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Maritime Mining Record

AUG 9 1911

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Gas Coal and Coal for Household Use
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14 Collieries in Operation. — **OUTPUT: 4,000,000 tons Yearly**

Used by Railways, Tramways, Steamships, Manufacturers, Water Works, Light and Power Stations in Ontario, Quebec and the Maritime Provinces, also in Newfourdland and the New England States, Mexico, Sweden, South Africa and the West Indies.

Shipping Piers equipped with modern machinery, ensuring Quickest despatch
—AT—
SYDNEY, LOUISBURG, and GLACE BAY, Cape Breton Island, Nova Scotia, Canada.

7000 ton Steamers Loaded in 7 hours.

Special facilities for loading and prompt despatch given to sailing vessels and small craft. Box Car Loaders for shipments to inland points. Discharging Plants at Montreal, P. Q., Three Rivers, P. Q., Quebec, St. John, N. B. and Halifax, N. S., Capacity up to 1000 tons per Hour.

BUNKER COAL. The Dominion Coal Co. has unsurpassed facilities for Bunkering Ocean going steamers the year round. Steamers of any size promptly loaded and bunkered.

IMPROVED SCREENING FACILITIES at the Collieries for the production of Lump Coal of superior quality for Domestic trade and Household Use.

FOR TERMS, PRICES, ETC., APPLY TO

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" " " " Glace Bay, Nova Scotia.
" " " " 171 Lower Water Street, Halifax, N. S
" " " Quebec, P. Q.

AND FROM THE FOLLOWING AGENTS:
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M. J. Butler, C. M. G.
2nd. Vice-President. and Gen'l Manager.
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Telegraphic Address, Latch, Haymills

LATCH & BATCHELOR, L't'd.

Wire Drawers, Manufacturers of all classes of Wire Ropes,

Patentees and Manufacturers of

Locked Coil and Flattened Strand Wire Ropes,

HAY MILLS, near BIRMINGHAM.

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

Fig 2. HAULING

Lang's Lay Ropes.

Fig 26 WINDING

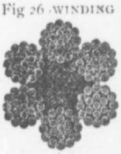
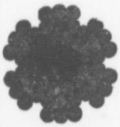


Fig 1. HAULING



Patent Flattened Strand Ropes

Fig 4. WINDING

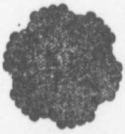


Fig 13. SINKING

Advantages of Patent Flattened Strand Ropes.

1 Greater wearing surface, therefore longer life of rope and less wear upon pulleys.

2 Greater strength, thereby admitting of smaller ropes being used for existing loads, or of increased loads without increase in size of rope

3 Spliced easily and more effectively.

4 Less tendency to twist and stretch in working.

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

Fig 11. CRANE, &c.

Fig 15 a

WINDING.

Locked Coil Ropes.

Indispensible for deep shafts.

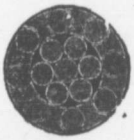
Stronger than any other rope of same size.

Entirely free from twist.

Smooth surface reduces wear to a minimum.

Duration far ahead of any other construction.

Fig 20



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Unexcelled for Domestic, Steam, and General Purposes.

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DELIVERED BY RAIL OR WATER,
SHIPPING PORT, PICTOU LANDING.

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our 'FENERTY' Brand

COOK'S PAN SHOVELS,
COAL TRIMMERS SHOVELS,
SCRAPER SHOVELS, ETC.

ARE USED BY

The Largest Mines in Canada

MANUFACTURED BY

The HALIFAX SHOVEL Co.

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Manufacturers of
Wire Cloth
and
COAL SCREENS
in all Strengths.
Double Crimped Process.

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"Have you an Up-to-Date Lock-Up in your District."

CANADA WIRE GOODS MFG. CO.
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—Manufacturers of—

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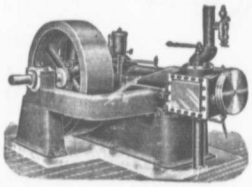
For Marsaut, Muesele Deflector or Closed Lamp

PURE WHITE FLAME. LOW PRICE.
E. WOLASTON, Dutton St. **MANCHESTER**

Sole Representatives for Canada, AUSTEN BROS., Halifax, N. S.

Bearings in Line.



In sizes up to 135 horse power, the outboard bearing of our side crank engines is connected to the frame by a wing, keeping the bearings perfectly in line.

These engines are built on the interchangeable system and duplicate parts are kept in stock, ready for shipment on receipt of order.

They have our latest improved governor and oiling system and are strictly high class in every respect.

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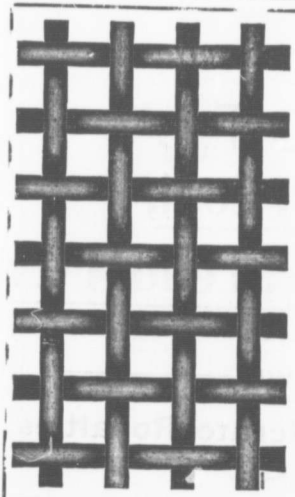

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Minerals other than Gold and Silver.

—LICENSES TO SEARCH—

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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

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Angles, Tees, etc.
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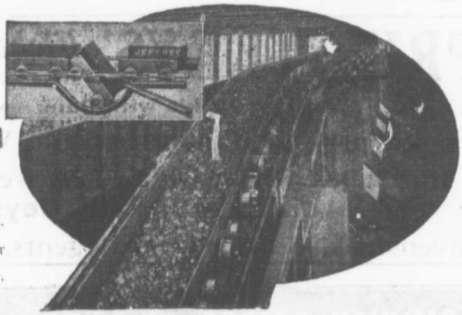
JEFFREY CONVEYORS

for handling Coal Ore, Stone, Etc.



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JEFFREY CONVEYORS are economical and dependable for the particular work they are intended to do. They save time and labor, with small expense of maintenance.

Catalog 81 contains valuable data. Copy mailed upon request.

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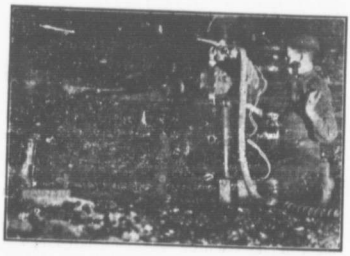


RADIAL
Coal Cutter.

(1911 Model)

Completely eclipses all imitations.

It has attained a speed of 180 square feet per hour

-15 feet wide x 6 feet deep in 30 minutes.

THIS MACHINE HAS MINED——————

——————AS MANY AS SIX ROOMS IN A SHIFT

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

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

THE HARDY PATENT PICK CO., LTD.

SHEFFIELD, England.

AGENTS - Thompson & Sutherland.

NORTH SYDNEY.

The....

MARITIME MINING RECORD

Vol. 14, No. 3. Stellarton N. S., August 8th. 1911. New Series

THE WORLD'S TERMINUS.

(F. A. A. IN CHRISTIAN WORLD.)

