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Maritime Mining Record

JULY 12 1911

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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.

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Locked Coil and Flattened Strand Wire Ropes,

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Fig 2. HAULING



Lang's Lay Ropes.

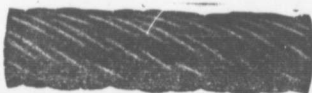


Fig 26 WINDING



Fig 1. HAULING



Patent Flattened Strand Ropes.



Fig 4. WINDING



Fig 13. SINKING



Advantages of Patent Flattened Strand Ropes.

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

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

Fig 11. CRANE, &c.

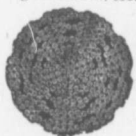
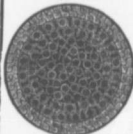


Fig 15 a



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Fig 20



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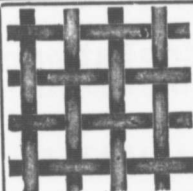
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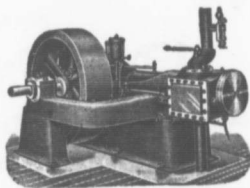
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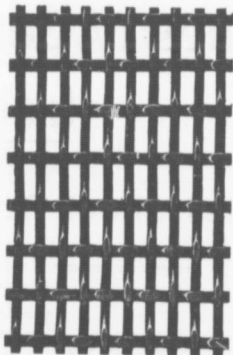
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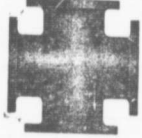
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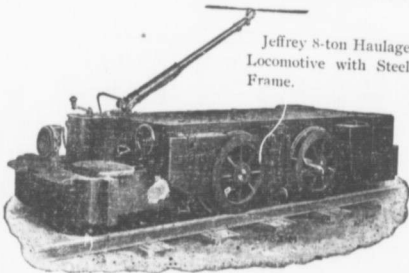
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MARITIME MINING RECORD

Vol. 14, No. 1.

Stellarton N. S., July 12th. 1911.

New Series

SHOOTING FROM THE SOLID.

In Nova Scotia there is considerable run of mine sold, and as there is a constant cry for big outputs it is possible that the desire to obtain large or lumpy coal is not so keen as twenty years ago. Nominally fast shooting is prohibited at most of our mines, but our information is that it is practised at times. The following extracts from paper read by Professor Steel of Arkansas University are commended to men and managers alike for perusal. And the part relating to the profits of the Arkansas mine operator is respectfully submitted to the Free Coal League, and all others who torture their souls wondering how the U. S. operators can sell coal so much cheaper than those of Nova Scotia. It will be noticed that though they did it, that is, sell more cheaply, they should not have done it, for 48 per cent. only did it and remained well; 24 per cent. did it and went in decline, and 28 per cent. did it and died.

"In the early days of coal mining, as you all know, only the lump coal had value and payment to the miners for anything but lump coal was considered absurd. In order to get as much lump coal as possible, the miners under these conditions developed the careful system of undermining all coal before blasting it. This method of mining also required very little powder and continued in vogue, until the great reduction in this price of powder tempted the miners to let the powder do the work. This led to the practice of shooting coal off the solid in those districts where the price for mining coal was high enough to pay for the extra powder. This means that the miners who get the highest unit wage do the poorest work. In times of scarcity of labor, this effect is common with other workmen, but the effect of poor methods of work is much more serious in the coal mining trade.

Even before the mining methods had changed, the industrial development of the country provided some sort of a market for the slack coal. As soon as the slack coal became a marketable commodity, the costs of mining coal and the statistics of the output came to be figured upon a mine-run basis, without regard to size. Coal was also occasionally sold to the consumers upon a mine-run basis. In filling such orders it was not necessary to screen the coal, but in order to avoid this screening, it was necessary to agree upon a mine-run scale of payment to the miners. Thus the buying of coal upon a mine-run basis first led to the payment of the miners upon a mine-run basis.

Even before the mine-run basis of payment to the miners was steadily used at any one mine, the practice of shooting off the solid became common in the Inter-

ior Coal Field. As a result the percentage of slack increased so greatly that the operators sought to dispose of it by increasing the use of mine run instead of lump. At the same time, distant consumers began to use more mine-run coal instead of slack. In this case, the operator was not so greatly concerned with the proportion of slack in his coal, but could attract plenty of miners by offering them the mine-run scale of prices.

This method of payment, therefore, became sufficiently common for the miners to learn how much easier it was to get out a dollar's worth of mine run coal than a dollar's worth of good lump coal. By this time also many of the operators foresaw the disastrous results of a mine run basis of payment and held out for at least intervals of payment upon a lump coal basis. To remove this condition the miners secured the passage of laws prohibiting the screened coal basis of payment in many of the interior States. Some of the more recent of these laws, such as those of Kansas, Arkansas and Oklahoma, not only require equal payment for all sizes of coal but also compel the operators and, therefore, the railroads to pay full price for the slate a careless miner sees fit to mix with the coal. For fear of indulging in too strong language, I will refrain from expressing my view of such provisions of the law. To adequately express it, I could possibly gain a better command of language by listening to some of your firemen who have to handle the stuff produced by miners working under the temptations of such a law.

