, cumbersome and crude. More coal was torn loose with them by pick mining during a similar time, but the expense of their up-keep was so heavy that they were found expensive and were abandoned. It was not until the chain machine came into being that machine mining can be said to have been a success; but since that time all models of machines have been greatly improved, and the greater amount of coal is now mined by machines. Ohio's output of machine-mined coal last year was over 79 per cent., and in the Pittsburgh district, which produces more coal than any State in the Union, outside of Pennsylvania, about 67 per cent.—Coal Trade Journal.

TRADE DISPUTES IN CANADA DURING AUGUST.

While the number of trade disputes in existence in Canada during May was much less than in the corresponding month of the previous year, and only exceeded the month of April by two, there was a great increase in the amount of time lost, owing largely to a strike of cotton mill hands, which extended to many industrial centres in the province of Quebec, throwing about 6,000 employees out of work. Building operations were to some extent impeded in Montreal on account of a strike of bricklayers, but there was little unrest elsewhere in Canada in the building trades.

The total number of trade disputes reported to have been in existence in Canada during May was 13, compared with 11 in April, and 49 in May, 1907. There were 48 firms and about 8,743 employees affected by trade disputes during the month, about 46 firms and 9,408 employees having been involved in new disputes.

The loss of time to employees through trade disputes

during May was approximately 127,425 working days, compared with 5,400 in April, and 9,408 in May, 1907.

The following shows the trades affected by new disputes during the month, and the number of workers affected in each group of trades.

Mining 3, 2,140; Building trades 4, 748; Metal trades 1; 20; Textile trades 2, 6,350; Gen. transport 1, 250. Total 11, 9,408.

The new disputes of the month occurred in the following provinces of the Dominion:—

Nova Scotia 1; Quebec 4; Ontario 3; Alberta 1; British Columbia 2. Total 11.

The following were the causes of the new disputes of the month:—

For higher wages, 2; Against reduction in wages, 3; Against reduction in wages and bonus system, 1; Against discharge of employees, 3; Against employment of non-unionists, 1; Against conditions of employment 1. Total 11.

Of the 13 trade disputes in existence during the month, 6 were definitely settled, and in 3 others it was reported that the firms involved had ceased to be affected leaving 4 disputes still in existence at the close of the month. One dispute was settled by conciliation under the Industrial Disputes Investigation Act, 1907, two were settled by negotiations between the parties concerned, in two cases work was resumed without negotiations, and in four, the places of the strikers were filled.

Of the disputes which were terminated 7 resulted in favor of the employers, and 1 in favor of the employees, while in 1 the result was indefinite, the matter in dispute being referred to a Board of Investigation and Conciliation.

AMBULANCE WORK IN MINES.

At the luncheon in connection with the ambulance competition at Mardy for Gen. Sir Charles Warner's Rhondda Ambulance Shield, won by the Mardy team by the narrow margin of one point, Mr. F. A. Gray, the chief inspector of mines, in proposing the toast of the St. John Ambulance Association, said he considered a knowledge of ambulance work of great importance in connection with mining, as serious results often followed lack of proper attention immediately after a mishap. Besides being humane, ambulance was economical both for the colliery owners and especially the injured workmen, for simple fractures were often converted into compound fractures through want of first aid, the value of which was never more clearly shown than when the son of the agent of Locket's Merthyr Collieries some time ago received an electric shock. Fortunately, the father (Mr. T. E. Richards), who had a thorough knowledge of ambulance work, was on the spot, and after twenty-five minutes of hard work succeeded in restoring natural respiration. Had there been the slightest delay in that particular case the son's life would have been lost. He (Mr. Gray) had no hesitation in saying that during the last five years hundreds of lives had been saved by first aid in that district alone, and he could give numerous instances in point. They would appreciate the necessity of a knowledge of first-aid when they realized that no less than 569 persons were injured in and about the mines in that district during last year. He, however, wished just to give a word of warning, and that was that ambulance men should always bear in mind that their services were only required pending the arrival of the medical man, who should be on the spot as soon as possible.

AROUND THE COLLIERIES.

Deliveries of coal except to the railways, are reported slow in Montreal.

On account of the general slackness in manufactures there is no coke being made at present in Pictou Co.

Through the 'block' and strikes it is computed that 3000 men are idle at the collieries in Lankashire, Scotland.