Walking up Broadway the other day I noticed at the end of a street a building of immense size and striking beauty, which looked like a gigantic library, or art gallery, or a stately palace of justice. It turned out to be a railway station— but by far the biggest, most amazing railway station in the world. With the exception of such places as the Vatican and the Tuilleries, which were the work of generations it is the largest building yet erected, and it was finished in six years. It occupies twenty-eight acres, and it is constructed of a wonderful marble from the Roman Travertine quarries at Tivoli, with fifty thousand tons of steel to keep it erect. You enter by a wide, lofty arcade, occupied by some of the finest shops in New York. Passing four palatial restaurants, you descend a staircase forty feet wide into the grand hall, which is of altogether bewildering proportions. Your first thought is that, considering the enormous traffic at this station, there are very few people about. Then you begin to realize that many thousands of travellers could gather in this huge hall without the slightest crowding or inconvenience. Your second thought is that if this is a railway station, where are the trains? You may wander all over the building and never see a train. The fact is that all the platforms and tracks are down below. Every train that approaches New York is brought into the city by electricity, and consequently all modern terminals will be below the street level. Passengers descend or ascend by immense elevators or by moving stairways, and it is impossible for incoming and outgoing travellers to meet, as trains never depart from the platforms at which they arrive. Crowding or confusion is absolutely impossible. There are eleven platforms and twenty-four tracks. Every hour 144 trains arrive and depart. The station-master has five assistants and a a staff of 250. The station has sixteen miles of tracks, and the station platform tracks are 22,000 feet in length. There are storage tracks for 400 cars. The lighting, which is as brilliant as it is tasteful, requires 500 arc lights and 20,000 electric lamps.

Figures are seldom illuminating, and it is difficult to express by statistics the vastness and daring of this amazing enterprise. It is much more interesting to see the clever and luxurious arrangements which have been made for the comfort of travellers. Busy, inventive, fertile brains have been at work, limitless capital has been poured out, and the result is a wonderland of beauty and utility. The building has all the conveniences of an expensive and up-to-date club. The ladies' reception room, with its cosy lounges, armchairs, library, writing tables, and courteous attendants, is wonderfully inviting and home-like. A mother may bring her baby into the city, and yet feel reluctant to take the little bairn on a fatiguing shopping expedition. So there is a well equipped creche, where babies are fed and cared for. There is a hospital, with clever physicians and surgeons in daily attendance, and there if a goal with two cells. The workers are as well looked after as the passengers. For the railroad men there is a magnificant recreation-room, with games, books and magazines, and upstairs there are 150 comfortable beds, so that trainmen who arrive at night and depart in the morning may get a night's rest without expense. This kindly and thoughtful provision for the welfare of wage earners on the part of a great corporation is, perhaps, the most remarkable and signficant feature in this unique achievment of American genius—this stupendous monument of American enterprise.

The man who directs the traffic at this great terminal has to bear a responsibility which few of us would care to undertake. He stands in a tower in front of what is called the bulletin. It is really the line in miniture, showing every track and every switch. The position of every train is indicated by a moving light. When a train moves a green arrow records its direction. When a train has passed a certain point no other train can pass until the first train has reached the next section. If by some almost impossible mistake a train entered an occupied section its electric power would be automatically cut off. The man in the tower is an interesting personality. He started life as a messanger boy, became a telepraph operator, and worked his way up to his present position of honour and responsibilty. With his telephones and telegraph wires he controls hundreds of trains, and knows at a glance where they are and what they are doing. To him the intricate complexity of this faultless mechanism is perfectly simple, and he manages it with a quiet and easy dexterity.

On the baggage platforms we find up-to-date motor trucks for the prompt and easy disposal of luggage. A wonderful series of chutes and moving platforms carry the mails direct from the trains to the New York Post Office Station without friction and delay. In a similar way bags of letters are thrown into the chutes in the sorting-room at the post office and are dumped down outside the mail van of the train.

Somehow one associates a railroad station with noise, confusion, shrill cries and piercing whistles, the

(Continued on page 18.)

MARITIME MINING RECORD.

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

The RECORD is devotsd 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. August 9 1911

BRITISH COLLIERS.

—BY THE EDITOR.—

A few years ago some British importations, through the Halifax Herald and any paper that would give them entrance, told the half awake, backward, Nova Scotia miners how well the British coal miners unions managed affairs. They were told that out of small contributions, large funds had accumulated, and that disputes were settled in a twinkling of an eye, if not, indeed, before they arose. All that disaffected pit men had to do was to notify the union; the agent of the union would call upon the master, and tell him what must be done, and it was done. There were sceptics who did not swallow this at a gulp. And they were right. The fact is not a day, it may be said not an hour, passes but a dispute between men and masters arise, terminating, as a rule, in a strike or a lock-out. The leaders or union officials do indeed accomplish a good deal, but they are no more astute, are no more able to accomplish impossibilities than those of other countries. A good deal more work is accomplished in Nova Scotia, with far less noise, than by most of the societies in Britain. The men in Nova Scotia, it is to be hoped, are more loyal to their leaders. In fact a strike could not well be carried on in Nova Scotia with the Grand Council against it. In Britain it is different. Take the case of the South Wales miners who have been many months on strike. The mens leaders made a compromise with the masters, which all impartial people thought fair and reasonable. Would the men adhere to it? Not a bit. They spurned the offers, and first called for increased contributions, from the federation, followed by the demand that a general strike should be declared until their demands were acceded to. No such request is likely to be granted. The leaders of the Durham miners say it would be madness for the men to strike, and leaders in other parts share similar opinions.

In many respects the Durham miners are in advance of their fellows in other parts of Britain, and still they are not so far advanced in some things as the miners of Nova Scotia. In the matter of dress and tidiness of person, the British miner lags behind. He has not very much ambition, apparently, to appear twig. Force him to put on a white collar, and the chances are, in many cases, that when he gets round the corner, or can get into a 'close' he will whip it off and don the everlasting cravat. It is not to be thought that all, in respect of dress, are spunkless, but very many are. Though many miners in Nova Scotia do not avail themselves of the opportunity of a pit head washing and dressing after their days work, it is improbable that even those who neglect to 'brush up', would go so far as to vote against the establishment of pit head baths, and yet that is just what the Durham miners, as advanced in most respects as any in the Kingdom, have done. By an overwhelming majority the have decided to oppose the institution of pit head baths. There is certainly no accounting for tastes. And there is far less necessity now for 'changing clothes' on the surface in Nova Scotia than in Britain, for in the former the pit clothes need not 'smell the house' with oil as safety lamps are the rule, while in Britain, it may be said they are not in general use.

