

MARITIME MINING RECORD AND COAL AND METAL TRADES JOURNAL

Dr. R. Bell
Geol. survey dept.

Cumberland. * Pictou. * Cape Breton. * Inverness

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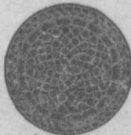
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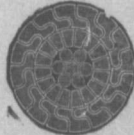
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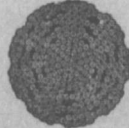
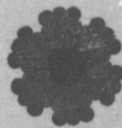
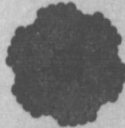
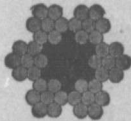
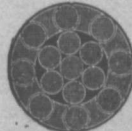
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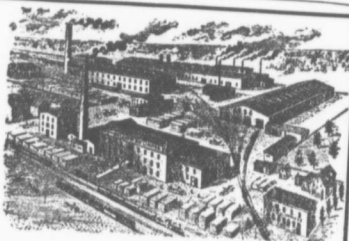
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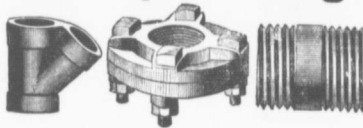
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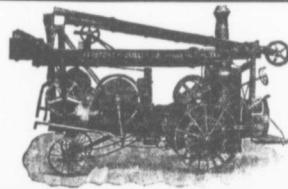


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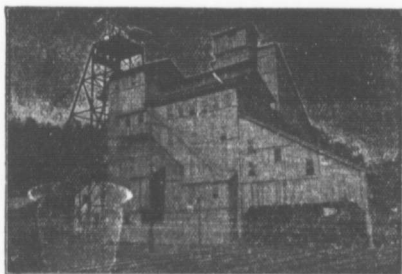
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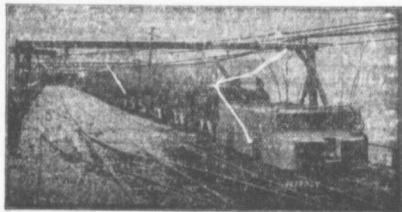
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No. ...

MARITIME MINING RECORD

Vol. 10, No. 21. Stellarton, N. S.,

May 13th. 1908. New Series

COMPILED QUESTIONS AND ANSWERS.

GEOLOGY.

(CONTINUED FROM MARCH 8)

Q—What plants have entered into the formation of coal?

A—The plants are not at once apparent to the naked eye. One has to search among the shales and sandstones and clays which enclose the coal seams and in these are found petrified specimens which enables one to build in his mind pictures of the vegetable creation which formed the jungles and forests of these immensely remote ages, and which, densely packed together in the old forest floor of those days is now apparent to us as coal. A very large proportion of the plants which have been found in the coal bearing strata consists of numerous species of ferns. The greater part of these do not seem to have been very much larger than our own living ferns, and indeed many of them bear a close resemblance to some of the present living species. The impressions they have left on the shales of the coal measures are most striking, and point to a time when the sandy clay which imbedded them was borne by water in a very tranquil manner, to be deposited where the ferns had grown, enveloping them gradually, and consolidating them into a mass of future shale. In one species known as the neuropteris, the nerves of the leaves are as clear and as apparent as in a newly grown fern. Experiments were made many years ago to illustrate the process of fossilization of ferns. Having placed some living ferns in a mass of clay and dried them, Mr. Goppert exposed them to a red heat, and obtained thereby striking resemblances to fossil plants. According to the degree of heat to which they were subjected the plants were found to be either brown, a shining black, or entirely lost. In the last mentioned case only the impression remained, but the carbonaceous matter had gone to stain the surrounding clay black, thus indicating that the dark color of the coal shales is due to the carbon derived from the plants which they included. Another very prominent member of the vegetation of the coal period, was that order of plants known as the calamites. The calamites of the coal measures have a striking resemblance, and were closely related, to our modern horse tails. Most people are acquainted with the horse tails of the marshes and ditches. It is a somewhat graceful plant. The Coal era has been termed the "Age of Acrogens" because of the great preponderance in these times of vascular cryptogamic plants. There were three families of these, the ferns, the calamites, the club mosses or Lycopodiums.

Many are familiar with some of the living Lycopodiums, those delicate little fern like mosses which are to be found in many homes. They are but lowly members of the flora, and it may seem somewhat astounding that their remote ancestors occupied so important a position in the forests of the past periods. Some two hundred species are known. They are, as a rule, low creeping plants. One is astonished when told that the fossil representatives of the family known as Lepidodendra attained a height of no less than fifty feet, and probably a greater magnitude. The stems are covered with scales. These are arranged in a spiral manner. The stem often remains perfectly upright in the coal mines and reach into the strata above the coal seam. One striking feature in connection with the fruit of this big club moss is that the bituminous coals in many if not in most, instances, are made up almost entirely of their spores and spore chases. Although club mosses have been found in a fossilized condition, at least forty nine feet high the spores are no longer than those of our miniature club mosses of the present day. The spores are more or less composed of pure bitumen, and the bituminous nature of the coal depends largely on the presence or absence of these microscopic bodies in it. The spores of the living club mosses contain so much resinous matter that they are now largely used in the making of fireworks, and upon the presence of this altered resinous matter in coal depends its capability of providing a good blazing coal.

Another well known form of carboniferous vegetation is that known as the Sigillaria, and, connected with this form is one, which was long familiar under the name of Stigmara, but which has since been satisfactorily proved to have formed the branching root of the sigillaria. The older geologists were in the habit of placing these plants among the tree-ferns, principally on account of the cicatrices which were left at the junctions of the leaf-stalks with the stem, after the former had fallen off. No foliage had, however, been met with which was actually attached to the plants, and hence, when it was discovered that some of them had long attenuated leaves not at all like those possessed by ferns, geologists were compelled to abandon this classification of them, and even now no satisfactory reference to existing orders of them has been made, owing to their anomalous structure. The stems are fluted from base to stem, although this is not so apparent near the base, whilst the raised prominences which now form the cicatrices, are arranged at regular distances within the vertical grooves.

When they have remained standing for some length of time, and the strata have been allowed quietly to accumulate around the trunks, they have escaped compression. They were evidently to a great extent, hollow like a reed, so that in those trees which still remain vertical, the interior has become filled up by a coat of sandstone. Whilst the bark has become transformed into an envelope of an inch, or half an inch of coal. But many are found lying in the strata in a horizontal plane. These have been cast down and covered up by an ever-increasing load of strata, so that the weight has, in the course of time, compressed the tree into simply the thickness of the double bark, that is, of the two opposite sides of the envelope which covered it when living.

There is yet one other family of plants which must be mentioned, and which forms a very important portion of the constituent flora of the coaliferous period. This is the great family of the conifers, which although differing in many respects from the highly organized dicotyledons of the present day, yet resembled them in some respects especially in the formation of an annual ring of woody growth.

The conifers are those trees which, as the name would imply, bear their fruit in the form of cones, such as the fir, larch, cedar, and others. The order is one which is familiar to all, not only on account of the cones they bear, and their sheddings, which in the autumn strew the ground with a soft carpet of long needle-like leaves, but also because of the gum-like secretion of resin which is contained in their tissues.

Q.—What do you know about the coal bearing strata?

A.—In the carboniferous formation is coal most abundantly found. The presence of coal has indeed given the name to the formation, the word carboniferous means 'coal bearing'. Geologically speaking the carboniferous formation occurs near the close of that group of systems which have been classed palaeozoic, younger in point of age than the well known Devonian and Old Red Sandstone strata but older by far than others. The strata found in the various coal fields differ considerably among themselves in character. For all practical purposes of the geologist the three great divisions of the system may be put down as Upper carboniferous or Coal measures proper:

Millstone Grit;

Lower Carboniferous, or Mountain limestone.