Springhill happily is enjoying a respite from turmoil. Better for all, the men especially, that things are as they are than otherwise.

Sydney No. 4 is rather slow in making the start that its distant friends looked for. Perhaps there is no call for a rush at present,

Springhill is experiencing the usual epidemic of off days during the summer months, large numbers being reported off work, especially for days after pay days.

Springhill after a long period of prosperity is beginning to feel the effects of the general trade depression, some time has been lost and the outlook is not the brightest for the future.

The blast furnaces of the Nova Scotia Steel & Coal Co. will start up again in say, ten days or probably from the 15th. to the 20th. The furnaces will be devoted for a time to the production of foundry iron.

Big as the Dominion Coal Co's. shipments for June are they are not quite up to the shipments of June of last year, probably due to the fact that the double shift has been discarded except in one instance.

If the ticker always tells the tale, the tale it told last week about Dom. Iron & Steel was not a comforting one. Dom. Iron common went down sadly. The ticker cannot be so certain of the outcome before the Privy Council as Plummer and Workman.

In view of the fact that the furnaces and open hearths were closed down in June, the fact that the shipments for that month are only some 10,000 tons, short of those for June of last year shows that the Nova Scotia Steel & Coal Co. found other and fully as profitable markets for the coal.

The State of Missouri, it is highly probable, carries off the palm for having in 1907 produced the largest quantity of coal with the lowest average of fatal accidents. The output was 4,274,000 tons and the fatal accidents numbered only eight, which gives 534,500 tons of coal mined per life lost. This is indeed a record of which the State may well be proud.

That the general market is not quite so brisk in Montreal as anticipated is evidenced by the fact that the S. S. Havsa, the Drummond boat, made two trips for the Acadia Coal Co. The Acadia is filling an old contract for the G T. R., otherwise trade might not be quite so brisk in Pictou County.

If the men at the collieries would take a holiday and be done with it, it might be all right, but after a holiday there is sure to be a big after-math. For instance the normal output at Sydney Mines is 2200 tons per day. The day after Dominion Day, a holiday, the output was 1,000 tons only. That means that over 50 per cent. of the workmen were picking up the ravelings of the day before.

Springhill, it appears, furnished the majority in the referendum vote for amalgamation with the U. M. W. of America. Well as the number of votes for affiliation from each lodge, indicated the conscious inability to conduct their own affairs, an almost unanimous vote might have been expected from Pioneer. When the past action of the lodge and the personal of the leaders is considered, any change must be for the better.

It seems curious that the miners at some of the collieries in C. B. should be demanding an advance, while in Britain there has been two reductions in miners wages of late, equaling about eighteen per cent. It is the opinion of some that if the Nova Scotia coal operators do not soon realize more profit on sales there may be a proposed reduction in pit costs, including rates for cutting.

The Geological Department has secured a little money and is sending the staff out to do some field work. Hugh Fletcher sticks to Cumberland County. His summer quarters will be in the North Western part of the county, adjoining the coal mines. It is said Hugh was never in love with anything but his field work. Is it possible that at long last he has taken a 'thocht to mend'?

A Springhill correspondent writes: It is understood that Mr. W— W— will be accorded a prominent position under the American Government of the society when affiliation is affected. The rumour however may only be the result of the gentlemen's advocacy of fadness. The result of the vote places us, as Canadian miners, in a bad place, a place in which no shred of self respect can remain to us, from whatever point of view we may look at it. Such an acknowledged want of ability to conduct our own affairs would not be thought of five years ago. The influx of a disgruntled, incapable foreign element can only account for the degenerate action of Canadians to-day.

The making of fire-brick at the Drummond colliery has been suspended for a time, owing to short demand and low prices. The government gives large protection to Sydney steel, and yet does not protect the industries whose products are used by the steel companies. If we are ever to make fire brick in Nova Scotia the government must come to the assistance of those who are willing to venture in the fire brick business. There are brick made in N. S. equal to the second class fire brick imported. How is it that it is possible to import these brick. The steel industry should not be the only one to have consideration at the hands of the government.

AROUND THE COLLIERIES.