The troubles of the Eight hour day are not yet over and strife may follow for a long time yet. The latest 'kick' of the men is against a three shift day, where formerly there were two shifts of, say, nine hours or so, it is now necessary, in order to obtain the output, with a reasonable amount of development work, to have three eight hour shifts. The men do not like this and by a vote of 19,000 odd to 9,000 odd the Durham miners have decided to strike in order to secure the abolition of the three shift system. The Durham miners were never much in favor of the eight hour day and presumably they are less in favor than ever. By the way Mr. J. Wilson, M. P. publicly stated the other day that "there was nothing in the British mining nation so favorable as the terms secured by the South Wales miners, and yet they had repudiated them, and were sending missionaries to advocate a national strike. To strike would be madness."

THE BRITISH COAL MINES BILL.

The British Mines Bill is getting through the committee stages slowly. On every clause almost there is much discussion and more than one amendment. Sometimes the government accepts the amendments and sometimes it opposes, and now and then it is beaten, as the committee is non-partizan and consists of those taking the operators, the miners and independent views. In order to show the various views prevailing and the character of aims of the bill, the following report of a meeting of the committee will suffice. By the way it should be noted that the views expressed as to electricity in coal mines run on fours with views expressed by members of the Nova Scotia Mining Society at their yearly meeting and are counter to the views of those in the U. S. interested in the more efficient management of coal mines:

"Clause 57, making provision for various precautions in connection with steam boilers in mines, was dealt with.

The Solicitor-General for Scotland (who is in charge of the bill) moved an amendment to make it clear that the provisions are to apply not only to boilers below but boilers above ground.

This was agreed to. On the motion of Sir A. Markham, an amendment was adopted providing that every watergauge should be protected by an efficient outer cover to prevent injury to persons employed.

Sir. A. Markham moved to alter the provision that every steam boiler shall be examined thoroughly by a competent person at least once in every 14 months

by substituting three months

The Solicitor-General for Scotland said that the examinations referred to was not the periodical examination undertaken from time to time by the owner, but a thorough examination such as was provided by the Factory Acts. There was no case for such a special examination every three months.

After more debate, the Government undertook to give further consideration to the matter before the report stage of the bill, and the amendment was withdrawn.

On the motion of Mr. T. Taylor an amendment was agreed to providing that a report of the result of every such examination should within fourteen days be entered in a book kept in the mine and signed by the examiner.

On clause 58, which relates to the qualification and attendance of enginemen, Sir A. Markham moved an addition setting out that the engineman engaged in raising or lowering persons should not be employed for more than eight hours out of the twenty-four, and including modifications where two or more men worked the same engine. He said that there had been innumerable cases in which accidents had occurred after men had been working long hours.

The Solicitor-General for Scotland said that to insert a provision dealing with the period of labour of adults was to do something quite new so far as Acts dealing with safety in mines were concerned. The matter was very controversial, and he could not see his way to accept the amendment.

After discussion the amendment was carried against the Government by 18 votes to 12.

On the motion of Sir A. Markham a part of the clause was deleted providing that enginemen should be periodically medically examined. The Solicitor-General for Scotland mentioned that it had been made apparent that the provision would lead to considerable hardship.

On Clause 60, which imposes restrictions on the use of electricity in mines, Mr. S. Walsh moved to provide that electricity should not be used in any part of a mine where safety lamps are in use.

The Solicitor-General for Scotland said that the use of electricity in mines was not necessarily dangerous. It could only be used underground subject to the regulations of the Home Office, but the amendment would absolutely prohibit its use in any mine where safety lamps were required. That might involve the taking out of a great number of installations which had been put in with the approval of the Home Office, and great expese would be entailed.

Mr. Richards said that real alarm had been felt by the working people in connection with the use of electricity in dangerous mines.

Mr. S. Roberts said that the amendment would stop the use of electricity in the vast majority of mines in this country.

Mr Harvey said it was inconsistent to compel men to work with safety lamps while an adjacent electricial coal-cutting machine was giving off sparks and in some cases flame.

The amendment was under discussion when the Committee adjourned."

E. M. MacDONALD'S CORRECTION.

In the absence of the editor a letter has been received from Mr. E. M. Macdonald, M. P., which in part, is as follows:

"My attention has been called to your issue of June 28th. where on page 14 you were good enough to make some reference to alleged remarks of mine to New Glasgow and Stellarton audiences and in which you attribute to me the statement that not a pound of coal had gone to Montreal when the tories were in power. I may say that the report of my remarks in New Glasgow contained in the Eastern Chronicle in reference to this matter, were incorrect. What I stated to the audience was this: that the Acadia Coal Company had practically not sent a pound of coal to Montreal during the time that the conservative party were in power. I stated that the Drummond had sent comparitively small quantities during that period. This statement is correct and as you can find on examination."

Mr. McDonald, in addition, calls attention to the fact that Mr. Dick is a high authority on the coal business. The RECORD would emphasize the statement, and would count him a fool who would try to gainsay it. At the same time we might hint to Mr. McDonald, as kindly as we can, that it is possible that he may, at some time, be followed on the platform by some one not ignorant of the fact that Mr. Plummer stated, at a meeting of coal men, without hesitation, reservation, or a blush, that his company would suffer least by any reduction of the coal duty, and the RECORD is wholly of Mr. Plummer's opinion. In short the Dominion Coal Company might struggle on under tariff conditions that would send the Mainland collieries to the wall. A reduction that might not jar that company would heavily jolt all others. We trust Mr. Macdonald grasps what line of argument we would avoid in addressing Picton County audiences.

BRITISH AND CANADIAN PREFERENCE

Sir. Edward Spencer, a banker of very high standing, speaking at a banquet of the Colonial Club in London not long ago, among other things said:

"So long as Britain herself does not languish for want of capital, nothing but good can come from the investment of the surplus savings of the nation in the colonies or foreign countries. It appears that we have about £3,000,000,000 (fifteen thousand million dollars) of British money invested outside of these Islands and it may be divided into two almost equal portions —that invested in the British possessions and that invested in foreign lands. It appears also that the British investor asks, and gets, one per cent. less for the money invested in the British possessions than he gets for the money invested in foreign lands. That amounts to a preference of £10,000,000 a year in interest charges alone—no mean preference as the banker pointed out. That at all events is one solid advantage to the peoples connected with Britain, for no where else would they get the same terms."

Ten to one those Canadians who want Britain to give a preference have not thought of this item.

The type of individual, of no benefit to himself or anyone else, is a sore head, a fellow with an eternal kick; a human ulcer always getting the raw edge on thinking he is,—from the time keeper, the foreman, or the proprietor. Everypody, in his perverted sense of things, is giving him the double cross or has a knife ready to use.

Rubs by Rambler.