In short the system consists of masses of sandstone, shale, limestone and coal, these also enclosing clays and ironstones, and in the limestones marble etc., etc. A great proportion, of the rocks of the system, is sandstone, which is the result of sand which has been deposited in large quantities and become hardened by various processes. From whence came the sand? Sand and quartz are of the same chemical composition, and the sand of the sandstone appeared at first on the earth in its solid form in the shape of quartz. Quartz is a heavy mineral so therefore is sand. It is also hard, and in these two respects it differs from another product of sedimentary deposition, mud or clay. Quartz, in being knocked about by rivers and currents gave off grains—sand. As it is driven or carried along the sand is deposited. Suppose a small river has been charged with a

supply of sand. As it approaches the sea and the current loses force the sand moves slower until finally it falls to the bottom and forms a layer. Layer is added to layer and the sides added to and as a result strata is formed diagonally as well as horizontally. In a section the ends of the layers would be given as thin wedge shaped terminations. Shales are formed from the clays which have been carried down by the rivers in the shape of silt, but which have since become hardened and now split easily into thin layers. Mud and clay, dusty silt being lighter than sand, is carried further and spreads over a wider area. Thus shales exhibit uniformity over a wide bed. Warrant, Spavin, and gannister are names applied to them. Mountain limestone forms the basis of the whole system. The limestones do not owe their origin to sedimentary deposition. Limestones came from the encrinites which grew in such profusion under the water that after death when the plates of which their stems consisted became loosened and scattered over the beds of the sea they accumulated and formed solid beds of limestone. Of course there were the numerous shell fish to assist.

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First aid in America did not arrive until 1897, when some of the railroads put a few first aid supplies on their trains and gave certain of their employees books of instruction. First aid to the injured societies were also started in several of our larger cities about this time. Canada organized branches of the St. John Ambulance Association. With the assistance of 25 miners employed in the Delaware & Hudson Company's mine at Jermy, Penn., in 1899, I worked in America. The men assisted each other for mine up collections and bought first-aid packets, books of instruction, bandages and splints. The company was appealed to, but gave no encouragement. We had monthly meetings, consisting of lectures and drills, and in a short time I had an efficient corps of first-aid

men in all parts of that particular mine. Then the 1900 strike coming on, interest was lost and the corps became extinct.

It was not until the summer of 1905 that I succeeded in getting any coal company to take up this movement (although I had persisted in my efforts so strenuously for six years that I came to be called a first-aid "crank") when W. A. May, general manager of the Pennsylvania Coal Company and the Hillside Coal & Iron Company, engaged me to organize a first-aid corps in each of the mines under his management, numbering about 40, and employing in round numbers 13,000 men. The following year, 1906, the Temple Iron Company took up this movement, and it has gradually spread until all the coal companies in the anthracite region of Pennsylvania have inaugurated first aids in some form in and about their mines. Without boasting, I feel that I have the honor to have originated this humane work in the coal mines of America, in 1899, and that the Pennsylvania Coal Co., the Hillside Coal and Iron Co. and the Temple Iron Co. were the first coal companies to inaugurate this life-saving work in a systematic way.

After having had charge, as medical director, of the organization and training of first-aid corps for three large coal companies, I feel that I can in no better way tell how to organize and maintain corps in which they are kept up at the various mines of these three companies:

The mining operations of the three companies were first divided into twelve districts, each of these districts having several collieries and a number of openings; a general foreman or superintendent was placed in charge of each district, and this official arranged for a suitable central hall, so as to be convenient for all the men in the district as a meeting place. The hall, of course, is large enough for practice drills and stretcher work. One employee in twenty was selected and invited to attend the meetings, thus making about nine hundred trained first-aid men.

Employees were selected along the following lines: Men who are in and about the mine all day; men so selected as to have a first-aid man in each section of the workings; several outside men, and especially the driver of the ambulance; men not too old or too young; men who stay with the company and not transients; some intelligent foreigners, who can understand and speak English. This to include all classes of employees, namely, inside and outside foremen, fire bosses, driver bosses, engineers, pump runners, breaker employees, and some miners.

Each of these corps met and adopted by-laws, elected its own officers of administration, consisting of president, vice-president and secretary, who administer its affairs under the general direction of the company. The foremen and assistants, in and outside, and fire bosses, were requested to have at least three of the men under them present. Meetings are held in each district once a month, excepting the months of July and August. The time of the meetings is from 7.30 to 9.30 p. m. Cards are given each member with the place and date of each meeting during the year, signed by the general foreman of the district. The meetings are called to order by the president, minutes read by the secretary, and then I give a short talk on first aid, illustrated by charts, diagrams, X-ray plates of fractures, and by painting the location of the principal blood vessels and different important organs on

the body of the human subject with colored crayons. I illustrate wounds in the same way.

The lecture is short, say thirty minutes, and is as free as possible of medical and technical terms. Following the lecture, a demonstration on a living sub-

ject in bandaging, is given, stopping hemorrhages, or applying temporary splints; this lasts about half an hour. After that I have the men themselves practice on a subject going through such actual operation as performing artificial respiration, carrying the injured, dressing wounds, applying splints to fractures, and a stretcher drill. The meeting is closed with an "experience" session, the men relating actual experiences they have had during the month past in dressing injuries, how they did it, and as far as possible the results obtained, the same being criticized and discussed by all the members present.

Each member of the corps is supplied with a first-aid packet (rubber cover), which he carries constantly in his working coat, and wears a Red Cross button. He is also supplied by the company with a copy of my little First Aid Hand Book containing simple instructions and illustrations of bandaging wounds and applying dressings to fractures, what to do in emergencies, etc. The book is of pocket size and contains not quite 100 pages. The first-aid men also have access at all times to the well equipped mine hospital rooms, which are provided by the companies.

This programme is varied somewhat at times in order to keep up attendance and interest (the attendance at the meetings being semi-voluntary on the part of the men), by having inter-corps contests, or demonstrations of skill, between teams of five men from different mines; judges are appointed and render decisions in favor of one team or another. The men also arrange for and have smokers, field days, banquets, and musical entertainments once a year, which do much toward arousing enthusiasm and keeping up interest, not only among themselves but the general public. In fact, these corps can be maintained on exactly the same plan as volunteer fire companies.

The Nova Scotia Steel and Coal Co. has an electrically run Chain machine which does wonders. The other day it cut a six foot deep hole, 18 feet across, in thirteen minutes. The machine works automatically and can load itself on its own trucks. With most cutting machines the delay is in moving. This machine can be moved from one room to another and do a hole in sixty minutes. It is contemplated to employ a number of these machines in the new mine.

PROVINCIAL MINING and MECHANICAL EXAMINATIONS.

Examination of Candidates for Mine Manager's, Underground Manager's, and Overmen's Certificates, and examination of Candidates for Enginemen's Certificates, will be held at Sydney, Mabou, Stellarton, and Springhill—commencing June 24th, 1908, at 10 a. m.

All testimonials from Candidates for Mining Certificates, should be forwarded to the Office of the Deputy Commissioner of Works and Mines, in time to be submitted to the preliminary meeting of the Mining Board, on May 7th, next at Stellarton.

Testimonials from Candidates for Enginemen's Certificates, should be forwarded to the Office of the Deputy Commissioner of Works and Mines, in time to be submitted to a preliminary meeting of the Engineering Board, on May 15th, 1908, at Stellarton.