Coal Shipments June, 1908

—DOMINION COAL COMPANY, LTD.—

—Output and Shipments for May, 1908—

—Output— —Shipments—

Dominion No. 1	52 316	
Dominion No. 2	66 851	
Dominion No. 3	36 052	
Dominion No. 4	38 836	
Dominion No. 5	55 285	
Dominion No. 6	23 178	384 299
Dominion No. 7	13 665	
Dominion No. 8	21 384	
Dominion No. 9	35 399	

	342 906	384 299
Shipments June 1907...		386 571
Decrease " 1908.....	2 272	

Shipments 6 mos. 1908.....	1 506 815
" " 1907.....	1 386 307
Increase 6 " 1908.....	120 508

INTERCOLONIAL COAL CO.

Shipments June 1908.....	21 845
" " 1907.....	22 374
Decrease " 1908.....	471

Shipments 6 mos. 1908.....	134 523
" " 1907.....	131 897
Increase 6 " 1908.....	2 626

NOVA SCOTIA STEEL & COAL CO.

Shipments June 1908.....	64 100
" " 1907.....	77 055
Decrease " 1908.....	12 955

Shipments 6 mos. '08.....	287 595
" " '07.....	240 682
Increase 6 " '08.....	46 913

ACADIA COAL CO.

Shipments June 1908.....	30 750
" " 1907.....	30 639
Increase " 1908.....	111

Shipments 6 mos. 1908.....	162 648
" " 1907.....	142 894
Increase 6 " 1908.....	19 754

CUMBERLAND RAILWAY AND COAL CO.

Shipments June 1908.....	29 411
" " 1907.....	34 310
Decrease " 1908.....	4 899

Shipments 6 mos. 1908.....	198 279
" " 1907.....	176 346
Increase 6 " 1908.....	21 933

INVERNESS RAILWAY & COAL CO.

Shipments June 1908.....	30 171
" " 1907.....	28 062
Increase " 1908.....	2 109

Shipments 6 mos. '08.....	128 291
" " '07.....	103 637
Increase 6 " '08.....	25 254

It is said that the commission appointed by the Local government to enquire into the possible effect of an eight hour day, will begin its sittings in August. This sounds rather curious as, so far as is known, the commission has had no private sessions to map out a course of procedure. Before the British Commission on the same subject held open meetings for the hearing of evidence, it sought for and obtained figures and statistics necessary to an intelligent comprehension of their duties. Neither the masters nor the men have been notified of what is expected of them in the way of evidence. It is understood the commission will sit at Glace Bay, Sydney Mines, Inverness, New Glasgow, Stellarton, Springhill, Yarmouth, Bridgewater and some other towns to the westward.

A party who is prominent in the public eye these days, on account of his writings in a conversation last week with a Record representative said: "You talk about there being nothing in coal and yet all the coal men are millionaires". He was asked to name one coal baron that had ever made a fortune from the selling of coal. He replied "Theres Mr. Cowans who writes to the papers as if all the profit went to the man and none came his way. If none came his way how is he rolling up wealth". "If he is rolling in wealth" was the reply, "he never rolled it out of the profits of the sale of Springhill coal." Since the conversation took place the following figures of shipments and wages appeared in the Chronicle:

Shipments 5 months ending May 1908	169,240
Wages 5 " " " 1908	368,913

Now will some of those who say that coal costs a dollar or a little over, add the cost of material and fixed charges to the amount paid for wages and say how much coal costs to produce in Springhill where the methods of production are of the best,

C. P. R. AND HALIFAX.

It is stated, on what appears to be good authority, that Sir Thomas Shaughnessy, on the occasion of his visit to Ottawa last week, re-opened the negotiations of last spring looking to the acquisition of running rights over the Intercolonial from St. John to Halifax, and that in fact he submitted a definite proposition to the Minister of Railways with that end in view.

Sir Thomas has all along, but more particularly during the past year, been anxious to secure for the C. P. R. entrance by rail to the port of Halifax, and it is said that now, in the event of a failure to reach a satisfactory agreement with the government as to the terms on which these running rights should be granted, he proposes that a tentative agreement for one year should be entered into, this agreement and its results to form a basis at the expiration of the year for arbitration as to what would be fair terms to both parties. Sir Thomas's proposal is regarded as a new development of the All Red Route scheme.

The C. P. R. at one time had running rights into Halifax, but when Mr. Blair became Minister of Railways the agreement was cancelled because it was considered that the I. C. R. was suffering thereby. Practical railway men declare however, that with an equitable agreement, both the Intercolonial Railway and the city of Halifax would greatly benefit by the C. P. R. being granted the privilege.