A critic of the Nova Scotia Regulation Mines Act said in reference to sub-section 'N', Section 4 —Interpretation—that the definition of the word 'shift' was far from corrective. It is very easy to be a destructive critic. Knowing this, I asked to construct a sub-section that would satisfy all readers. The pause, after the request was put, has not up till the present ended; it is still on. Well, what is a shift, in mining parlance. The Mines Act defines it as: "Shift means a division of the men or boys, or both, employed in any mine (other than men or boys engaged in attending to the ventilation of the mine) who go to work in the mine at a set period of the day." For my own part I think the section is comprehensive enough for all practical purposes. In mining shift has two meanings. It may apply to a number of men or it may apply to a division of time. When an overman or a pumpman tells one that he is on the night shift, he simply means that he is doing duty at night, the word here having no regard to number or to a division of the force on the pay roll. In the same way a two or four or six hour shift has reference only to time. Shift at the same time may mean a number of men as for instance: "See that timber is sent down to the night shift, or "Leave plenty of boxes for the night shift", or "Tell Tom to examine the places before the night shift comes down." Such expressions may be frequently used, and in such cases the word has, more particularly, reference to workmen than to time. Of course I understood the critic to insinuate that 'shift' generally, and more particularly as well, had reference to a set time. That may be all right but I maintain that shift is more frequently used as referring to men, or a set of men, than to time. A witness was asked the question: "Whose duty was it to have props put up?" The answer: "The duty of the night shift." That was quite intelligible. The witness' answer conveyed to intelligent men that it was the duty of the men who had worked the previous night to have done the timbering. By giving the word a compound meaning a lot of English is saved, and for that reason I find no fault with the interpretation of 'shift' in the Mines Act. At the same time I admit that if a half dozen mining students got discussing the word, the closure might have to be applied to end the debate, and prevent blows.

INSURANCE AND CHANCE.

Under the heading "On being insured" J. B. the excellent essayist of the Christian World says: –

We are all occupied to-day with problems of insurance. The great scheme which Mr. Lloyd George has just brought forward, and which, if we mistake not, will send down his name to posterity as one of England's greatest benefactors, has captured the national imagination. At last politics are beginning to mean something more than the squabbles of rival parties, than the hunting-ground of the placeman. Disraeli, in one of his novels, describes the view of the ruling classes of his time. Politics to them meant the providing of younger sons with twelve hundred a year. But the Taper and Tadpole idea is wearing thin. At the moment when Christianity seems losing ground in the Churches it is winning glorious victories in the national life. We read of Jesus that 'when he say the multitude he 'had compassion on them.' Here was a politician whose thought, as He viewed the people, was not how much He could get out of them, but how much He could give to them! And this absolutely novel idea has at last actually caught on. Up to now the attitude of the comfortable classes towards those beneath them was largely that which mediaeval theologians ascribed to the saints in heaven, whose happiness was greatly increased by the sight of the miseries of the outsiders down below. To-day mirabile dictu, the comfortable classes are being rendered uncomfortable by the sorrows of the people in the pit. They are being haunted by that line in which Pope, himself a most imperfect Christian, managed to put the very essence of Christianity:

Never elated while one man's oppressed;
Never dejected while another's blessed.

And thus the nation, in a spirit which does it infinitely more honour than the winning of battles or the extension of empire, welcomes with enthusiasm a scheme which proposes to lift from the shoulders of its toiling millions the burden of some of life's heaviest anxieties. It is an achievement for us all to have lived into the age when politics are represented by measures of this kind; when they cease to be the science of personal ambition, to become the science of the universal human welfare.

But the idea of insurance, of taking precautions against risks, is, when we come to look into it, much wider than the widest of our national schemes. There are a good many other risks than those of sickness, of unemployment, of general disability. From the beginning man has taken note of these risks, and it is most instructive to observe his various ways of insuring himself against them. Before we come to that, however, one may bestow a thought on an insurance scheme which was in operation long before man appeared, one which concerns him intimately, but in the development of which he himself has had no part.

Certainly, if appearances go for anything, man seems to have been an object of care long before he took thought for himself. If it has all been a matter of chance, that seems a series of miraculous chances which placed our planet at the exact distance from the sun which gives us warmth enough without burning us up, and cold that invigorates without freezing us to death; which places between us and the void a ring of outside planets that act as a defence from the crash of destructive meteorites; that dipped our earth at such an inclination to its orbit as secures all the variety and charm of the seasons; that filled our oceans with such a nicety of calculation as secures us a constant water supply, while one-tenth more would have flooded and drowned us; which, anticipating man as a manufacturer and power-user, stocked his cellar ages ago with boundless supplies of coal; which—but why go on with the recital? This story of adaptation, of fitting man to his world and his world to man as a key fits a lock, is an endless one. If chance did all this, chance is a very wonderful fellow, and we ought to raise an altar to him. And the latest idea of our materialists, that all this shows not purpose or forethought, but simply the fact that our nature happens to fit the circumstances, it to credit chance with the most wonderful feat of all. Indeed, your believer in chance as

the ultimate cause is your true miraclite. Beside him your old time Bible man, who stands by Jonah and his whale, is a tyro in credulity.

COAL IN THE OLDEN DAYS.

The English speaking race and their ancestors have known something of the value of coal and the art of coal mining for nearly 2,000 years, although more of it has been mined and used in the last fifty years than in all of the previous history of the human race.

Coal probably was mined during and perhaps before the Roman occupation of Britain. Coal and cinders have been found on the line of the Roman wall and other remains of the stay of the Latin conquerors. A heap of coal was found recently in some excavated Roman remains in Northumberland of the period of the fourth century.

In Saxon times coal mining seems to have fallen into decay. Bede, the Saxon historian, does not mention either its mining or its use. Perhaps the Saxon invaders were content to continue using wood, and the conquered Celts had little to say about what they should do.

After the Norman conquest, however, there are extensive records of coal mining, the work being done chiefly by the monasteries or under the crown. It was rather difficult work, since the miners had no steam power to haul up the coal or pump the water from the mines, and no powder to help them pry it loose.

That the mines were not sources of great revenue is quite evident. Gibson, in his work on the monastery of Tynemouth, relates that in 1292 the monks had a revenue as follows:

"At Tinmouth, from coal, annually computed at 6 shillings and 3 pence; at Wylan, a brewery and colliery, 20 shillings."

There is a record that in 1298 "there was granted a safe conduct until Michaelmas for Roger Sherewynd, servant of the Bishop of London whom the bishop is sending to Northumberland with a ship to buy sea coal and bring to Gravesende, County Kent, for carrying on his works there."

Coal was used by that time for lime burning, salt evaporation, and in forges, as well as for household purposes.

By 1332 the value of a coal mine had greatly increased. In 1315 the monks of Cullercoats worked the mines, but the invasion of the Scots stopped it. Seventeen years later a colliery was leased to a Ralph Bullock for part of a year at a rent of 2 shillings a week.

By the middle of the fourteenth century coal mining had become of such importance as to warrant the royal interference. Edward III., in 1357, made various orders for the measurement of it, and regulations for carrying coal from Gateshead across the Tyne in boats, on condition that the usual custom of the port should be paid. The exportation of coal, except to the port of Calais, was forbidden.