HIRAM DONKIN,
Deputy Commissioner Works & Mines

Halifax, April 30, 1908

MARITIME MINING RECORD.

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

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

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STELLARTON, N. S.

MAY 13

- Rubs by Rambler.

In last issue I expressed the opinion that a strike fund would not be a great advantage to the P. W. A. It is neither a safe nor a sure weapon. The best weapon of all is to have a good cause. I am borne out in my opinion by International President Neil of the Railway Employees. He lays no store by a strike fund. He does not think the wage question is the only or the chief one for trades unions to deal with. A similar opinion was held by a former secretary of the P. W. A., who believed the best lever to uplift was education, hence his efforts in the direction of night schools, mining schools, etc. Of course wages play a part and an important one, but trades unions should not live for wages alone. President Neal, at a meeting in Moncton, said he had been asked if they had a strike fund. His reply was, "No. They did not want a strike, but if a railway company forced one, it would simply stop the road as there was 85 per cent of the men in the organization, and the road could not be run with 15 per cent." He further said that he did not believe in a million dollar strike fund. Having 85 per cent of the men organized was the best strike fund they could have. President Neil was very emphatic in his condemnation of strike funds and declared: "I would not be at the head of any organization which laid up a fund for strikes, I do my words home to please men, I want you to take my words home with you and think over them." Level headed Neil. There are too many leaders whose chief end is to talk so as to please the men, but these are misnamed; they are not true leaders. The P. W. A. men who seek a change because they have no big strike fund should weigh Mr. Neil's words. He is not president of a Canadian, but a society whose headquarters are out of Nova Scotia. The Brotherhood is a strong one and has a much better reputation than the U. M. W. Mr. Neil believes in arbitration and in co-operation. He does not think the employers are eternally on the look out to pounce upon the workmen and grasp something from them. He believes that workmen should assist the employers in securing fair returns for their investments. He does not befool his own nest by saying that workingmen are serfs and slaves. Altogether

Pres. Neal's views are healthy. He thinks he is a poor specimen of a workman, whose chief occupation is whining—He is right.

In answer to the question "Why should Canadian labor organizations wish to join hands with the union of men who belong to another nation" a correspondent of a C. B. paper writes: "I will answer this by asking another question or two. Why should nations exchange compliments politically. Why do different countries carry on mutual systems of commerce?" Well, now, just where the bearing of these questions come in, as affecting the first, it would take the proverbial P. L. to discover. Exchange does not mean control, does it? And 'mutual systems of commerce' cannot mean that one nation allows the other to make its tariff laws and regulations. The one nation does not say to the other 'You must make your tariff so,' rather it says, 'if you do this, I will do that'. A 'mutual' system is not one thrust down the throat of one nation by another. No one would object to the U. M. W. saying to the P. W. A. 'You are a nice little boy' or to the P. W. A. saying in return, 'What a fine big fellow you are'. No harm whatever in that, but it is an entirely different thing from the invitation of the foreign to the home society, to 'come in and be absorbed', which means obliterated, for it may be taken for granted that the U. M. W. would blow the big bassoon and deny the deluded former P. W. A. lodges, the right to blow their penny whistles. The same writer tells us that the man who hesitates to cross the international boundary line is a queer stick. Perhaps. He tells us further that that man cannot believe, as Christ did, in the universal brotherhood of man, and clinches his argument by saying that as employers are agreed upon a policy of warfare against trades unions, it is essential that workmen should combine for protection against the marauders. To me it appears as if there was something incongruous, incoherent, in his argument. What in the world is his interpretation of 'Universal brotherhood'. Does that brotherhood exclude all but workmen? Have the poor operators no place in the plan. Are they out of it because they are not men but monsters. Poor souls! How shocking. It strikes me that the critic in the C. B. paper has a far less comprehensive view of theories theological than has his victim. The latter may believe in a universal brotherhood; the former limits the universality—drawing the line at capitalistic coal operators. Finally; the C. B. paper correspondent tells the other fellow, to his face, that he "cannot be living in harmony with the dispensations of his Creator." By George; that's a corker. In what sense, I wonder, does he use the word 'dispensations'. If in a theological sense, as one has a right to infer, then the victim may turn upon his tormentor and say, "If you were living more in harmony with these dispensations you would be more of a peacemaker and a patriot, and less of a prattler and a plotter."

Rant and rant are the characteristics of the writings of very many, these days, who undertake to champion the cause of labor. The Halifax Herald offers itself as a medium for the dissemination of any and every curious idea. A re-

cent writer of this common stamp, thus grandiloquently prefaces a performance for the delectation of the dwellers around the C. B. Collieries: "Workimgmen of Cape Breton. A wave of freedom, a wave of prosperity, a wave of happiness for you is spreading over the country. It has struck the borders of New Zealand and brought devastation to capital, graft, and slavery". Harken to these words ye C. B. foolish ones and be wise. Perhaps you know what the author has in his mind; You are lucky for I can't see he knows himself. He is all, to my mind, mixed up. He's rattled, had; sure. I wager you five cents he did'n't mean what he said. You see, some grand stories are spoiled in the telling. This is a case in point. What he meant to say, if he had not been overcome by his own exuberance, is that this wonderful wave of freedom, prosperity and happiness had swept over New Zealand, and it had struck our shores. New Zealand has been called the workimgmens paradise; that is all a mistake if the Herald writer meant what he said. He says the wave is 'sweeping over the country' while it has only touched the borders of New Zealand. But this wonderful wave is a doubly dyed hypocrite. It brings happiness on one side and devastation on the other. It has, the Herald writer solemnly assures us, wrought devastation to capital. So, so; the way to secure peace and plenty is to devastate capital. I never would have thought it. Along about last October capital got a small rap on the knuckles, no knock down nor devastating blow, just a sort of playful tap, and what was the consequence? The wave of prosperity as it careered proudly along had its progress suddenly stayed. Business was checked, workshops were closed, factories went on half time, workmen were thrown out of employment, and in the big cities poverty stalked around every corner. Now all this happened because capital got a set back, the good Lord only knows what would have happened had capital been overwhelmed, devastated by this most peculiar prosperity and happiness giving wave. But I hav'n't named all the peculiarities of this great and ponderous wave. It was up in transmigration, so from a New Zealand 'wave' it transformed itself into a brewing 'storm.' Are you listening? Did you hear the moan? That's the brewing only. But it is rising, we are told, and "by and by it will reach our local shores, (whether it will reach our unlocal shores is not stated) with such strength that it will leave nothing wanting, leave nothing in its tracks but that for which it pursued its pleasant journey." Now just as the wave was of a most peculiar kind so also is the storm into which it transposed itself. This storm is not without its humorous vein. I had read of fierce and wild and terrific, and dreadful and all nasty kinds of storms that came along with frowns on their faces, but never till I read this author did I know that there was a class of storms which came sailing along wreathed in smiles. In my utter ignorance I never had suspected that tornadoes left ten dollar pieces in their tracks. The writer says the workimgmen can't be prosperous, free and happy, because they cannot vote and do as they please. That is exactly what they can do. They do very much as they please. They can vote for a workimgman's candidate or for a liberal or for a tory, or if they are so minded they can put up the

'Wave of Freedom' or the 'smiling storm' and vote like fine fellows. Not free? Then freedom is nowhere. But, to be solemn, the writer to the Herald is a miserable, misguided, self centred, soulless son of old Adam. He tells us how workimgmen cannot be happy in these words: "Again you men who are earning \$1,50, \$2,00, or \$2,50 a day, while your employer is pocketing double treble or even ten times that amount daily, can you go home after a hard days work and conscientiously proclaim you are happy". Most assuredly. Why not? Thou utter fool, "Is not the life more than meat, and the body than raiment". Did you ever read "A sound heart is the life of the flesh, but envy the rottenness of the bones." And it is envy, poor fellow, with which you are afflicted. Thousands can testify that there is such a thing as being 'Contented wi little, and canty wi mair'. The very best thing the Herald correspondent can do is to take a course of Solomon or Burns, then he may come to understand that it is not in adding store house to store house, not in wealth, nor yet in learning to make one truly happy; that happiness consists in inner not outer things. What a miserable crowd we would be if none of us could be happy so long as we knew that some one else was receiving a larger share of the worlds goods than we. In that event there could be only one happy man, the man at the top.