The mine run basis of payment to the miners led to such an increase in the use of powder that the firing of shots caused frequent dust explosions. To avoid this danger to themselves, the coal shooters have secured the employment of shot-firers, who get sufficient pay to tempt them to run the risk. The only thing which now induces the more careless miner to save powder is its cost. Unfortunately this is not very effective because the miners are learning to blow the coal to pieces in a still more convenient way by putting in shots which are much wider and longer than those they used in the older and more careful methods of shooting off the solid; that is, they are dislodging more coal with each shot than formerly. With no increase in the proportion of powder to coal, doubling the width and the length of the shot requires four times as much powder in each hole. Such heavy shots so jar the tight mass of coal that it becomes little more than a heap of slack. If the attempt were made to increase the powder in an old style thin shot to get the same proportion of slack,

(Continued on page 17.)

MARITIME MINING RECORD.

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

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

Advertising rates, which are moderate may be had on application.

Subscription \$1.00 a year. Single Copies 5 cents

R. DRUMMOND, PUBLISHER.

STELLARTON, N. S.

July 12 1911

SPECIAL RULES.

By statute each coal company in Nova Scotia is authorized to frame a set of special rules for the guidance of officials and workmen, which when approved of by the Inspector of Mines, have all the force of law. In the matter of Special Rules, it may be said, in a sense, that each coal mining company is a law unto itself. For this reason one does not find uniformity in the several codes. The rule of one company, on a given point, may not differ much from that of another, but still there is so much difference that a workman knowing the rules in vogue at a particular gassy mine may, on removing to another colliery, be unfamiliar with the rules prevailing there. The question arises: "Is this desirable"? Gas is gas and acts in one colliery as it would in another, and though safety lamps may go by different names, one broad principle enters into their construction and one broad rule into their use. There may be appliances, modes of working, etc., at one colliery which are not at another, and it is possible that special rules, applicable to the handling of the appliances, etc., be framed. But is it not possible to frame a set of rules the main body of which would be applicable to all collieries. Is uniformity desirable? Certainly, if obtainable. We make bold to say that we know of no set of special rules which are in points or places not open to criticism, as to their construction, or grammar. In one or two instances though the meaning be understood, the wording does not clearly convey the meaning. Is it not time that the managers of the mines should take concerted action in framing special rules which would have the merit of striving after uniformity. To show the difference there is in the construction of the rules we will make comparisons, and in doing so, hint that the difference may be traceable to a pride, that while harmless, is unnecessary.

One company only makes mention of an official called a superintendent. Another company has several third officers but has no 'rule' for them for the reason probably that 'superintendent' is not mentioned in the Mines Regulation Chapter.

Quoting from the Dominion Coal Co.'s rules the Manager: "2. The Manager shall have the daily supervision and control of the mine. He shall appoint such competent persons as may be necessary for carrying out the provision of the Mines Regulation Chapter of the Revised Statutes, and shall

to the best of his power, enforce the observance of the Chapter and of the General and Special Rules, and he shall provide at the office of the mine a plan showing Air Courses, Stoppings, Doors, Grades, and Elevation, and Air and Water Pipe Lines."

In two companies' definitions, the words 'and instruct' come after 'shall appoint'. What is the meaning of the words 'and instruct'? In one instance they are meaning 'to give instructions'—which is the meaning one might think intended, for a rule says that all heads of departments shall receive instructions from the superintendent. Only the one company places the providing of plans among the duties of manager. It might be better that all the companies adopted the rule quoted above.

The definition of the duties of U. G. M. occupy a space of from 35 lines to 49 lines according to the company. It would almost appear as if the duties of U. G. M. and Overman had got mixed up. On the mainland a rule requires the U. G. M. to personally visit such parts of the mine as are reported to be unsafe, while on the Island the duty of inspection devolves on the Overman, and in a case the duty of personal inspection devolves on both U. G. M. and Overman. This might lead to confusion and ill-will. The rule giving the inspection to overman is much better expressed than that giving it to the U. G. M. Here is the rule for the overman: "He shall at once personally inspect any part of the pit reported to him to be unsafe" etc., and this for the U. G. M.: ". . . To give immediate attention to any complaints of, and to personally inspect such parts of the mine, or waste, or shafts or slopes," etc. That is badly constructed. Complaints of what? Complaints of whom? The shafts or the slopes cannot very well complain. Of course the U. G. M. is to listen to complaints about the condition of places, by the men, and why not let that be tersely expressed as in the overman's case. In two of the copies of rules before us five paragraphs are given to the duties of overman, in a third, ten paragraphs, and in a fourth, eleven paragraphs. Is it a case of saying too little in the one instance, and too much in the other. Again the Mainland rules enjoin that the U. G. M. shall provide sufficient supply of pit materials, and that the overman shall see to its proper distribution, while on the Island, while the overman is similarly instructed, the U. G. M. has to see that the miners are supplied with timber for the safe keeping of their places, and no mention made of brattice, etc. The Mainland wording is perhaps the best. The manager has to see that "all necessary supplies of timber, brattice, etc., for the use of the pit"—not of the mines owner—are provided. In one of the copies the overman is not expressly ordered to report to the U. G. M., in a second he is simply ordered to report, while in two instances, on the Mainland, he is ordered to make a daily written report, and if the Mainland errs, it is certainly on the side of accuracy. Taking Rule 1, under the heading 'Overman' in the Mainland Rules it reads: "He shall have the daily supervision and responsible charge of the pit, or portion of one, etc., etc. Then turn back and look at Rule 1 under heading 'Underground Manager': "His duties shall be to attend the section of

the colliery allotted to him" etc. Now this is peculiar. No mention is made of the U. G. M. who has charge of the entire pit. In the great majority of cases there is only one underground manager, and he has charge, not of a section of a mine, but of the whole pit, and where there is only one U. G. M. he cannot relegate part of his duties to an overman. In practice the U. G. M. is in fact the boss, and there need not be ambiguity in the definition of his position. Do the words: "charge of the pit, or portion of one" convey the same indisputable meaning as "charge of the pit, or portion of the pit"?