A quaint entry is found in an inventory of various goods in Berwick castle, date August 16, 1291, which closes with the words, "Also are found 30 chaldrons of sea coal, also is found one live pig."

Dom. No. 9 colliery on the Harbor seam had a record day last month and nearly touched the 2,000 ton matk. To use street language, this is 'going some' for this little colliery.

Coal Shipments JULY, 1911.

DOMINION COAL COMPANY, LTD.

Output and Shipments for July, 1911.

	—Output—	—Shipments—
Dominion No. 1	50 941	
Dominion No. 2	68 485	
Dominion No. 3	16 330	
Dominion No. 4	36 599	
Dominion No. 5	29 567	
Dominion No. 6	23 151	
Dominion No. 7	17 714	
Dominion No. 8	17 985	375 147
Dominion No. 9	40 140	
Dominion No 10	15 678	
Dominion No 12	25 211	
Dominion No 14	21 854	
Dominion No 15	3 933	
Dominion No 16	1 212	
Dominion No 21	1 130	
	369 930	

Shipments July	1911	375 147
Shipments "	1910	322 186
Increase "	1911	52 961
Shipments 7 mos.	1911	1 929 360
" 7 "	1910	1 618 311
Increase 7 "	1911	311 049

—NOVA SCOTIA STEEL & COAL CO. LTD.—

Shipments July	1911	71 750
" "	1910	83 549
Decrease "	1911	11 799
Shipments 7 mos.	1911	340 451
" 7 "	1910	414 051
Decrease 7 "	1911	73 600

—ACADIA COAL CO.—

Shipments July	1911	30 425
" "	1910	20 390
Increase "	1911	10 035
Shipments 7 mos.	1911	220 617
" 7 "	1910	143 185
Increase 7 "	1911	77 432

—INTERCOLONIAL COAL CO—.

Shipments July	1911	21 886
" "	1910	19 304
Increase "	1911	2 582
Shipments 7 mos.	1911	146 086
" 7 "	1910	142 658
Increase 7 "	1911	3 428

—INVERNESS RY. & COAL CO.—

Shipments July	1911	21 130
" "	1910	24 212
Decrease "	1911	3 082
Shipments 7 mos.	1911	152 122
" 7 "	1910	145 905
Increase 7 mos.	1911	6 217

AROUND THE COLLIERIES.

Jas. B. McLaughlin, who, during the short life time of the U. M. W. of A. in Cape Breton, was its Secretary-Treasurer, is anxious to pose as the Socialist candidate for the House of Commons. He is of the opinion that he could cut quite a swath and give the other Jimmie a run for his salary.

The newly organized Cape Breton Mining Society will have its formal opening by a "smoker" to be held in Glace Bay on Saturday evening, August 19th. Some of the members forecast a mixture of gas and dust with the smoke. If so there will have to be some watery vapour to keep the temperature below the explosive point, and to moisten the dust.

The July output of the Dominion Coal Company was the largest in its history. This feature is very pleasing to those interested and makes the concern a modern one by the breaking of records. It is the day of large things when a colliery must send out its thousands of tons each day or it is not a large factor in mining.

For the past two years the Dominion Coal Co. have been training a number of men from each of its collieries in the use of the Draeger Rescue apparatus. The central station is at No. 2 colliery and is in charge of Mr. Jas. MacMahon, who takes very much interest in the work and prides himself on the high degree of efficiency attained by the corps. They are all selected men, for nothing else would do to combat the dangers of large underground accidents, where rescue apparatus would be required.

The Canadian West during the last few years has lured away many of the best mining men and miners of Nova Scotia, and of late has been stealthily taking some of the best clerks and accountants from the Dominion collieries. From a selfish standpoint, one would be inclined to say that the province suffers by the exit of such capable and efficient workmen, but looking at it from a broad point of view, it is a very high commendation to the province of Nova Scotia. That strong moral and able men are a product of the province has long been known and admitted on almost all parts of the American continent and that such men are being sought after by the great growing West, is a high tribute to the homes and the institutions which make and mould them.

To manufacture steel, to mine coal, to hew down the forest and build towns and cities and railways, and to establish large works of different kinds, is a laudable object in any province. To encourage farming and fishing and develop the staple industries ought to be and is the object of every progressive province. Nova Scotia does all these things and more, for her system of educational institutions, to which is due that high class product—intellect—that is being eagerly sought after everywhere, has become a parogon which older countries are not ashamed to emulate and put into practice.

Some English capitalists have recently been looking over the Mabou coal property with the desire of purchasing and developing them. Those who are in a position to know state that the Mabou coal property could be safely and economically opened up and worked, and that the mine could either be unwatered or the flooded workings dammed off. Several collieries in the province are working to the dip of large bodies of mine water.

The experiment of long wall retreating being carried on in the Emery colliery at Reserve has so far been a failure. The roof of the Emery is very hard and not adopted to successful long wall working, altho a fair amount of success has been obtained under the system of long wall advancing, and when a break occurs the strata is broken upwards of six feet over the coal face. This necessitates winning out again to gain the face. But experiments must be made in the thin coal seams of this province if all the coal is to be won. This is the time to try what methods of work are most suitable to the different seams, especially the thin ones. The Emery mine is to the provincial mining men what the Truro experimental farm is to farmers.

The improved Benefit society at the Dominion collieries is as yet in its experimental stage and we feel scarcely free to comment on it one way or the other, as the surplus of the Society has not advanced as its more ardent members desire. It is, however, in a healthy condition, and has been so systemized that the members are able to see the weak spots. The Society has been fortunate in its general Secretary-Treaturer, Mr. Fred. Armstrong, who has always taken a keen interest in relief fund matters. Fred, as he is usually called, is always full of his subject and when addressing a meeting at the inception of any new branch, or making explanation to any of the older ones, he is usually successful by persuasive powers alone, in getting the meeting to see things from his point of view. He is well satisfied with the progress of the whole society and of the late branch formed at Springhill, and he is optimistic enough to see the time coming when the Old Age Pension Fund and permanent disability indemnity will be paid by the Dominion Employees Benefit Society.

Patrick Neville, one of the oldest and most experienced mining men of Cape Breton, died in St. Joseph's Hospital on August 1st. Mr. Neville for many years filled the position of Deputy Inspector of Mines for Cape Breton County and was also closely identified with the development of coal mining in Nova Scotia for the past forty years. His large knowledge of the coal areas of the Island, together with the long experience, gave him the standing of an expert in geological fields, and he was generally consulted by all companies before they opened up new coal fields. The local government recognized his ability and usefulness and, while relieving him from active duty some

years ago, wisely retained him as an advisor to the Mines Department. He was perhaps the one man in Cape Breton who could be looked upon as an authority in mining and who had a general knowledge of Cape Breton coal bearing strata.

He was a good citizen of Dominion and highly respected by the community, and all through life took an active part in public affairs. His funeral was attended by men from all parts of the Island, and was exceedingly large.

COAL vS OIL FOR FUEL.