Dr. Kendall, M. P. P. has been telling a Sydney paper that by a recent amendment to the Mines Act the Dom. Iron & Steel Co. may commence work immediately on the areas leased from the Burchells by that Company. It is doubtful if the amendment will bear the construction the Doctor puts upon it. At any rate before the government can interfere, surveys and measurements will have to be made of the disputed territory. American fishermen are not allowed to come within the three mile limit. What does that mean? Does it mean that may indent the coast. Suppose of every bay that may indent the coast. Suppose a bay is 6½ miles wide and five miles long from its mouth to its head, could a Yankee schooner come a mile inside the mouth and set its nets in the middle of the bay? That would be hazardous. The contention of the Dom. Iron & Steel Co. is that in measuring from one point to another it must not be in a straight line, but that all the crooks and curves and bends and bays on the shore line must be measured. Suppose a coal seam ran through a mountain whose base was a thousand feet wide and its height 1500 feet, could the owner claim that he had 3000 feet in length of coal measures? The dispute is an interesting one. The Doctor thinks the Steel company will be able to produce from this area 'immediately'. It all depends upon the construction put upon the word.

The Halifax Herald has an immense knowledge of British politics. It knows more than the people on the spot. For instance: Mr. Churchill's successful opponent admitted that the chief agents in his election were the 'Education Act, and the Licensing Bills, and any body at all familiar with the trend of events in Britain can well believe that. The Herald says to the successful candidate: "No such thing, you were elected by

the increased voting power of the 'tariff reformers'.

The Sydney Post is the ready medium for the conveyance of the views of every supposed workman of the Dominion Coal Co. who has a supposed grievance against the Company or against the P. W. A. I have been endeavoring to ascertain the reasons for the rising of the U. M. W., and for the movement in favor across a reasonable, sound, or dignified argument. Against the P. W. A. there is quoted the old three year and the new two year contract. Nothing was lost by the old contract to the workmen of C. B. It is sufficient answer to all that may be said against it that during its existence the men of the Dom. Coal Co's collieries made fully as good wages, and in general far N. S. A flimsy charge against the Coal Co., and against the P. W. A. is that there is no wage scale covering all of the mines of the Company, and that each has a scale of its own. Well, who is responsible for this? The men themselves. The men at one pit declare that conditions are harder with them than with the men of some other mine, and so demand 'consideration' in some shape or other. The shift-mer in some mines, as is well known, have much harder work than those in others, dirtier work too, and shiftman with the soft snap the same scale of wages as his harder wrought fellows. I make no doubt the Company is ready for a uniform scale. Let the men, but say that the harder worked men are to be put on a plane with those whose work is easy, and the Company will no doubt, if pressed, reduce the higher paid men, all in the interests of uniformity. If the writers to the Post were men of a little experience they might have discovered that conditions vary at the several collieries. Were it not so then there would be a flat rate for mining, loading, etc., at all of the collieries. Instead of that the rates vary. Even in the same mine conditions vary, hence it is—in a hand pick mine—that a pair of men pay their loader a dollar and sixty cents while in another section a loader is paid a dollar eighty. If the workmen have no uniform scale, why should the company be condemned for such omission.

A reason given why the P. W. A. and its members should submit, tamely and timorously, to be gulped down by the U. M. W. is that the latter is a big and powerful society. One writer is carried away by the bigness of the foreign society and tells us in bigness there is safety, and his faith in the greatness of bigness is clinched by the alleged saying of Napoleon that "providence is always on the side of the heaviest battalions." No doubt the 'Little Corporal' was a fair authority, but I can appeal to an authority compared with whom Napoleon is small indeed. This authority—I wonder if the Post's correspondent knows of him—said: "The race is NOT to the swift, nor the battle TO THE STRONG." No, not always to the strong. What was those of the Midianites? and what the weight of Bruce's battalions with those of Edward's? And we all know how the fights ended. Wisdom plays a mighty part in affairs military as well as civil, and so far as ones observations goes he is bound to declare that the P. W. A. has shown more the fruits of wisdom than has ever the foreign order.

As an argument in favor of the P. W. A. allowing itself to be absorbed by a foreign disorderly and undisciplined society the C. B. miners have does like the following dispensed to them: "Unionism in Britain and elsewhere is federating or amalgamating so as to present as strong a front as possible to their employers, the Capitalists". All right, but amalgamation is not what the U. M. W. are here for. It is the absorption of the P. W. A. they desire. The Scottish unions may 'federate' with the English miners but they will not thereby forego their distinctive characteristics—their individuality. The Fife shire miners may hob nob with the Lanarkshire, but catch them allowing the latter to dictate. The Durham and Northumberland miners may propose a sort of amalgamation with 'Smilies' forces or 'Weirs', but if they suggest the right to dictate the policy of either, should 'amalgamation' take place, we know what the likely answer would be. The British miners have not suggested to the German or French miners,—and either country is nearer Britain than is Pitsburg to Cape Breton,—that they abandon their native unions and cast in their lot with them. Neither German nor French unions could be seduced by the plea that the British unions could be seduced was the best for them. If they had the suspicion that the British miners might 'work' them for their own ends—seeing Britain is a competitor with Germany in the coal trade—could they be blamed, and similarly as Canada and the United States are competitors in the coal trade are Nova Scotia miners far out in assuming that the motives of the U. M. W. may be mixed, not to use a plainer term. When three nations form an alliance, one of the three does not say to the other two: "You can take it easy, we'll run the entire machine, have three scraps to your one, and of course we may expect you to assist, and in return when you have a scrap we will expect assistance from you." But the U. M. W. will neither send men nor money to the miners in C. B. in case of a strike. Instead, as they do with their members—mostly Huns and Slavs and Poles—they will send one of their bread vans and dole out a daily allowance. If the men of Cape Breton are ready for that, then I am ready to say the U. M. W. is good enough for them.

Seeing the editor of the Record has changed his opinion in regard to reciprocity thrice in ten years—so it is alleged by W. C. Milner—the surviving member of the Free Coal League is all of a tremor as to the editor's ultimate landing place. Does W. C. say it is an unwise thing for one to trim his sails to the prevailing breeze? Theoretically reciprocity is not at all a bad thing, but, then, as President Cleveland put it, when one is up against a condition and not a theory, the latter is shelved, for the nonce. When confronted with altered conditions, it is allowable for one to look at things, or policies, with altered affections. Some other time reconvert one and lead him to express a returning love for that which he slighted for a while.

In the matter of the demand for increased pay for mechanics, and low paid men in general, which has been refused as impossible by the Pictou operators, the P. W. A. lodges in Westville and Stellarton have applied for arbitration under the Lemieux Act and have named C. E. Tanner for their arbitrator.