Clause 4, also under Overman, strikes one as peculiar: "He shall arrange with the U. G. M. and deputies that every place in the pit shall be visited at least once a day." That puts him, does it not, on a parity with the U. G. M., whereas the latter is first fiddle.

Passing hurriedly along we come to 'Safety Lamps' and frankly and with kindly motives, we say of all the rules that they are a caution. As a fact they are, some of them, out of date, as the management of a mine cannot now authorize a manager or an overman, or any person, in writing, to carry keys. If a man gets his lamp injured various courses are open to him, indefinite we admit. One company leaves him in the dark, for instance: ". . . if it be in any way rendered unsafe the person using such lamp is to extinguish the light, etc." The supposition is that he can grope his way in the dark. Another company says he is "to take his lamp to the place where relighting is permitted." A third says he shall have it relighted 'at the appointed station', and so says a fourth. These instructions are proper enough but how a man working alone, when his light goes out, is to comply with them is the question.

In some cases it is required that shot-firers shall see to the spragging of coal, in others the overman, and in one case the U. G. M. Where there are shot-firers, and their use is becoming general, they are the proper parties to be appointed.

These are a few points which go to show that there might be greater uniformity in the Special Rules. A hypercritical reviewer might point out numerous seeming incongruities, but we have refrained from being such, as we would really like to see a compact yet comprehensive code of Special Rules for the Nova Scotia collieries.

COMPULSORY RECOGNITION.

We have heard discussed compulsory arbitration but what does this new thing compulsory recognition of trades unions mean? Politicians, and those who pose as labor reformers, glibly talk about compelling corporations to recognize trades unions, and while doing so, lest it should give offence to some, are wholly silent as to compulsory arbitration. Corollary of compulsory recognition, is compulsory arbitration. The two things are indetachable. The one cannot be without the other. Without compulsory arbitration, compulsory recognition would be a delusion, a farce. There may be some sense in the former, but the latter by itself is an absurdity.

But first of all what do the creatures of unrest, and disaffection, mean by compulsory recognition? Presumably they mean that if workmen form themselves into a union, the employers are to recognize that union as representing all its employees and a committee from the union as expressing the opinions of all the members. It means more. It means, according to the exposition of one or two 'reformers' that if there are several unions representing sections only of the men that all the unions are to be recognized.

What, after all, will be the good of compulsory recognition? Would it ensure any real benefit to the men would it assist them in obtaining concessions, or the having their demands complied with? It would do none of these things. How easily could the employers, if compelled to recognize a committee, say to the gentlemen who called "You are from the union, good morning, be seated, what can we do for you?" And after the committee had made known their errand how easy for the employers again to say, "Good morning, we will consider the matters referred to." The employers being so minded, that is the sum total that would likely come of compulsory recognition. The men and not the law can compel; or constrain, the recognition of union. Necessity and not law is the compelling force.

To all intents and purposes there is compulsory recognition now. The Lemieux act compels recognition of unions, and, not only that, compels the recognition of, it may be, a small fraction of a company's employees. Why it does even more than that. If a few non-de-scrips propounding to speak for employees in a work, or for a section of the employees, apply for a board of conciliation the employers are compelled to appoint an arbitrator or failing to do so have one appointed far them by the government.

No practical benefits could result from compulsory recognition of unions. The old saw is applicable here: "You may lead a horse to water but you cannot force him to drink." And so you may compel employers by law to recognize or acknowledge a union, a fact, but you could not compel them to enter into friendly relations, discussions, or negotiations. Surely this will be readily admitted, and when admitted the case for compulsory recognition falls to pieces. For the past eighteen months there has been talk, or threats of compelling certain coal companies to recognize a baneful foreign union called the U. M. W. Suppose recognition had been accorded would any practical beneficial results have followed? Not any. The pride of certain leaders and discontented workmen might have been gratified, that is all. Recognition, for instance, at Springhill, would not mean a new schedule of wages, new modes of docking; nor practical betterment of the workmen in any way.

Thirty two years ago the Provincial miners Union came upon the stage. At that time not a single company, perhaps looked upon unions with a friendly eye. One company only was foolish enough to refuse recognition, that is to treat with a committee representative of the body of workmen. A strike followed, not because of the refusal to recognize, but the refusal to concede that asked for. The strikers did not tear their hair over recognition; the removal of a real grievance and not the gratification of sentiment of a whim, was

what they were after. They did not, like children, wail for a law compelling the masters to recognize them, not at all. They simply bided their time, and in due course had their demands granted, and real recognition, and not formal, followed. Probably not one of the managers of our mines thirty years ago could bring himself to the point of falling on the neck of the P. W. A. and embracing it, but they had prescience to bow to the inevitable. At first recognition was not gone through with easy grace, but time wrought wonders, and by degrees recognition came to mean long, good natured, if at times heated, and beneficial discussion. For thirty two years the P. W. A. has been fully recognized by the mine operators. In face of this fact surely the present cry for compulsory recognition is ill timed, ill natured and absolutely silly.

trade unions to send members to Parliament, and at the same time to safeguard the rights of minorities who may be opposed to the political views of the union representative. Mr. Macdonald will have it that "as a matter of fact the Labour party was the loosest party in the House. He meant in regard to coercion." It may be that the Labour members are under little constraint, but does the leader of the party give the same liberty to the rank and file in the unions? Not at all. He point-black denies any rights to minorities, and is all for subordination. This almost amounts to tyranny, and under him and his co-leaders the prospects of the individual liberty are at a very low ebb. Let the Labourists set to work not to hamper, but to assist the Government in placing on the Statute Book a measure aimed at improving the standard of life, labour, and security for the masses.