From a paper read by T. Duff Smith before the Tennessee Operator's Association, we extract the following referring to the advantages, and disadvantages of oil as fuel:—

"The principal advantages incident to burning oil as compared with coal can be summed up as follows:

1st. Cost. This item depends entirely on relative price at mine and well plus freight to point of consumption. In computing freight haul, tariff rates must govern when moved over foreign lines. The actual cost of moving (not including what is known as fixed charges) is ordinarily used in computing cost over home rails. In making computations the fact that from 1,000 to 1,500 pounds of oil equal 2,000 pounds of coal must be taken into account.

2nd. Decreased cost of handling oil from cars to engines with practically no loss by depreciation due to such handling, all coal suffering badly in passage through coaling plants of whatever type.

3rd. The losses by evaporation suffered by coal do not apply to oil, neither does loss by theft in transit occur, oil reaching engine tenders unimpaired as to quality and unliminished in quantity.

4th. Saving of time at terminals and increased mileage per engine, it being unnecessary to cut engines out for fire cleaning; the oil capacity of tender approximating 150 per cent. of that of coal, making longer runs possible.

5th. Freedom from physical failure of firemen in extreme hot weather, the fireman's work being actually lighter than that of the engineer.

6th. Stability of delivery; oil unaffected by labor conditions which have made the production of coal in some sections so uncertain as to necessitate the storage of immense quantities of coal at great expense, this condition occuring at frequent intervals.

7th: Greater cleanliness in handling of passanger trains, with almost absolute immunity from right of way fires, saving the cost of fire-guards, reducing also claim department losses.

The drawbacks to the use of oil have been in the direction of uncertain supply. The expense of equipping the average locomotive to burn oil approximates $800; the cost of constructing steel storage tanks of large capacity approximates 25 cents per barrel. The necessary terminal facilities, however, cost but about 50 per cent. of the amount required to handle coal. Coaling facilities, however, are usually in place, the oil facilities when installed representing a duplication. Frequently before the producer is able to judge his production sufficiently well to warrant the making of definite contracts, large quantities of "pot" oil must be sacrificed for want of storage or market facilities. After the production is reasonably well determined, an interval of time is necessary to transform locomotives, these two factors embarrassing both the oil producer and the railroad consumer. With the development of new fields and the purchase of large numbers of cars, together with the increase installation of oil burning apparatus this will prove less burdensome in the future than in the past.

The relative expense of oil and coal as a locomotive fuel is a subject without the province of this association to discuss, and well so, inasmuch as any road contemplating the use of oil must necessarily test the grade of oil or residuum it expects to burn against the grade of coal it is to be substituted for, different coals grading within greater extremes than do oils, which if proper allowance is made for water and sediment in the case of crude oil purchases, will show a limited variation in the number of British Thermal Units per pound of fuel. It is, however, within the scope of this association to discuss the possible economies to be effected in the use of oil, and in that connection it is the writer's opinion that actual service will not show the same results when figured against coal that a careful test will evidence. This is due to the fact that with coal the physical limitations of firemen in hard service plus the ability to consume a certain amount of coal per square foot of grate surface per hour are factors which largely determine the position of the reverse lever and throttle in the hands of the average engineer.

Roughly speaking, with the oil burner "the crew are due at the next town when the whistle off from the oil they are hearing," this frequently necessitating the unmerciful (to the fuel oil) use of brakes as well as both injectors; the temptation is great and usually, except when trains are right on time, is one that is availed of. A little more or plus a grudging slider opening of the steam jet, reinforced with a few quarts sand, will usually suffice to insure the increased demand of the reverse lever, with a consequent loss of fuel incident to the failure to profit by the expensive use of the steam in the locomotive cylinder. This handling is responsible for the actual ratio running higher than that shown by careful tests. Another reason for the excessive consumption of oil is that a comparative lack of engine failures for steam has resulted in a weakness in the element of supervision, men as well as mechanical facilities being allowed to deteriorate as result of the comparative freedom from failure to actually deliver the train on time.

FOOLISH FEARS

That prediction is as rash in applied science as in politics is one of the obvious morals to be drawn from some reminiscences that have lately appeared in The Yale Alumni Weekly. The writer Dr. D. F. Atwater, was a freshman at Yale in 1835 when Dr. Benjamin Sillivan, the elder, occupied the principal scientific chair. He remembers the professor saying one day in class that steamships could never be built that would cross the ocean safely. Even if they could be made large enough for such a journey, it would not be practicable to use them, for he could not conceive of any way in which the walking beams could be covered so as to prevent the waves from dashing over and down into the engine rooms. On another occasion Professor Silliva spoke 'with feeling' of the possibilities of general danger from fire should friction matches ever come into common use.

GETTING V SAVING.

Within a certain limitation it is not what an employee gets. It is what he saves. "When I was receiving only fifteen dollars a week I seemed to have more spending money, dressed better and went more than I do now on many times that amount," said a superintendent in a boot and shoe factory. "I tell you that as soon as the average man makes more he immediately finds his wants increasing. He launches out, accommodates himself to new scale of living and, thinks he must put on more sail. On fifteen dollars I saved four every week and, on my present income I have never laid up more than a hundred dollars a year, and find it a bitter struggle even to put aside that amount. Of course it is a duty that a man owes himself and to his family to earn as much as he can, but the older I grow the less I appear to care for money, so long as I have enough to live comfortably and dress respectfully." This is one view.

The manager of a telephone exchange in a large city, who had begun as a lineman, said that when he was first married, he knew a neighbour who was in receipt of an annual salary of two thousand five hundred; and he and his wife often remarked: "I wonder how he spends it all. We could, he added," not think of enough outlets to get rid of that amount in a year. To-day I am paid considerably over that sum and my wife and I find not the slightest difficulty in scattering the cash. Why? We look at things from a diametrically opposite view point, and are wondering how we get along at all and keep the wolf from the door. We seem to be economizing and curtailing expenditure in a way that we never did when I was a lineman at two dollars a half a day."

And so runs the course of human nature and achievement. The workman making one thousand is at a loss to understand how the man earning only sever hundred lives so well, and the five thousand dollar official cannot see how he could exist on a penny less. It is a purely personal problem, and no sociological panacea will solve it. Only individual habit, self control and conceptions of one's needs and requirements will meet each.

THE THRIFTY AND THE SPEND THRIFTY.

Economy does not consist in cutting the necessities of this life. It consists rather in cutting off luxuries. While it is a laudable thing to be as economical as possible it does not mean that one should make one's self miserable in order to ward off possible misery in the future.