The C. P. R. would undoubtedly bring much more business to the port in connection with its fast line of steamers, and the still faster boats that are projected under the All Red Route scheme, and Halifax would undoubtedly benefit by being made a competing point instead of its transportation being monopolized by the Intercolonial.

The Intercolonial Railway would also be the gainer for while the C. P. R. would to a large extent bring its own business to the port, if it did take some of the Intercolonial's, this would be more than make up by the regular rental that would be paid by the C. P. R. As an instance of what such a rental might be it may be said that the Wabash Railway pays the Grand Trunk a rental of \$250,000 a year for running rights over the G. T. R. line from Windsor to Buffalo, besides contributing its proportion of maintenance. From Windsor to Buffalo is two hundred miles, while the distance from St. John to Halifax is 275.—Montreal Witness.

The new bank head extension of No. 2 mine, Springhill, is being pushed ahead as connection will be made towards the last of July. It will be an imposing looking structure when finished and will add much to facilities for hoisting coal from the mine.

Considerable culm is being dumped around and behind No. 2 boiler shed, Springhill.

In coal mines where coal cutting machinery and haulage plants are actuated by means of compressed air the exhaust air from the engines would augment the ventilation of the mine, and in case of a tunnel being driven across the measures for the purpose of exploration the boring machines would in all probability be driven by compressed air, and by having the pipe column large enough the ventilation of the tunnel may in this case be economically carried out, because it would be less expensive under these conditions than would the driving of a return air-way, or the building of a brattice, or air collar in the tunnel.

The racing days of Springhill are past for this time. It was a very successful meet, good racing and good weather.

In metal mining, where little or no noxious gasses are given off, the only gasses which have to be diluted and carried away are those given off from explosives, burning of lights, breathing of men and animals, etc. Therefore, a very much smaller amount of air is required to ventilate the workings. A large number of metal mines rely upon natural ventilation aided by the exhaust from the rock drills, pumps, and other mechanical appliances for the purpose of keeping the mine in a fit state for working.

Many workmen have the impression that air is impaired whilst undergoing compression, and that when delivered to them for breathing purposes through the mains is detrimental to the health, but several mining authorities and chemists have made analysis of samples of compressed air taken from the compressed air mains in mines, and the result has shown that the air was practically pure. Some of the gentlemen who made these experiments are Dr. Haldane, Martin, Thomas, and Mann.

In Pennsylvania, the condition of the miner with respect to the daily wage, hours of labor, sanitary surroundings, protection from accident, and pecuniary relief in case of disability, is a fortunate one when compared with conditions that exist in many other States and countries. In this State we have at many collieries in the Anthracite region what are known as First Aid to the Injured Corps, whose of emergency greatly lessened the suffering of the injured workers. There are also established at the various collieries emergency hospitals, the beneficent character of which is being daily demonstrated. And to lighten the immediate distress of the men who are injured in the mines, and to give their families temporary financial assistance, many companies have established relief funds.

INTERCOLONIAL RAILWAY.

TENDER.

Sealed tenders addressed to the undersigned and marked on the outside "Tender for Water Supply" will be received up to and including Tuesday the 14th July, 1908, for extensions to the Water Supplies at Mulgrave, N. B.; Campbellton, N. B.; Little Metis, P. Q.; St. Charles Junction, P. Q.; and St. Apollinaire, P. Q.

Parties may tender on one or more of the above works; each tender being placed in a separate sealed envelope and marked on the outside "Tender for Water Supply at—".

Plans and Specifications may be seen at the Station Master's Office at each of the above mentioned places and at the Chief Engineer's Office, Moncton, N. B., where forms of tender may be obtained.

All the conditions of the specifications must be complied with.

Railway Office,
June 30th, '08.
D. POTTINGER,
General Manager,
Moncton, N. B.

Amatite ROOFING

A roofing that consists of smooth materials, made to receive a heavy coating of paint, is not a roofing at all—the paint is the real roof.

If you are told that certain roofings don't need painting when first laid, don't be deceived into thinking that they are like Amatite. The first coat of paint has been applied at the factory—that's all, and it will wear off in a little while and require renewal.

No paint is good enough to make a durable roof; a thick layer of pitch, faced with a real mineral surface is far better—and that means Amatite.

FREE SAMPLE AND BOOKLET

A Free Sample with Booklet will be sent on request to our nearest office.