BRIQUETTES.

THE BRITISH TRADE UNION BILL.

Ever since, in the Osborne case, it was decided that Trades Unions were not authorized to take purely trades union monies and devote them to political purposes, unionists and their leaders, have been demanding the repeal of that judgement—an impossible thing—and throwing out threats that something would happen—the government—if this were not done. Some trade unionists wail over the alleged tyranny of the bosses and yet in their way those leaders are tyrants of the worst kind themselves. They would accord the minority no rights. The bill has passed its second reading, and against the wishes of men like Keir Hardie, who like Bernard Shaw is decadent since he let himself loose in India, the government has inserted a clause protecting minorities and declaring that a man shall not be bound to contribute to funds to be devoted to political purposes. The remarks of the Glasgow Mail on this point are pertinent, and we reproduce them, as follows:—

Ever since the Osborne judgement was pronounced, supreme efforts have been made by the Labour party to restore to trade organisations the freedom of political action from which they were divorced by this now famous judgement. We cannot see eye to eye with them in this matter, as the judgement only deprived a political party in a trade union of the power to enforce levies upon a political minority for political purpose, on pain of forfeit of provident or trade benefits. The Government bill provides for the protection of the minority, and holds that if a union desires to apply funds to party political purposes there must be a ballot. This is eminently fair, the lawful objects of a union—such as the regulation of the regulations between worker and workers and between workmen and masters being safeguarded more stringently than ever. Yet the bill has been met by an attitude of undisguised hostility on the part of the Labourists in the House. Mr. Ramsay Macdonald asks for a complete reversal of the judgement, because it was absolutely impossible for a trade union to carry on its work unless it engaged in political action; and if political action was within the sphere of trade unions, then he held the minority rights such as were given by the bill ought not to exist at all. But in this attitude Mr. Macdonald is hardly consistent. The Government want to allow

President Harris, of the Nova Scotia Steel and Coal Co., when out West a few weeks ago, expropriated out of a dealers yard a briquette made out of Banff coal, and mused upon briquettes all his journey homeward. The briquettes—they have now a better name which has slipped us for the moment—are the shape of the old fashioned pin cushions, much smaller however, and weigh two or three ounces only. The Banff coal, out of which the briquettes are made, is semi-bituminous, and this class of coal in burning excels all other kinds in the number of B. T. U. Anthracite coal will yield 14,000 odd B. T. U.; bituminous 8,000 odd, while semi-bituminous produces heat equal to over 15,000 B. T. U. These small briquettes it is thought, will make an excellent domestic fuel, being of uniform size, clean to handle, clinkerless, low in ash, and 'lasty'. The question the management of the Nova Scotia Steel & Coal Co. is considering is: "Will buyers of coal for domestic purposes, in view of the advantages stated, be willing to give twenty-five cents a ton more for the briquettes than they would for lump coal, with its percentage of dust and slate." If the briquettes were to be made from round coal they could not be sold less than a dollar a ton in excess of the present price for round, but as lump coal need not be employed in their manufacture, it is possible to sell them about the same price as lump or screened. The N. S. Steel & Coal Co. will not be in a hurry in coming to a decision. A briquette plant is being erected at the Colonial Mine, Little Bras D'Or, and it will be, the part of wisdom to wait until results there become known. Probably none of the companies would bother their heads about briquettes, were it not that, at times, the demand for slack coal does not keep up with the production.

- Rubs by Rambler.

If there are some who, like the simple minded New Glasgow boy, write to the press advising workers, men and boys, and women and girls, to quit work without notice and have no respect for promises, agreements and contracts, it is perhaps not to be wondered at.

They may be as much to be pitted as blamed, advising the workmen to break faith and have consideration whatever for their employers, they are but taking a leaf out of an old old book of the 'ruling' classes. If the masters on a time, and for long times, looked upon their workmen as merely sort of animated machines, to be treated as churls and chattels, it is not perhaps to be wondered at that when their day has come the workers who were shown no consideration, should have none for their employers. Machiavelli's doctrines were favored by Kings, Emperors, Popes and the ruling classes generally. And what were these? That princes were superior persons, and were exhorting to lie, cheat, and break faith with the people when it suited. And this was advocated on the ground that everybody else would do the same when they had the chance. Here is one of his doctrines "a prudent lord neither could nor should observe faith, when such observance might be to his injury." For the word 'lord' substitute workman and you have exactly the statement expressed by the New Glasgow writer. Again

Since men are bad and will not keep faith with you, you are not bound to keep faith with wrong and so therefore is the N. G. scribe. The time that time is past. Right now a days is not necessarily with the big battalion, or the 'ruling' classes. Trust the people, rather than trample upon them is the watchword of the times. The only idea that man is all bad and not to be trusted has given place to the nobler view that there is some good in all men. There is good in our employers, and their is good in our employees. And this new motto, Trust the people is working wonders, accomplishing marvellous things. It is providing pensions for the old, and work for the unemployed. It is helping the criminal to a healthier body and a holier soul; it is striving to settle disputes by arbitration and not by war, it is speeding along the time when the brotherhood of man will not be more than an ethical idea, will be the popular and the prevailing sentiment. The world is not by any means all some still persist in calling down the vengeance of heaven on those who differ from them, and who will not accede to their every whimsical demand.