It is curious how many, among the would be spokesmen for the miners of Nova Scotia, persist in efforts to impress upon their fellows the idea that the coal operators of N. S. are ever on the look out for some devilish scheme whereby they may bluff, bewilder, get the better of, if not actually beggar their employees. If one were to believe these spastic spouters than the coal operators of the province there are no more hideous creatures this side of Hades. In the view of these platform and press spitfires the operators are men whose one great aim in life is to be on the watch for openings where they may attack and seriously wound their workmen. Was there ever such folly? Those capitalists are fools who do not recognize that the laborer is indeed worthy of his hire, who fail to see that a wrong done labor is a wound to capital. Labor and capital may not be bosom friends; neither are they antagonists. A writer to one of the C. B. papers gives as a chief reason why the P. W. A. should allow itself to be gobbled up by a foreign organization, that the foreign order has a big strike fund and that a strike fund gives the greedy operators pause. This sapient or superficial writer—according as men may judge him—hugs the idea that a strike fund is a cure all. He declares that if advancement is desired it must be fought for and the 'cost' be paid. From the context one is led to the opinion that the 'cost' is to come from the 'strike' fund. This awfully true that no advancement, reform, has been secured without cost, the greater the advance the greater the cost. But not money cost. Money cuts no ice in the nations redemption, nor in that of the world at large. 'The world greeneth and travaileth until now'; Ah; it was courage and self denial and sacrifice, not money, that bore the better fruit. Without the shedding of blood there has never been, nor ever will be, 'remission'; that is gospel truth. The betterments our forebears secured were not in any instance bought by bullion but by blood, if not in every case of the veins, of toil, and tears and torments. That was the way of our forefathers, but that is not the way of us, their sons. We have discovered a royal, purchasable by money, road. We will pay a small monthly fee into the coffers of the U. M. W. and in return they will, after improved Lawsonian methods, scatter profusely pecuniary promises. Oh, yes, they will cut the claws of our callous captors, and set us on our feet free and independent workmen. Who would 'nt be seduced?

The management of the Interecolonial Coal Co. have everything in readiness for the sinking of another 600 foot lift at the Drummond colliery. The sinking of this lift will be watched with the greatest interest by all interested in the future of the coal trade of Westville, and by all who take any interest in geology. Geologists assert that the Drummond cannot go another lift before the McCulloch brook fault is encountered. The Drummond has on many previous occasions been threatened with the appearance of this notorious fault, and so often has it failed to make its expected appearance that some are inclined to the opinion that it has betaken itself to some other than the carboniferous formation. The management of the colliery are of course hoping earnestly that in this instance geology will be at fault, and we are all with them hoping likewise. In four months time the lift should be completed. If no fault is struck. The entire length of the slope will then be 7900 feet, or over a mile and a half of a straight haul from bottom to bank.

WHAT IS CAPITAL.

By Robt. P. Neil, (Continued from last issue.)

Third, The remuneration of capital is profit. The product of industry is divided into four parts. Interest, rent, wages and profits. Interest and rent are conceded by both laborer and employer to the capitalist and landlord, respectively, as just recompense for the use of the money and buildings, or paraphernalia necessary for the successful conducting of an industry. Wages, also, are conceded by all as the reward for labor, however, when the fourth part, or profits, is reached there are usually two claimants, the laborer and entrepreneur, (the latter we will explain is the one who borrows capital, rents factories, and carries on an industry by further employing labor.) It would also be well to add that the greatest controversies usually arise when the entrepreneur, capitalist and landlord are combined in one man, which frequently happens; that however should not be taken into consideration, for it is obvious that although the entrepreneur also furnishes the capital to run the industry, he should receive the same amount of interest for the amount of money invested as though he has borrowed the same; this is likewise true if the entrepreneur and landlord are combined in one, and it logically follows that the same is true if the three are combined in one.

Why, then, should the laborer ask a share in the profits? Simply because he is under the opinion that profits come out of wages. In this he is wrong. Let us illustrate. A and B are manufacturers in the same city, and both pay the same wages. A, by his business sagacity and keenness of mind, studies the condition of the market, and by his energy and prudence, gains a clear profit of \$10,000, while B makes but \$2,000. Is there therefore any equitable reason why the employees of A should receive more wages than those of B? They had no hand in it, they furnished the labor, but so did the employees of B. It was the individual business ability of the entrepreneur which caused the profit of \$8,000 in excess of B.

To all this must also be added the risk of capital, interest on the same, technical knowledge, financial skill, and administrative ability, of the entrepreneur. Considering these minutely it will be discovered that the profits belong to one person—that is the entrepreneur; to the laborer belongs the highest wages for its equivalent in labor.

My purpose in taking capital as the subject of discussion this month, is in part to endeavor to allay some of the restlessness of the laborer, and to pour oil on the troubled sea of the employer and employee. This distress arises in many cases because of an incorrect idea of the economic principle of profits. In now finally arriving at a proper definition of capital, after having considered it from the three-fold position; of its origin, due to saving; second, its functions, the creation of new forms of wealth; and third, its remuneration, which is profits of industry, all in their turn thoroughly understood by the laborer, we can more intelligently say: "Capital is that part of the wealth of a community which is devoted to the production of wealth."

To the laborer, a parting word. Do not sneer at a man and look upon him as your enemy, because he is possessed of wealth, for if you follow the advice contained in the second part of this discussion, you yourself will soon be what you probably now despise—a capitalist.

AROUND THE COLLIERIES.

The S. S. Havsa will again this season carry Drummond coal to the St. Lawrence.

The Acadia Coal Co. loaded the Unique on the 30th ult., with a cargo of coal for Montreal,—the first boat from Pictou this season.

Mr. Thomas Cantley of the Nova Scotia Steel and Coal Co. left on May 2nd. for Britain on business matters. The trip will extend over 5 weeks.

Dominion No. 1 for some time past has been showing surprising increases in outputs. On a day recently 2580 tons were hoisted and a 2500 output is considered fair.

The contract to supply coal to the P. E. I. Railway is this year divided between the Intercolonial, the Inverness, and the Port Hood coal companies. This is more than two bites to a cherry.

The I. C. R. has evidently yet to learn that there are coals and coals, and that the mere fact of a company having a political pull does not increase the thermal units in the coal such company produces.

New weigh scales are being erected on the main bank head at the Drummond. The men had a complaint against the old ones of not being of the latest design in keeping with the other fixtures around this well kept colliery.

It cannot be said that the Nova Scotia coal operators are taking advantage of the I. C. R. this year. This railway has been offered coal at about a dollar a ton less than the Quebec Central is paying, and at a less price than is being charged large consumers in Montreal, and yet it is not satisfied.

In the sinking of the slopes to the submarine ore areas at Wabana, the Nova Scotia Steel and Coal Co. are doing some phenomenal work. In two weeks in April 97½ feet were added to the length of the slope, 48 feet one week, and 49½ for the other. To drive through ore at this rate of speed makes one stand up. If this speed is continued Scotia will be re-veiling in its own ore areas in about eight months, in lots of time for next seasons operations. and then will come the justification of those who have all along pinned their faith in Scotia,—the wise few.

The place in the Halifax Herald, which has known W. C. Milner for the past two or three years will know him no more henceforth and forever. When the Record converted him on the right side and Alex Dickson did a similar thing on the left, he cast off the old man W. C. Milner, and took upon him the new man "Consumer". If at his conversion W. C. had cast aside some of his old quotations few might have been able to recognize the great resemblance the new man "Consumer" bears to the O. M. Milner. Though he has changed his views and his name our friend is so far constant to the Dominion Coal Co.

A fossil taken out of the slopes of the Acadia colliery at Stellarron, attracted many interested in finds. The fossil is one of the largest ever obtained in these parts. It is over two feet across and originally was 9 feet high. It has been strapped with iron in order to save it from the action of the air. The bark of this ancient great tree has been formed into coal. The fossil has been photographed. It may be sent to the British Museum.