If you had a sample of Amatite in your hand you would see in an instant why it needs no painting or coating to keep it waterproof.

It has a rough surface of *real mineral matter* on the weather side. It is evident to anyone that it is no more necessary to paint such a surface than it is necessary to paint a stone wall. Stone needs no paint; neither does Amatite. It is strong enough in itself to bear the brunt of wind and sun without a protective coat of paint.

To paint Amatite would be a waste of time and trouble.

Amatite will last for many years without any care whatever. It is made to be *trouble proof* as well as *weather proof*.



The CARRITTE - PATERSON M'FG C'O'Y., Ltd.
St. John, N. B., Halifax, N. S.

Owing to the high cost of production compressed air can only be economically applied for the purpose of ventilation in rare instances. It would be ruinous to adopt a system of ventilation by compressed air in any of our modern mines, owing to the large quantity of air required and the high cost of production; but compressed air may be adopted in metal mines economically.

"FENERTY" SHOVELS

—FOR—
Miners, Contractors and
Heavy Work.

"GILMOUR" SHOVELS

—FOR—
General Purposes,

MANUFACTURED BY
The HALIFAX SHOVEL Co
HALIFAX, N. S.

ALL GOODS GUARANTEED.
SPECIAL SIZES and SHAPES MADE TO ORDER.

Tarred Air Proof —ALSO— FIRE PROOF.

—COLORLESS—
—NON-INFLAMMABLE—

PROMPT
DELIVERIES

BRAITICE CLOTH.

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and
Welsh Collieries

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McCALL & CO.

MONTREAL and LONDONDERRY, N. S.

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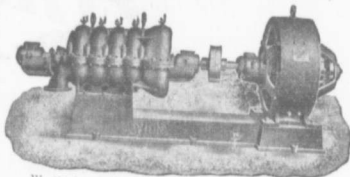
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Limited.**

Montreal and Toronto.

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Westinghouse Motor Driving Dayton Turbine Pumps.

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922-923 Union Bank Bldg., Winnipeg.

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Have Excellent
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WILL NOT COCKLE
::: WITH RAIN :::

Best for _____

**SPRING AND SUMMER
SHIRT WAIST SUITS.**

All Ladies who wish to look well
wear **Priestlys Dress Goods.**
Greenshields Limited, Sole Agents.
Montreal, Canada

The TORNADO AIR POWER ROAL DRILL

is used extensively

by the

Dominion Coal Co

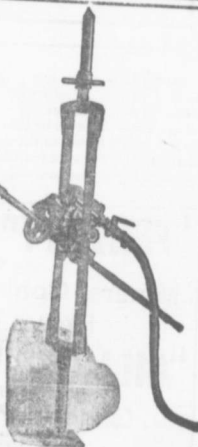
Nova Scotia Steel

and Coal Co.,

Inverness Ry.

and Coal Co.

and others.



Herzler & Henninger Mach. Works

Manufacturers of

H. & H. Coal Cutters & Tornado Coal Drills
Belleville, ILL., U. S. A.



Synopsis of Canadian North-West. Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba or the North West Provinces, excepting 8 and 26, not reserved, may be homesteaded by any person the sole head of a family, or male over 18 years of age, to the extent of one-quarter section, of 160 acres, more or less.

Application for entry must be made in person by the applicant at a Dominion Lands Agency or Sub-agency for the district in which the land is situated by the father, mother, son, daughter, brother or sister of an intending homesteader.

An application for entry or cancellation made personally at any sub-agent's office may be wired to the Agent by the Sub-agent, at the expense of such application into have priority and the land will be held until the necessary papers to complete the transaction are received by mail.

In case of "pre-emption" or fraud the applicant will forfeit all priority of claim or if entry has been granted it will be summarily cancelled.

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

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

Applicant for cancellation must state in what particulars the homestead is in default.

A homesteader whose entry is not the subject of cancellation proceedings may, subject to the 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.

The homesteader is required to perform the homestead duties 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) A homesteader may, if he so desires, perform the required residence duties by living on farming land owned solely by him, not less than eighty (80) acres in extent, in the vicinity of his homestead. Joint ownership in land will not meet this requirement.

(3) If the father (or mother, if the father is deceased) of a homesteader has permanent residence on farming land owned solely by him, not less than 80 acres in extent, in the vicinity of the homestead or upon a homestead entered for by him in the vicinity, such homesteader may perform his own resident duties by living with the father (or mother).