The British Compensation Act is still under probation. To many it is a riddle. There are those who insist that the Act covers all cases of fatal accidents regardless of whether the victim was or was not guilty of negligence, or whether or not he had caused the accident by wilful disobedience of orders. A miner in Scotland was killed by firing a shot which the rule distinctly said was not to be fired except by a person specially appointed for that purpose. The case was first taken to the Sheriff who gave judgement against the colliery proprietors for about \$1,500, holding that while deceased was guilty of serious and wilful mis-conduct, that clause did not apply to fatal accidents. The proprietors appealed this decision to the First Division of the Court of Session, who reversed the decision of the Sheriff, holding that the deceased was outwith his employment when the accident occurred. This decision is to be appealed to the House of Lords on the contention that the spirit of the act was clearly intended for all fatal accidents. The decision of the highest court will be awaited with interest. If

In men have been known to mutilate themselves in order to get compensation, those intent on doing away with themselves should secure employment and put themselves in a position to be run over, drownd, crushed or otherwise put out of the way. Nothing easier than for a pitman, who is tired of life and wants a decent burial to go along under a bad piece of roof, 'accidentally', yet with force, strike a prop and get smothered in falling stone. If all fatal accidents, pure accidents or suicidal ones, are to come under the compensation act, then the one guilty of felonies, without casting an eye to the future material gain for his friends, is a fool indeed and entitled to the verdict "temporarily insane."

The British Postmaster General, in dealing with the subject of Cablegrams, made some interesting remarks on the ingenuity of business firms who contrive by means of codes to send long messages in a very few words. He showed however that business men were not the only masters of multum in parvu methods. He told of an Archbishop who had cabled home.

"John's Epistle, 13 and 14." The recipient turning to the third Epistle of St. John and the 13th and 14th verses, found these words written:—
"I had many things to write; but I will not with ink and pen write unto thee.

But I trust I shall shortly see thee, and we shall speak face to face. Peace be to thee. Our friends salute thee. Greet the friends by name.

Both the present Archbishops in England are Scotsmen, and there was a general inclination to wonder whether so economical a manner of cabling a long message may have been the handiwork of either of them.

The British post office is certainly well managed. Improvements are being continually effected. On this private post cards may be taken to the P. O. and will save a lot of licking by the office boys. This is Canada one can get a book of dozen two cent stamps for a quarter; in Britain—from 9th. of June—they get two shillings worth of half-penny and penny stamps in a free book. Farmers are to get new lines of telephone where there are five subscribers and unlimited use of the telephones for the price of three guineas. That is a big boon. Here we pay double that and can only use a telephone within a radius of two or three miles without toll. The draw-back to the system is that the local group of telephones are so linked that every message is conveyed to them all at once. All subscribers on one circuit can overhear each other's messages. There is a story told of a lonely farmer's wife who was discovered busy at her wash-tub with the telephon strap received to her ear so that she could listen to all messages received or sent by her neighbours.

Mr. Herbert Samuel, the British Postmaster General is a man of ideas. That is a capital idea to issue certificates of the posting of letters for a halfpenny. This low charge should prove a source of revenue. Many people who would not pay, as in Canada, 5 cents for registering a letter would willingly pay a cent for a certificate. Many letters containing a dollar are now posted unregistered, which would not be posted without a certificate if they were in vogue. The most interesting of Mr. Samuel's plans, to my mind, is making every home a government's saving bank. The biggest

obstacle to thrift is inability to grasp the value of small things. False pride prevents many from going to the bank with a book and a shilling, and the shilling or sixpence burns a whole in the pocket before another sixpence or shilling can be saved, and so nothing is put by for the rainy day. As an aid to thrift, and the idea is without doubt a splendid one, safes will be issued, after a couple of months, which cannot be opened except at the post office saving bank. The lessee of the safe may want a drink on a hot or a cold day, but any raid on the safe is impossible. The money remains there until the safe is taken to the saving bank, and the money put on deposit. Applicants for safes will require to pay a shilling for registration and a deposit on each box of two shillings. I can fancy if these safes were in use in the mining and other districts in Nova Scotia many a nickel and a dime would find its way into the slot which now goes into the bar till or the vaudeville cash box.

The following are the particulars of the flooding of the mine owned and operated by the Port Hood Richmond Railway Coal Co., Ltd.:

On Thursday, June 22nd, at 2 o'clock in the afternoon, our Underground Manager reported a small leak in No. 7 bord, No. 1 pillar balance, but which on examination was not considered of a serious nature, owing, first, to the very small quantity of water coming in, second, on account of the fact that we had 1000 feet of cover at this particular place.

It was not until a fall occurred, about 8 o'clock that evening that the serious nature of this was learned. The volume of water was so great that it was impossible to do anything to confine it to this balance. The inrush continued all night, and at 7 o'clock on Friday morning, No. 5 level was full of water, and still raising at the rate of three and a half inches in one and a half minutes, on a pitch of 21 degrees. On Saturday the records show that the raise was three and a half inches every two-minutes, this being caused by the water filling the bords and the different balances on our No. 5 level.

On account of water coming in at the bottom of our mine, it was absolutely impossible to fight it from this point, and in our endeavor to save the mine about No. 4 level, we proceeded on Friday afternoon to build stoopings on our slopes and air heads, but owing to the rapidity with which this water was raising, this proved to be a futile attempt, and at 12 o'clock Sunday night, the water had reached No. 4 level, having completely filled up the workings on the level below.