If one had to take a choice between the individual who economizes too much or too little it would be hard to decide. Both probably keep their eyes too constantly on the object they have in view. One, in in his desire to place himself in a safe position, is apt to continue his effort long after he has made himself safe. This, of course, is the result of the knowledge that there is much uncertainty about wealth. A disastrous fire or an unfortunate investment, and the work of many years is wiped out in a night. And yet if one is to reach a position of financial security at all he can hardly help taking chances on an investment. He may leave his money in a bank, though this is not a method which is generally followed by these in possession of any considerable wealth. The reason for this is that, in order to acquire wealth they have had to invest their money in various enterprises which brought them back larger returns than they could ever hope to receive in the bank. So that it is probably the case that very few people who have left all their savings in the banks ever acquire very great riches. Yet it is the men who get into the way of depositing small savings in the banks who afterward have money to invest.

EXPERIMENT WITH EGGS.

An interesting experiment, illustrating the force of the rotary or revolving motion, is made with two eggs, one boiled and the other raw. Take these and set them spinning on their sides on a mirror or other perfectly smooth surface. If you put the palm of your hand gently upon the boiled egg while is is spinning, it will stop at once and remain motionless after you have lifted your hand. But if you do the same with a raw egg, it will immediately begin to spin again when the hand is removed. It is quite remarkable how long you can hold your hand upon it without destroying its motion. The reason for this is that the fluid within the raw egg, continues to revolve, and carries the shell with it, while the boiled egg, of course, having no other motion than that of the shell stops when that does. The eggs won't spin on end like a top, but only on their sides.

GLASS FOR SHIPS' BOTTOMS.

If ships' bottoms were covered with glass, it is asserted, greater speed and a saving in coal consumption would be attained. The idea has been tried, but hitherto it has always been found impracticable to attach glass to the steel plates of a ship, as the expansion of the steel broke the glass after a very slight rise in temperature. After many experiments a comparison of rosin and linseed oil was adopted as the adhesive material, and the difficulty of the expansion of the steel was overcome by the introduction of a thin layer of wood pulp under the glass. A patent has just been taken out in England covering the process. The pantentee says that the cost of placing the glass plates on the sea-covered bottom will not exceed that of two coats of paint. The glass bottom has already been tried with satisfactory results on a small vessel, and an experiment is shortly to be made on a big ocean-going steamer.

WHERE DOES THE IRON GO.

Not more than a quarter of the world's iron is used a second time, and not more than a quarter of this goes through a second scrapping. The dissipation by wear is more rapid than one would think. Dr. Soper, in a recent paper before the Boston Society of Civil Engineers, says that he found that, by actual record of material replaced, there was produced in the New York subway,

from the brake shoes alone, one ton of iron-dust per month per mile. The waste of wheels and rails was not so easily ascertainable, but is to be added to this. The same rate of iron-dust production was estimated for the elevated roilroads, while the same process was also in operation on the surface roads, and, more slowly, of course, with all running vehicles.

PUSHING AND PULLING.

It has been wisely observed that most operators can be more efficiently preformed by drawing them along through their proper course than by attempting to push and jam them through, just as it is much easier to pull a rope than it is to push it. There are probably not many persons who have tried to push a rope, but very many have attempted things almost as perverse. In many manufacturing establishments, for example, there may be seen numerous examples of men wasting a large part of their energy endeavouring to move heavy pieces of work upon small trucks, pushing and labouring in the exertion of effort, a small fraction of which goes to the cause of actual progression. Even when such an effective aid to transport as an industrial railway is installed, it is often used at less than its proper efficiency, because there is to much pushing and not enough pulling.

"If a man is competent and industrous occupies a post of deputy foreman, and the head of that department leaves and he is not promoted, I do not think there is much future for him, and he would be wise in looking for some other opening. I am a firm believer in the system of advancement if one wishes to retain employees. If a corporation does not practice this there is not much inducement for the ordinary worker to remain and small wonder if changes are frequent. That is the reason why so many factories and business houses cannot induce men to remain with them. They have too much faith in outsiders and strangers and overlook the often more thoroughly equipped element that is right at hand."

(Continued from page 10.)

shouts of newsboys and the clamour of porters, the slamming of doors and the roar of traffic. It is usually a place of tumult and smoke and nervous hurry. The Pennsylvania Terminal in New York is as quiet as a cathedral, and much more spacious. It is white, clean, harmonious; a place of quiet order, wide spaces, noble columns, and dignified simplicity. Here you can dine in luxury and rest in comfort, browse amongst the new books in a handsomely furnished store, or sit down and chat with a friend in a marble hall of exquisite beauty. There are no advertisements —you could not stick a vulgar bill on Roman marble There is no confusion— you cannot get lost except in admiration. Really, as you wander round these lofty and spacious halls it requires an almost violent effect of the imagination to realize that you are in a railway station.

Intercolonial Railway

TENDER FOR TIES AND SWITCH TIES.

Sealed Tenders addressed to Mr. Louis Lavoie, Purchasing Agent, Department of Railways and Canals, Ottawa, Ont., and marked on the outside "Tender for Railway Ties," or "Tender for Switch Ties," as the case may be, will be received up to and including

THURSDAY, AUGUST 31st., 1911,

for the supply of Ties and Switch Ties for the Intercolonial Railway.

Specifications and forms of Tender may be obtained at Stations after August 9th., 1911

Tenders will be received for any number of Ties and Switch Ties.

Tenders must be made on the printed forms supplied.

The department will not be bound to accept the lowest or any Tender.

A. W. CAMPBELL,
Chairman, Government Railways Managing Board.

Ottawa, Ont.
August 1st, 1911.

Steam Goods Department.

Any Power Plant Device Can be Supplied by Us

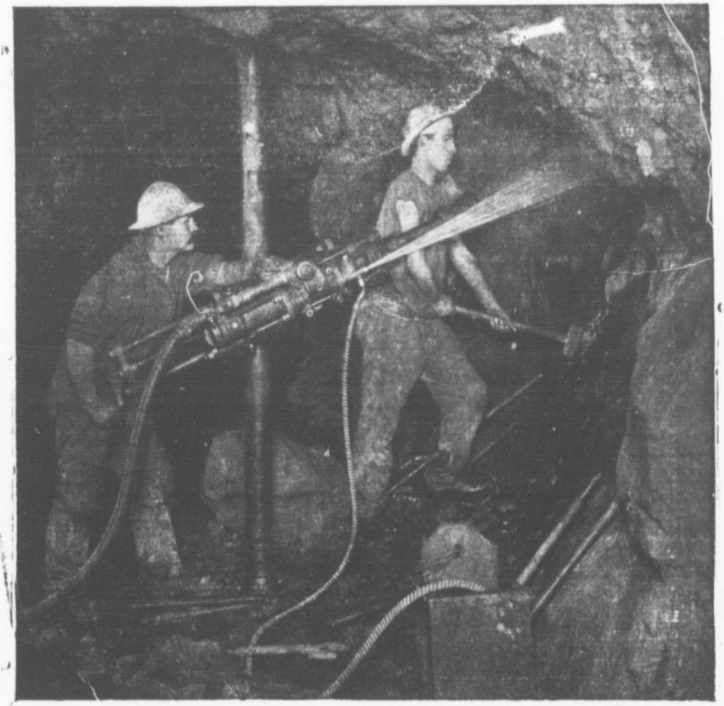
Our Stock of Steam Goods is the largest in Canada. Valves, Fittings, etc., can be supplied from stock, thus avoiding costly delays. Keep in touch with us, so that when that "breakdown" job comes along you will know where to get Quick Deliveries and Quality Goods.