(4) The term "vicinity" in the two preceding paragraphs is defined as passing not more than nine miles in a direct line, exclusive of the width of road allowances crossed in the measurement.

(5) A homesteader intending to perform his resident duties in accordance with the above while living with parents or on farming land owned by himself must notify the Agent for the district of such intention.

Six months' notice in writing must be given to the Commissioner of Dominion Lands at Ottawa, of intention to apply for Patent.

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. ¶

W. W. CORY,

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 200 acres can be acquired by one individual or set on the gross output.

QUARTZ. A free miner's certificate is granted upon payment in advance of \$5 per annum for an individual, and from \$50 to \$100 per annum for a company according to capital.

A free-miner, having discovered mineral in place, may locate a claim 100 x 150 feet.

The fee for recording a claim is \$1.

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

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

Fluor mining claims generally are 100 feet square; entry fee \$10 renewable yearly.

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

The leases 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. CORY,
Deputy of the Minister of the Interior.

Miners Wanted To Chew BULL DOG TOBACCO,

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

TRY IT!

The St. Lawrence Tobacco Co., Ltd.
—Montreal—

—W. B. Reynolds, Halifax Representative—

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The Westellar Terra Cotta Company

having taken over the business of the Stellarton
Brick and Tile Co'y, and having installed more
powerful and modern machinery, WILL BE
PLEASED TO HAVE ENQUIRIES AS TO
PRICE AND QUALITY.

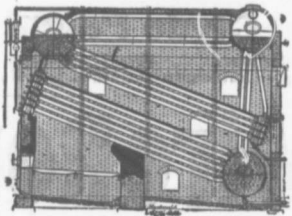
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Head Office — STELLARTON.

GEO. E. MUNRO, Sec'y, WESTVILLE, N. S.

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WATER TUBE BOILERS



FREE EXPANSION OF TUBES.
PERFECT WATER CIRCULATION.
DRY OR SUPERHEATED STEAM
HALF THE USUAL NUMBER OF HANDHOLES.

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Clyde Patent Wire Rope Works,

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"Ropery Rutherglen" **Rutherglen, Glasgow, Scotland.**

Codes, A B C (4th & 5th Eds)
A. L. Lebars and Private.

Wire Ropes

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

The Nova Scotia Steel & Coal Co., Ltd., who use our Ropes largely, write that one of our Haulage Ropes at Wabana Mines has been in service for over 5 years, drawing over 1,700,000 tons in that time and is still good for further considerable service.

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

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Perforated Steel, Steel Wire. For miners and every other use
Write for Special Catalogue.
THE B. GREENING WIRE COMPANY, LIMITED.
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CANADA FOR THE CANADIANS!
WIRE "DOMINION" ROPE
For Everybody.
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 **INNERNESS (BROAD COVE)**

Screened, Run-of-Mine Slack.
—First Class both for Domestic and Steam Purposes.—

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

Apply to Inverness Railway and Coal Company, Inverness, Cape Breton; Wm. Petrie, Agent, Port Hasting, C. B.

INVERNESS RY. & COAL CO'Y
Time Table No. 24, Taking effect at 1 a. m. JUNE 28TH, 1908.

EASTBOUND			STATIONS.	WESTBOUND		
Read Down				Read Up		
No. 52 a. m.	No. 54 p. m.		No. 51 a. m.	No. 53 p. m.		
L 11 17	L 3 59		P. TUPPER JUNCTION	A 11 05	L 7 33	
S 11 23	S 3 55		PORT HAWKESBURY	S 10 57	S 3 37	
A 11 44	A 4 08		PORT HASTINGS	L 10 37	L 3 19	
L 4 13			TROY	P 10 42		
P 4 22			CHELDONISH	S 10 50		
S 4 38			JUDIQUE	P 9 52		
P 4 56			CHARLOTTETOWN	S 9 32		
S 5 05			CATHERINES FOND	P 9 18		
P 5 18			PORT HOOD	L 9 02		
A 5 33			GLENOVE	S 8 57		
S 5 57			MABOU	S 8 41		
S 6 14			GLENEVRE	S 8 27		
S 6 28			BLAIR RIVER	P 7 44		
S 6 46			STRATHLOUNE	L 7 33		
S 7 12			INVERNESS	L 7 15		
A 7 15				A. M.		