From our records we find that from 8 o'clock Thursday evening to 12 o'clock Sunday night our mine contained 15,246,000 gallons of water, which was flowing in at the rate of 3,300 gallons per minute. From this point up, the rise was somewhat slower. From 12 o'clock Sunday night to the following Tuesday afternoon the rise was from three and a half-inches in two minutes to three and a half-inches in seven minutes, and this has decreased until to-day, we find that it is only rising at the rate of three and a half-inches in twelve minutes. This decrease being attributed to the fact that the water is covering a much greater area. Our No. 4 level being over a mile long, containing ten balances, with an average of nine bords on a balance. This will give you some idea of the space this water is filling, and the quantity of the feeder.

The loss to this Company, as well as the surrounding community is tremendous, and one can hardly believe that an industry, which yesterday was producing a goodly out-put, has so suddenly ceased to exist.

The water to-day is about 650 feet up our slope, and the fact that such a quantity of water has come in in this short period, proves conclusively that the sea has found its way no doubt through unknown fissures, and no pump can ever hold its own with this inrush, when you take into consideration that it would be necessary to discharge this water through a head of 1000 feet.

Gangs of men are working day and night, getting out material possible, but practically everything on our No. 5 level is a total loss."

The Port Hood Coal Company has been unfortunate ever since the re-opening of the Port Hood Coal Mine. It had been contended by expert mining men that if sufficient capital was put into the mine to enlarge the surface plant and develop the underground workings, the Port Hood Mine could be made to pay fair dividends. But just on the eve of a purchase by Mackenzie and Mann, who intended to develop the mine and produce larger outputs, a fissure is struck in the rock and the Atlantic Ocean pours in at the rate of 3000 gallons per minute. This is most unfortunate, not only for Port Hood but for other collieries of Inverness County. Were it not for the fact that the largest mine in the County at Inverness is working under the sea and producing about 1200 tons per day, capitalists might be chary in putting their money into coal mining areas. But after all we are inclined to look upon the Port Hood and the Mabou mines inundations as accidents which are hard to avoid, indeed impossible to guard against.

In the Island of Cape Breton at the present time, over four million tons of coal per year are being mined from under the sea and it looks as if almost the whole output would be mined in the under-sea areas in the coming years. The difficulties of under-sea mining have been a matter of great thought and investigation by the coal companies and the Mines Department at Halifax. About three years ago, a British expert was brought over by the Dominion Coal Company to report on the strata overlying their under-sea coal areas. His report was very favorable, as in it he pointed out that the safety of the Dominion Collieries lay in the thick beds of shale overlying the coal, and that where shale existed it was impossible to meet open rents through the strata down to the coal. The nature of the shale prevented this. The Sydney Mines district has about the same conditions as the Glace Bay district, hence the success of the Sydney district.

The Mines Department employed the services of the British expert brought out by the Dominion Coal Company and had him report on the coal areas of Inverness Co. After reading the report, we do not find much that would lead us to expect such accidents as has taken place at the Port Hood and Mabou mines. However, besides being a mining expert, he would be a bold prophet who would point out the possibility or even the probability of the Atlantic Ocean flooding a coal mine through strata one thousand feet thick. This is only another lesson added to the many that are being learned by the mining world where mining is being conducted under the ocean. In some parts old river beds and other breaks made by running water have been suddenly struck, resulting in loss of life and property. Fortunately no lives have been lost in the flooding of the Inverness Collieries. A direct financial loss has fallen upon both mining companies in Inverness, upon the mining towns and the Province. Whether capital has been made suspicious and will look upon coal areas running under the water in Inverness as doubtful speculations remains to be seen.

AROUND THE COLLIERIES.

Railway branches are being laid from the main line into the Dom. No. 14 coal heaps.

Dominion No. 16 is down six hundred feet, and No. 15 fourteen hundred feet. These are the baby collieries of Cape Breton.

A bore hole to the depth of 700 feet is being put down for the purpose of handling the waters of Nos. 14 and 15 collieries in the New Waterford district.

Bridgeport is doing splendidly for an old colliery. Early in the season the mine was handicapped for cutters. Labor is now abundant and a good season is confidently expected.

Supt. McEachren will shortly move over to the Lingan district, where a commodious house is being built for him. The house stands upon a hill and has a very commanding position.

Two new balances are being driven in the upper lift and four more in the bottom lift of Dom. No. 15 colliery. Up to the present, however, only levels, balances and deeps are being driven in No. 15.

New five inch pipe lines for air and water discharge have been laid to Dom. No. 15 colliery. Two pumps are also being put in, one of them acting as an auxiliary in case of accident.

All the pumps, fans and compressors and bankhead machinery in the New Waterford district are driven by electricity conducted from Dominion No. 2, a distance of seven or eight miles.

The first batch of miners' cottages at Dom. No. 14 are about ready. They are quite an improvement on the houses built some time ago by the Dominion Coal Company. Besides verandahs, kitchens are attached, which makes them look both respectable and comfortable.

The vote of the Socialist candidate in C. B. county did not come up to expectations. The valiant James B. McLaughlin, in a violent diatribe some months ago, boasted of tremendous progress made in socialism by the C. B. workmen. Jimmie's boast could not stand the test of an election.