In order to encourage the manufacture of fire bricks in this country, a duty which came into effect 1st. May is imposed on all fire brick costing less than thirteen dollars at port of shipment. These of course are not the best brick. As soon as it has been demonstrated that we have the proper kind of clay to make brick suitable for lining blast furnaces, a duty will go on high priced brick too.

While the Montreal Water Committee assert that they can pump more water per ton of coal used with Dominion Coal Co's. than with U. S. coal, the Quebec Central Railway thinks that Nova Scotia coal does not suit its purposes as well as American. Accordingly this Railway has made a contract for some thirty thousand tons of American coal, delivered at a point in the St. Lawrence. The coal will come down the river in barges and be reloaded into cars.

The new slope at the Joggins is now down about seventeen hundred feet. This gives an average of over two hundred feet per month since sinking commenced. Is not this a record for this province? The Record is of the opinion that Mr. George B. Burchell, who superintended operations has also a record in driving levels. This he made at Morien, and it has not been broken yet to our knowledge, except where Stanley Headers were used. The level driving record was four hundred and thirty-five feet in one month.

The coke now turned out at the Drummond mine is of a quality that is sure to create for it a large future demand. From users of this coke in Amherst, Sackville, New Glasgow, Londonderry, etc. come testimonials which are making glad the hearts of the management. It is declared by users that as good results are being obtained from the Drummond coke as from the American article. The great improvement of late, in quality, is due largely to the new jigger washer, which frees the coal of impurities much better than the old washer,

The blast furnace of the Nova Scotia Steel & Coal Co. at Sydney Mines has been turning out pig iron at an unlooked for rate the past four months. The furnace was designed for an output of a hundred and sixty naces was designed for an output of a hundred and sixty short tons per day, while the actual output is close on 200 short tons daily. This means of course greatly reduced cost of production, for as much flux is used in producing the 160 tons as is used in producing 200 tons, producing the 160 tons as is used in producing 200 tons, Much of the increase is due to better coke, but it is also largely due to the fact that the operators know now how exactly to 'tune' the furnace.

AROUND THE COLLIERIES.

The railways connecting Dominion No. 12 with the main line will not be complete until August.

Fifty houses including a Manager's house, will shortly be erected at Dominion No 12.

Manager Maxwell is proud of Dom. No. 12, and is encouraging the Victoria—Lingan miners back again.

A new hoisting engine will be put in shortly at Dominion No. 12, and may be used for three or four years, or until replaced by one more powerful.

It is said that the Springhill collieries may not work much more than half time for a period. How long that period may be is uncertain.

Those who have its welfare at heart declare that Springhill affords a fine field for the Temperance lecturer, and the expounder of political and domestic economy.

Dominion No. 14 colliery will be sunk a half mile from Dom. No. 12, plus the thickness of the barrier between the collieries. Nos. 15 and 16 will soon follow, but these will be on the Lingan seam, and further South than Nos. 12 and 14. A large number of the former residents of Victoria Mines are finding their way back to the district.

In a few years the Lingan side will no doubt be a hive of collieries and it is safe to predict that at least ten mining villages will cluster around as many collieries. All the collieries are to be modest and modern, in their outputs, as it has been proved, beyond question, that collieries in Nova Scotia, producing from 1,000 to 2,000 tons are the dividend payers.

The Dominion Coal Co. will supply the Montreal Water Works with 10 000 tons of coal at \$3.88. Before awarding the contract the committee made a test with some United States coal, and ascertained that it took 2.95 tons to pump one million gallons of water. With Dominion coal, however, the average from January last year, to January this year was 2.01 tons per one million gallons of water. In view of this fact, the committee did not hesitate to award the contract for Dominion coal.

The deeps of Dom. No. 12.—Victoria section—are down 910 ft. The second set of levels are broken off at 850 feet. These levels, from the slope mouth, will be driven back to the boundary, a distance of half a mile. Balances 300 to 400 feet in length will be driven up and the coal brought down from the boards by cages. A new kind will be used. They are lower than the old ones. The boxes of No. 12 hold 1900 lbs. of coal. Three hundred feet of the crop coal is being left to support the surface and keep it from breaking, and from letting in the surface water.

We have received the Quebec number of "Onward" an illustrated weekly published by William Briggs, Toronto, containing five articles on the Founding, Five Sieges and Conquest of Quebec, with twenty-four engravings. Gives popular account of a subject of interest to all Canadians. Send for free sample.

Springhill is beginning to feel the effects of the lull in trade which struck the continent some months ago. Well, barring strikes which were unnecessary, and accidents which no one could prevent the place has had ten years of great prosperity. Has the town and its people made the best of their opportunities? How many of the workmen have securely hedged themselves against the inevitable rainy day?

Mechanics Lodge of Springhill has applied for arbitration. The matters in dispute are of comparatively trifling importance, that is as regards the number of men affected. R. B. Murray is arbitrator for the men. The company refused to recognize the proceedings, so the Government named Hon. John Armstrong for the company, and on failure of these two to name a chairman, the Government appointed Judge Wallace.

The miners of Pictou County have displayed sound judgement in declining to be absorbed by the U. M. W. They are not red shirted socialists desirous of securing the whole earth and that in a hurry. With hundreds of thousands of 'heathen' in West Virginia and other of the States, the Pictou P. W. A. men think the U. M. W. is not wholly unselfish in its desire to cover them with its wings. Seeing there will be a vacancy soon it would not be unwise to recommend I. Dooley for Sub. Secy. He would be more than a match for Patterson should he again show face.

A communication has been received from the Press Committee of Pioneer Lodge, criticising a reference to the 'Standard' weight, in our issue of 23rd. April. As a similar communication appeared in a Halifax paper a fortnight ago, the Record does not consider itself called upon to publish the letter. It would be a comparatively easy matter to puncture the principal statements of the Committee. If the Gd. Officers do not think it worth while to contravene these, the Record may well be silent. From information obtained from other than an official of the Company, the Record is forced to the following conclusions: 1st.—That the Gd. Officers' test was free, fair, full and above board. 2nd.—That Mr. Cowan's gave the Officers' and Convener of Committee, carte blanche. 3rd.—That Mr. Cowan's had been sneered at because he had refused a similar test at a previous time. 4th.—That Pioneers Committee suggested to Gd. Officers' just such a test. 5th.—That the Gd. Officers' acted disinterestedly and honorably in the proceedings. 6th.—That the Press Committee's suspicions, of a plot, are unworthy and baseless.

Coal Shipments April, 1908

—DOMINION COAL COMPANY, LTD.—

—Output and Shipments for April, 1908—

—Output— —Shipments—

Dominion No. 1	48 000	
Dominion No. 2	58 721	
Dominion No. 3	32 279	
Dominion No. 4	38 528	
Dominion No. 5	55 736	
Dominion No. 6	20 453	179 330
Dominion No. 7	713	
Dominion No. 8	18 072	
Dominion No. 9	27 948	

	300 450	179 330
Shipments April 1907	.....	226 479
Decrease " 1908	.....	47 149
Shipments 4 mos. 1908	.....	778 291
" 4 " 1907	.....	720 362
Increase 4 " 1908	.....	57 929

CUMBERLAND RAILWAY AND COAL CO.

Shipments April 1908	.....	33 457
" " 1907	.....	29 873
Increase " 1908	.....	3 584
Shipments 4 mos. 1908	.....	144 528
" 4 " 1907	.....	105 680
Increase 4 " 1908	.....	38 848

INTERCOLONIAL COAL CO.