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Burns and Works like Bituminous;
Looks and Lasts Like Anthracite;
IT HAS NO EQUAL.

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and General Offices

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Miners and Shippers of **Cow Bay Basin Coals.**

EXCELLENT FUEL FOR

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Recent analysis of the coals in several of the seams in this Basin—which will be persistently developed—show them to be remarkably low in ash and sulphur.

All modern appliances for Screening and picking, so that this coal can be shipped more than "reasonably free from stone and shale."

Loading Piers at Port Morien C. B.

Quick Dispatch.

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Steam Superheaters, Feed Water Heaters, Mechanical Stokers, Coal Conveyors, Steel Chimneys, Structural Steel Work, Electric Cranes, Piping.

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*Best all round flour on the market.
Uniform in quality. Every barrel*

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of the Dominion Coal Company.*

**Air Compressors, Rock Drills,
Imperial Pneumatic Tools,
Air Appliances, Coal Cutters,
"EVERYTHING IN AIR MACHINERY."
BUILT BY
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Tools, Steam, Suction, etc.

"REDSTONE SHEET PACKING,

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

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Unequalled for Durability and Power Transmitting Qualities.

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Miners and Shippers of the

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DELIVERED BY RAIL OR WATER.

SHIPPING PORT: PICTOU LANDING.

Quotations Furnished Promptly on Application.

MARITIME COAL, RAILWAY & POWER CO., Ltd.

Miners and Shippers of

CHIGNECTO High Grade

Steam

—AND—
JOGGINS

—AND—
Domestic

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Unexcelled for General Use.

Shipment by Intercolonial Railway and Bay of Fundy

Collieries., CHIGNECTO and JOGGINS Power Plant, CHIGNECTO, N. S.

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The BROWN MACHINE COY.,

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Coal and Gold Mining Machinery a specialty

Endless Haulage Engines, Revolving Tipples, Picking Tables and Complete Screening Plants for the Cleaning and Picking of Coal. Rope Wheels, Pumps, Valves, Shafting, Belting Etc.

Complete equipments furnished for Coal or Gold mines.

Screening plants are now in operation at Sydney, Springhill, Broad Cove, Port Hood and Westville Mines

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High Grade Fuel
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From Coal Washed by Latest Process,
Growing more popular daily—and considered
to give as good results for Foundry purposes
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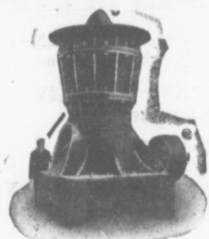
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Better than
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SHIPMENTS BY RAIL OR WATER.

INTERCOLONIAL COAL MINING CO., LTD.,
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HADFIELD'S STEEL Foundry Co., Limited. **SHEFFIELD**



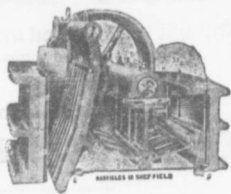
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STONE CRUSHER.



CAST STEEL
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WE MANUFACTURE
CRUSHING ROLLS,
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"EDGES" BEST SPECIAL CRANE CHAINS.

Cannot be Excelled for **HIGH CLASS QUALITY** and **WORKMANSHIP**

They are made of the very best brands of English Bar Iron and by Selected Workmen.

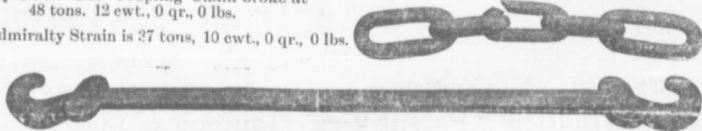
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Coupling Chains and Solid Forged Draw Bars

— For Mine Cars, A SPECIALTY.

This 1½" Draw Bar Coupling Chain broke at
48 tons, 12 cwt., 0 qr., 0 lbs.

The Admiralty Strain is 37 tons, 10 cwt., 0 qr., 0 lbs.



Edge & Sons, Limited,
SHIFNAL, England.

Draw Bar for Coal Car.

Tel. address "Edge" Shifnal.
"Codes" A. B. C. and Bedford McNeills"

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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

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SPRINGHILL

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Mined in the Province.

N. S.

Dominion Coal Company, Ltd.

Miners of the celebrated "Reserve" coal for household use, "International" Gas coal, and the best 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 " "

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

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

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

:: BUNKER COAL ::

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

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

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

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

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

—and from the following agents.—

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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