—SPECIALTIES—

Fairbanks Renewable Disc Globe Valves
Gate "
Check "
Pratt and Cady Asbestos Packed Blow-off Valves
Foster Reducing Valves
Geipel Expansion Traps
Damper Regulators
FlexibleMetal Hose
Steam Gauges

The Canadian Fairbanks Co., Ltd.
St. John, N. B.
FAIRBANKS SCALES—FAIRBANKS-MORSE GAS ENGINES SAFES AND VAULTS.

THE HOLMAN DRILL
With Auto Spray.



You will never have real satisfaction until you have used the Holman Drill.

Lower cost for Air and Repairs with an Increased Footage.

MUSSENS LIMITED.
MONTREAL, QUE.

Sole Canadian Agents.

EXPLOSIVES

OF EVERY DESCRIPTION.

BEST QUALITY ONLY.

Dynamite,
Gelignite,
Gelatine Dynamite,
Blasting Gealtine.

Blasting Gunpowder,
Compressed Pellets,

PERMITTED EXPLOSIVES { For use in Gaseous mines. Suitable for all Kinds of Work

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

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Supplies of all Explosives and Accessories to be obtained from. Agents for NOVA SCOTIA: **AUSTEN BROS. Halifax.**

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Clyde Patent Wire Rope Works,

Cablegrams, "Ropery Rutherglen" **Rutherglen, Glasgow, Scotland.** Codes, Western Union, A B C (4th & 5th Edn) A. I., Liebers and Private.

Wire Ropes

for Winding & Haulage in Collieries and Mines.

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

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

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

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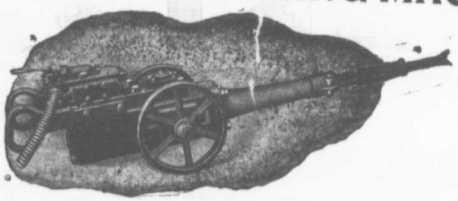
THE H. H. COAL MINING MACHINE.

Built in several sizes to meet various requirements.

Almost entire absence of repairs.



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

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Miners and Shippers of INVERNESS (BROAD COVE)

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

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

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

INVERNESS RY. & COAL CO'Y

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

WESTBOUND Superior Dir.		STATIONS.	EASTBOUND Inferior Dir.	
53	51		54	52
P. M.	A. M.		P. M.	A. M.
3 30	10 40	P. TUPPER JUNCTION	3 45	11 00
3 25	10 34	INVERNESS JUCT.	3 50	11 05
3 17	10 29	PORT HAWKESBURY	3 58	11 13
3 09	10 12		4 08	11 30
P. M.	10 07	PORT HASTINGS	4 13	A. M.
	9 57	TROY	4 23	
	9 44	CREIGNISH	4 38	
	9 37	CRAIGMORE	4 50	
	9 16	JUDIQUE	5 05	
	8 55	CATHERINE'S POND	5 18	
	8 4	PORT HOOD	5 33	
	8 30	GLENCOE	5 38	
	8 21	MABOU	5 53	
	7 50	GLENDYRE	6 1[illegible]	
	7 40	BLACK RIVER	6 28	
	7 25	STRATHLORNE	6 43	
	7 12	INVERNESS	7 00	
	6 55		7 10	
	A. M.		P. M.	

CAPELL VENTILATING FANS.

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

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

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ENGINEERS.
NEW GLASGOW, NOVA SCOTIA.
Makers of Complete Equipments for COAL and GOLD Mines.

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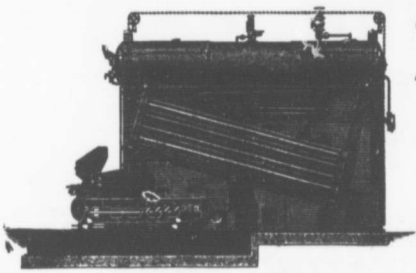

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SUPERHEATER AND IMPROVED MECHANICAL STOKER.

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

Also **Steam Superheaters,**
Mechanical Stokers, Piping,
Coal Handling Machinery
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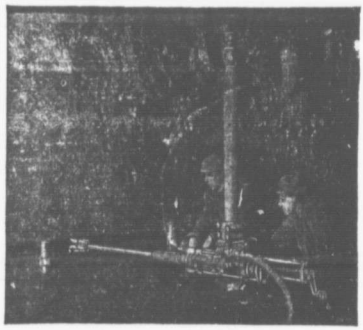

The RAND New Radial Coal Cutter

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

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

CANADIAN RAND CO., LIMITED
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BOILER INSPECTION & INSURANCE CO.
OF CANADA.
(COMMENCED BUSINESS 1875.)

Head Office: Continental Life Building, Toronto.
Issues Policies of Insurance after a careful Inspection of the Boilers, Covering
ALL LOSS OR DAMAGE TO PROPERTY
and Loss resulting from
LOSS OF LIFE AND INJURY TO PERSON,
caused by **STEAM BOILER EXPLOSIONS.**

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"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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CABLES:—"EDGE" Shifnal
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TREBLE BEST SPECIAL CRANE CHAINS

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

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MARITIME COAL, RAILWAY, & POWER CO.

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CHIGNECTO —AND— JOGGINS.

High Grade STEAM AND Domestic

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Unexcelled for General Use.

Shipments by Intercolonial Railway and Bay of Fundy.

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DAVID MITCHELL, General Manager, MACCAN, N. S.

The BROWN MACHINE COY.

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Coal & 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

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COAL High Grade Fuel for Steam Domestic and General Purposes.

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

FIRE CLAY of Fine Quality.

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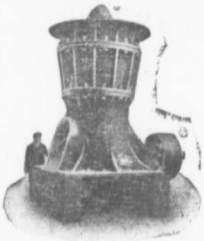

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WE MANUFACTURE
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ELEVATORS,
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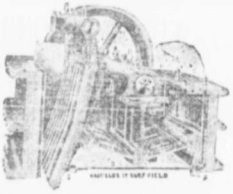

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JAW CRUSHER

(Solid Steel Construction)

The Parts which are subject to Excessive Wear are made of

Hadfield's Patent 'Era' Manganese Steel.

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

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Amatite ROOFING

For Mine Buildings.

AMATITE is exactly suited to mining buildings because:

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3. Its cost is lower than that of other roofings of less weight.

4. It comes in rolls ready to be unrolled on the roof and nailed down.

5. The necessary nails and cement are supplied free, packed handily in the centre of each roll.

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

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

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—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 %

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Delivered By Rail or Water

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