Shipments April 1908	.....	21 930
" " 1907	.....	25 738
Decrease " 1908	.....	3 808
Shipments 4 mos. 1908	.....	90 055
" 4 " 1907	.....	84 710
Increase 4 " 1908	.....	5 345

NOVA SCOTIA STEEL & COAL CO.

Shipments April 1908	.....	38 000
" " 1907	.....	33 450
Increase " 1908	.....	4 550
Shipments 4 mos. '08	.....	155 737
" 4 " '07	.....	120 279
Increase 4 " '08	.....	35 458

ACADIA COAL CO.

Shipments April 1908	.....	26 534
" " 1907	.....	24 289
Increase " 1908	.....	2 245
Shipments 4 mos. 1908	.....	106 415
" 4 " 1907	.....	88 208
Increase 4 " 1908	.....	18 207

INVERNESS RAILWAY & COAL CO.

Shipments April 1908	.....	23 017
" " 1907	.....	15 352
Increase March 1908	.....	7 665
Shipments 4 mos. '08	.....	68 691
" 4 " '07	.....	53 930
Increase 4 " '08	.....	14 761

'Aberdeen', a correspondent of the Herald, says the Labor Party is growing 'tremendously.'

There's room for all.

'The fever is raging in Amherst, Pictou, etc.'

And still there are empty wards.

'We are the people.'

And where do 'us' come in.

'How did the result of the Compensation Act suit you?'

It suited us—the colliery workers of C. B.—to a tee. We would rather have the Relief Societies than ten Compensation Acts and we cannot have both.

'How many requests have you made to this government that were't turned down?'

Nary a one.

'Are the concessions granted the corporations making you rich?'

If they are not the blame is ours.

'Are they—the concessions--lessening your labor or increasing your salaries?'

Yes. Yes.

'Are they grinding you into nothingness?'

Not turning a hair.

'Who is making the money out of these concessions?'

We're looking out for that, don't you forget it.

'Who owns the Island of C. B.?'

The Henry Macdonald's and the Hector McDougalls and so forth.

'If you wanted an acre of land in New Aberdeen to whom would you go?'

To Henry McDonald or Robert Crosby.

'With all the money obtainable could you purchase one acre?'

Yes, Bob can give a dozen one acres; Henry a good many more.

'This land is yours.'

It is not; not a single stick of timber on it.

'This land was formerly yours.'

Never. Before the McDonald's or the McDougall's, or the McIntosh's or McNeils had ever left Barra or Uist, Appin or Lochaber; or the Cadeigans and the Crosbys, the Nolans and the Nevilles, had ever left Drogheda or Derry; Cork or Connemara, some Frenchmen were in possession, and before them the Mic-macs, or some other Indians, strode supreme.

Rot, 'Aberdeen' pure rot; you are no Scot, you're a son of a 'Probus.'

A young man named Ripley, belonging to the Joggins was suffocated in a chute in the Springhill mine by a run of coal. Life was extinct when the body was uncovered.

The British Pension Scheme is not once comparable with that proposed for Nova Scotia. The age limit in Britain is 70; here 65 years; the weekly allowance there is \$1.25, here twice as much.

RESCUE APPARATUS IN MINES

While rescue apparatus may be all right, and may be of service in attempts at exploration after an explosion, it might be unwise to place too much reliance upon them as life savers. If the apparatus is to be effective then the men to attend it must specially be set apart. Volunteer firemen may do in a village, but if a big city was to depend on them, many fires would go unchecked. So with the rescue apparatus. Men must be set apart who can be ready for action at the first sound of the whistle. We have much sympathy with the following remarks made at a late meeting of the North of England Institute of Mining and Mechanical Engineers:—

"Mr. W. C. Blackett, asked what was the purpose for which rescue apparatus was being periodically designed? It seemed to him that there was far too great a tendency nowadays for everybody, or nearly everybody, to jump to the conclusion that if only they got rescue apparatus they were going to rescue a lot of lives. Our wise lawgivers would probably rise to the bait and think that it they only passed a law enforcing the use of the apparatus lots of lives would be saved. That idea, to his mind, was rather delusive, and it was against that tendency that he made these remarks. It struck him that it was not necessary for people, as soon as an explosion occurred, to rush away and put helmets on and go down the pit. They needed to go about the work very carefully, and to ascertain the conditions in the pit before anything was done, and before putting on apparatus they should know exactly where they were going, and what they were going for. If they did get through the bad air and found someone who was likely to live, they would either have to fit him up with something like the apparatus they were using to get him out, or else stay with him. What probable good was going to be effected in the latter case did not suggest itself to him. They might train men who with some sort of discipline would be all right in one pit, but who would not be much use in another colliery. Mr. J. B. Atkinson, Government Inspector of mines, said he did not know of any colliery explosion in which he could say that the use of rescue apparatus would have saved any lives, certainly not the lives of any who were in the pit at the time of the explosion, though it might have been of use in the case of explorers having been overcome. Still, notwithstanding that, he thought rescue apparatus would be of some use, and it would not do to throw cold water upon the idea.

FIRES IN MINES.

Q. 8.—What conditions are conducive to spontaneous fires, and what are their first indications?

A.—Spontaneous fires are to a great extent more to be met with in thick seams than in thin ones. They are not, of course, altogether confined to thick seams, as there are instances where spontaneous fires have occurred in very thin seams.

It was once thought that these fires were caused by iron pyrites present in various seams, these pyrites being acted upon by the oxygen present in the air, heat being generated which in time became sufficient to cause a fire. In the last few years it has become known, and been almost universally accepted that the iron pyrites play but a minor part in producing fires, the chief cause being the oxidation of the coal itself.

It is possible that none of the fires supposed to

have been caused by iron pyrites were due to these alone, but were really caused by heat generated by oxidation of the coal. Of course, if iron pyrites were present in the coal the action would be assisted by their presence, but the action of oxygen on iron pyrites is much slower than the action on coal, and in these days when the ventilation of mines is much more efficient the heat generated by the oxidation of iron pyrites would be cooled almost as soon as generated; not so the generation of heat by the oxidation of coal. Although the ventilation may be sufficient to thoroughly dilute the gases given off in the mine, it may not be sufficient to cool the heating surfaces of the coal, therefore, the result would be spontaneous combustion of the coal on account of its very rapid action.

Spontaneous fires usually occur in thick seams of coal that are of a soft and tender nature, coal that is easily crushed when a weight comes on, and thus offers a larger heating surface to the action of the air. In such seams a large quantity of coal is crushed in the getting, and is often left below ground and built into the goaf, this being very often the main cause of gob fires.

It is not often that a portion of the seam gets on fire, that is, spontaneously; but fires do occur at times at the corners of the pillars of coal which have been standing a long time and become crushed. In such cases where the corners of a pillar have become very much crushed, and the seam is liable to spontaneous combustion, a good method can be found by building strong chocks at the corners affected, and removing the crushed coal out of the mine.

Spontaneous combustion has been known to be caused by friction of carbonaceous matter, caused by the weighting of the superincumbent strata; some kinds of coal and shale are very brittle, and very sensitive to friction.

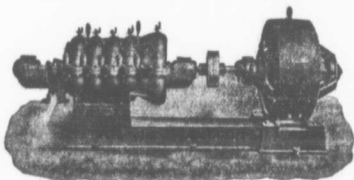
It will be noticed that, previous to a spontaneous fire under ground, the temperature of the atmosphere in the district will rise, sometimes to such an extent that it will be very uncomfortable for the persons working in the vicinity. Smoke will be seen coming out of the affected district. The coal seam in the district will feel warm to the touch, whilst the surrounding strata will commence to sweat and have a blistered appearance.