A mining society for South Cape Breton is being organized. Such an institution will do much to promote mining knowledge and social intercourse among the mining men of the Island. It will be a great stimulus to mining students who desire to know all they can about their profession. Superintendents McKenzie, MacEachren, MacDonald and McInnis, with Deputy Inspector McNeil, Managers Pendergast, Munroe, Connors, MacDonald, McIntosh, Casey, Ross and Simpson, are doing the organizing work. This assures the success of the Society.

The leaders of the U. M. W. of A. in Cape Breton are bemoaning the lack of interest in the society by its former supporters. With the lack of interest is the lack of funds to pay the salaries of the officers.

Work has been begun on a large auxiliary fan for Dominion No. 2. It will be the most powerful of its kind in the country, as No. 2 is the largest colliery in Nova Scotia, and one of the largest on the American continent.

Among the prominent Inverness men who are acting as officials at the new Dominion collieries are Archie McLellan, Angus R. McIsaac and Robert Lorimer. Besides these, numbers of other workmen from that county have lately come in.

The power plant of Dominion No. 14 is being enlarged and a new Mumford boiler being placed in position. The new fan lately erected is giving splendid results, about 190,000 cubic feet of air being sent circulating around the faces every minute.

Four single cottages, a new large wash house, a blacksmith and carpenter shop, have been built at Dom. No. 16. Preparatory work for the installation of a new fan is also being done, and the air shaft is being concreted.

The endless rope haulage of the angle deep of Dominion No. 1 colliery will be extended, and an addition made which will take it down to the 1500 foot lift. Tracks are being laid, and other preparations made for this purpose.

Interest in the mining schools of the province was largely in evidence when the candidates of Cape Breton met in Sydney on June 27th, to test their knowledge by examination. No less than ninety-seven candidates were present. This is the largest attendance of candidates since the inception of the schools and of the Board.

Besides the new fan, a new engine house has been constructed at Dom No. 15 and a large haulage engine has been installed. Trip haulage is the general feature in the New Waterford district. The construction of the bank-head of No. 15 colliery will begin shortly. It will be on similar lines with that of No. 14, which is the latest improved bank-head built at any of the Dominion collieries.

The outputs of the Dominion collieries during the last week of June were the highest in the history of the company. Dominion No. 1 averaged 2,100 tons per day; Dominion No. 2, 2800 tons; No. 3, 750 tons; No. 4, 1500 tons; No. 5, 1300 tons; No. 6, 1100 tons; No. 7, 700 tons; No. 8, 750 tons; No. 9, 1500 tons; No. 10, 700 tons. The outputs of Nos. 12 and 14 in the New Waterford district are gradually increasing, the former producing 1200, and the latter 800, tons per day.

Around the Collieries.

Judging from the hundreds of men employed at New Waterford opening up and equipping four new collieries, there seems to be little fear of the effects of reciprocity on the part of the Dominion Coal Co. Other collieries will be opened out soon.

The coal produced from Dom. No. 6 colliery is now equal to any mined in C. B., both in size and cleanliness. It is well prepared for the market. Manager Mitchell is happy as No. 6 maintains a uniform output. Labor is plentiful and discontent has disappeared with many of the demagogues.

The mining machines at Dom. No. 12 are operated by air from a large compressor driven by electricity from Dominion No. 2. The No. 12 compressor in turn drives machinery at No. 16. This is a transmission of power unknown to this district until recently.

THE FIRST DAVY LAMP.

The following interesting account of the first Davy Lamp is from Children's Magazine:—

"One of the most brave and most important journeys ever made by man was undertaken on January 9, 1816, by John Hodgson, the rector of a parish near Newcastle. It was he who first carried a lamp into a coal mine.

Before that day miners worked in the darkness of the pits with only a revolving disc of steel spluttering sparks from a flint at the edge. The black air of the mines was filled with streams of gas, which would flame at the touch of a light, and burst with a terrible explosion. Therefore the miners worked in the darkness, with only the sparks of the steel disc to give them the smallest sense of light.

It chanced one day that Sir Humphrey Davy, the famous man of science, was staying with friends in Northumberland. Some people there, including Mr. Hodgson, asked if he could not invent something to prevent mine explosions. They described the horrors of fire-damp which is like lightning and earth-quake combined, and spoke of the awful explosions. Sir Humphrey thought over the matter, and began to make experiments.

He discovered a wonderful thing—flame will not pass through minute tubes. He put on his thinking cap—if it was ever off his head!—and came to the conclusion that wire gauze is only a series of little tubes placed side by side. He constructed a cylinder of this wire gauze, and put a flame inside. Light came through the holes, but not flame. And yet, how absurd! Cannot the gas get through those holes and touch the dangerous flame? Yes, indeed, but it cannot get out again a flame. That was the discovery. No flame would pass through those holes. He sent to Mr. Hodgson for "a bottle of fire-damp" out of the mines, and tried it on his wire-gauze invention. No explosion took place. He then gave orders for a rough safety-lamp to be made.

This was the lamp that Mr. Hodgson bravely carried into Hebburn Pit on January 9, 1816.

On went the clergymen with his flaming lamp, more wonderful than Aladdin's, penetrating farther and farther in the fire-damp. In the distance a lonely miner was swinging his pick by the dim light of a steel-mill. "Put out that light!" he shouted, in tones of horror and despair.

That was the miners first welcome of the Davy lamp. Put out that light!

To the poor fellow's utter amazement, the lamp advanced. With terrible oaths he called out that the madman, the fool, the monster carrying it should stop! Still the lamp advanced. Oaths and curses turned to agonized entreaties; the miner cried out with all his soul that the lamp should be put out.