Sometimes a sulphuretted hydrogen gas is given off from the goaf, and is detected by its unpleasant smell. This gas is usually given off when iron pyrites are present amongst the coal.

Seams that are liable to spontaneous ignition should be worked by some system which will facilitate the stopping off of a district, so that if a fire occurs the district to which it is confined may be dammed off without affecting the whole. A good method and one much used is what is known as the "panel" system.

In some instance the long wall method advancing has been used, and "wax" walls built around the goaf. This, however, is not a very effective method. When a fire has actually broken out the air cannot be thoroughly excluded from the goaf by means of "wax" walls, because the temperature in the goaf rises, sometimes to such an extent that the pressure inside the goaf, owing to the expansion of the gases, becomes much greater than the pressure on the outside of the "wax" walls; therefore, when the fire commences to

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die down through insufficient supply of oxygen, the gasses inside the goaf contract, and may probably cause the pressure on the inside of the goaf to become much less than the pressure on the outside.

Winston Churchill won handsomely in Dundee last Saturday, his majority being 2,790. The cabled reports are of the rankest tariff reform kind and until full reports come to hand it will be impossible to say how the fight went. There were four parties in the contest, viz: the Liberals, the Protectionists, the Prohibitionists and the Laborites, whereas there were only three in the election of 1906. While the tory made an increase of 500 votes over the tory poll in 1906, Churchill polled nigh a thousand votes more than the second liberal who ran that year. The liberals may have lost about 600 votes as compared with 1906; that is a trifle in a constituency of about 15,000. Scotland may now boast of an additional member of the government.

The loyalists are getting into line around the Dominion Coal Co's. collieries. The charters of several lodges have been revoked, and instead new charters are being granted to those members who did no violence to the constitution or their obligation. This is well. If the U. M. W. come to Cape Breton one of two things will happen; they must either soon go to the wall or Unionism in C. B. will be a thing of the past for an indefinite period. Those who are clamoring for the foreign society, may have the welfare of labor at heart, but they are woefully blind and culpably thoughtless.

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Mohairs
— and —
Lustres

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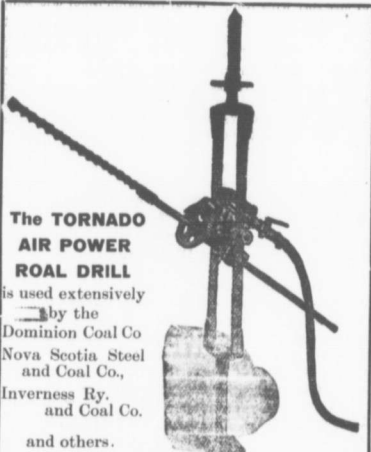
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Belleville, ILL., U. S. A.



Synopsis of Canadian North-West. Homestead Regulations.

ANY even numbered section of Dominion Lands in Manitoba or the Northwest Provinces, excepting 8 and 36, not reserved, may be homesteaded by any person the sole head of a family, or made 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 situate. Entry by proxy may, however, be made at an Agency on certain conditions by the father, mother, son, daughter, brother or sister of an intending homesteader.

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

In case of "presentation" 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 the Agent, relate 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 eighty (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 meaning 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 acted 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 in the mine.

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

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

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

Placer mining claims generally are 100 feet square; entry fee \$20 renewable yearly.

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

The lease shall have a dredge in operation within one season from the date of the lease for each five miles. Rental \$20 per annum for each mile of river leased. Royalty at the rate of 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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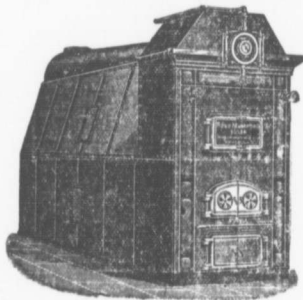
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Gelignite, Gelatine Dynamite and Blasting Gelatine.

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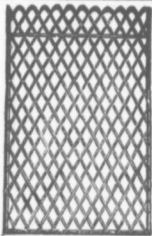
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The Nova Scotia Steel & Coal Co., Ltd., who use our Ropes largely, write that one of our Haulage Ropes at Wabana Mines has been in service for over 5 years, drawing over 1,750,000 tons in that time and is still good for further considerable service.

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Time Table No. 24, Taking effect at 1 a. m.
 FEB. 2ND, 1908.

EASTBOUND			WESTBOUND		
Read Down		STATIONS.	Read Up		No. 53 P. 10.
No. 52 8. 30	No. 54 P. 30		No. 51 S. 10. 15	No. 53 P. 10.	
L. 11. 00	L. 8. 50	P. TUPPER JUNCTION	A. 1. 00	A. 3. 35	
S. 11. 00	S. 8. 47	PORT HAWKESBURY	S. 10. 15	S. 3. 27	
A. 11. 15	A. 8. 40	PORT HASTINGS	L. 10. 20	L. 3. 10	
	L. 8. 43	TROY	A. 10. 17		
	P. 8. 42	CREEKSHISH	P. 10. 07		
	P. 8. 41	JUDIQUE	S. 9. 54		
	S. 8. 40	CHAIGMOLE	F. 9. 37		
	P. 8. 39	CATHERINE'S POND	S. 9. 17		
	L. 8. 38	PORT HOOD	P. 9. 15		
	A. 8. 37	GLENCOE	L. 8. 47		
	S. 8. 36	MABOU	A. 8. 42		
	S. 8. 35	GLENDYER	S. 8. 25		
	S. 8. 34	BLACK RIVER	S. 7. 45		
	S. 8. 33	STATHLOENSE	P. 7. 30		
	A. 8. 32	INVERNESS	S. 7. 17		
	P. 8. 31		L. 7. 00		
			A. 6. 50		

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Burns and Works like Bituminous;

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

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*Best all round flour on the market.
Uniform in quality. Every barrel
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**Air Compressors, Rock Drills,
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Quotations Furnished Promptly on Application.

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Growing more popular daily—and considered
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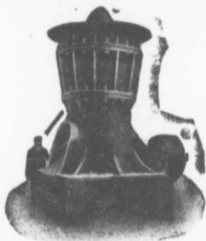
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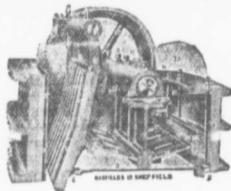
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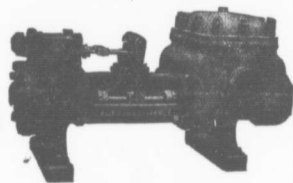
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**...Fairbanks, Morse PUMPS...
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Cannot be Excelled for **HIGH CLASS QUALITY** and **WORKMANSHIP**
They are made of the very best brands of English Bar Iron and by Selected Workmen.

Makers of every description of Chains
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Coupling Chains and Solid Forged Draw Bars

For Mine Cars, A SPECIALTY.

This 1½" Draw Bar Coupling Chain broke at
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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
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Delivered By Rail or Water

BEST COAL FOR
GENERAL STEAM PURPOSES.

The year Round

IN Lots To Suit Purchasers.

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

—Yearly output 3,500,000 tons.—

ANALYSES.

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

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

Shipping facilities at Sydney, and Louisburg, G. B., of most modern type. Steamers carrying
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Special attention given to quick loading of sailing vessels. Small vessels loaded with
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The Dominion Coal Co. has provided unsurpassed facilities for Bunkering Ocean going Steamers with Dispatch. Special attention given to Prompt loadings Steamers of any Size are bunkered without detention.

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

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