Then his prayers ceased. The mystery of this advancing light, passing so quietly and so safely through the mine, was like something from another world. In breathless silence he waited, as, without a word, the man who held the lamp came solemnly, steadily on. At last he was close to the miner. The lamp illuminated the face of someone he knew—John Hodgson, the clergyman, the friend of many a poor miner in that black country. The miner could hardly speak. He saw this man holding up in the pit a lamp that shone in the midst of danger, and yet there was no explosion; and he readily forgave the clergyman frightening him. When Sir Humphrey learned of his triumphant success, he was elated. Congratulations poured in from every side, from all parts of the world. It was one of the greatest inventions of the age. A friend urged him to take out a patent. "It will bring you in £10,000 a year," said he. But Davy would have none of this. He did not want to receive money for saving life."

(Continued from page 10.)

the coal will still yield some hard lumps which would be thrown all over the working place while the powder expended its remaining force upon the air producing a windy shot. Of course, the percentage of powder in the wide shots is increased so as to be sure to shatter the mass, but by thus increasing the size of the shots and reducing their number, the miners lessen their labor without much additional expense for powder.

Such a method of mining has many advantages to the miners unless there are special conditions such as the transfer of the coal mining to other districts and a change of working conditions. It has also some disadvantages. The most obvious of these is the increase in the accident rate, chiefly due to the increased number of heavy falls of rock caused by the knocking out of props and the shattering of the roof. The accidents to shot-firers are increased many fold. There is a general decline in the wholesome discipline of the miners and more quarrelling with the officials as the conduct of the union affairs comes more and more into the hands of the unskilled and less conservative class of the miners. The present indiscriminate fining of miners by the radical element and the antagonism of the operators, bodes ill for the future of the union. If the union is destroyed the reaction will be severe in

proportion to the unreasonableness shown by the union while it is in power. The suffering caused by strikes will increase, unless there is a change in the attitude of the miners as well as in that of the operators.

The careless shooting of coal that has followed the continued payment of the miners upon a mine run basis obviously injures the operators but are more interested in the consumers, because the fuel departments of the railroads are the great consumers of coal. The consumers most directly suffer as a result of the poor quality of the output. Many of you are quite familiar with the so-called coal production in the mine-run States where machines are not used for mining. You know that the remaining lump coal is so shattered that it becomes largely slack by the time you get it into a locomotive tender. You also know how anxious the operators are to sell you run-mine coal, or at least a modified run-mine. Some of you may have felt the additional pressure in favor of mine-run coal, which has been brought to bear by your traffic department, which does not wish to see the mines go out of business. As a result of buying mine-run coal, you are also familiar with the great increase in the per cent. of slack in the mine-run coal and know how much slack remains in coal from which 25 per cent. of slack has been removed.

Fireman can be taught to raise a certain amount of steam from slack coal if the engine is arranged for the purpose, but none of them can get much of a result except profanity from an attempt to burn the rock and slate in the coal. Since the fuel agents receive their share of the cussing caused by the slate in the coal, I need not tell you that its amount in the smallest sizes at least, has greatly increased during the last few years in spite of an increased number of inspectors and the employment of more slate pickers at the mines. Since all the operators experience these results, the railroad is forced to buy this bad coal at no reduction in price.

The miners at Arkansas mines supplying the railroads now use from ten to 20 per cent. more powder per ton of coal than they used before. Their augers are about one-third longer than they were. They dislodge by each shot about 1.75 times as much coal as formerly and use nearly twice as much powder in each hole. This heavy shooting has more than tripled the amount of slate that falls from the roof. It has caused an increase in both the fatal and non-fatal accidents of about 50 per cent., figured upon the basis of the number of men employed as well as upon the basis of the tons of coal produced. The careless mining has increased the slack from less than 30 per cent. of the weight of coal produced to about 45 per cent. This means a corresponding reduction in the amount of lump coal available for the railroads. It has increased the slate in the coal by more than five per cent. of the weight of the coal. The amount of slate in the slack has actually doubled and the average value of all the coal is reduced 35 cents a ton thereby. The selling price has, however, not been reduced.

The financial results are surprising. Thirty-six of the operators, or practically all of those operating to any extent during 1909, gave me access to their books. Of this number, only 17, or 48 per cent. of them, were making any money at all; nine, or 24 per cent., were operating at a loss, hoping for better

times, while ten, or 28 per cent. of them, have gone into receivers' hands. Eventually the consumers will pay enough to the surviving operators to make up for these losses. The development of the Arkansas coal field is, of course, at a standstill. The deterioration in the quality of the coal has caused a loss of at least one-third of the market chiefly to Alabama, Kentucky and Illinois operators. As a result, the mines of Arkansas are working but few days per week and the miners are unable to earn as much money as they should under the scale of prices now in effect. There is also a greatly increased waste of coal which will eventually cause great hardship to the users of coal.

The most frequently suggested remedy is the introduction of mining machinery. In a new field the miners resent this. The operators expect the men to load out machine mined coal at a much lower price per ton than they get for shooting it off the solid. It is, however, easier for a miner to shovel up a pile of slack than it is to break up and load good machine mined coal. Moreover, it is rather difficult for them to effectively shatter coal that has been undermined. Therefore, they save only the price of the powder they can not put into machine mined coal, and have to work harder to do it. The saving amounts to only five or ten cents a ton usually, and the chief profit of machines must result from the increased amount of good coal obtained. For these reasons it is difficult to introduce machines.

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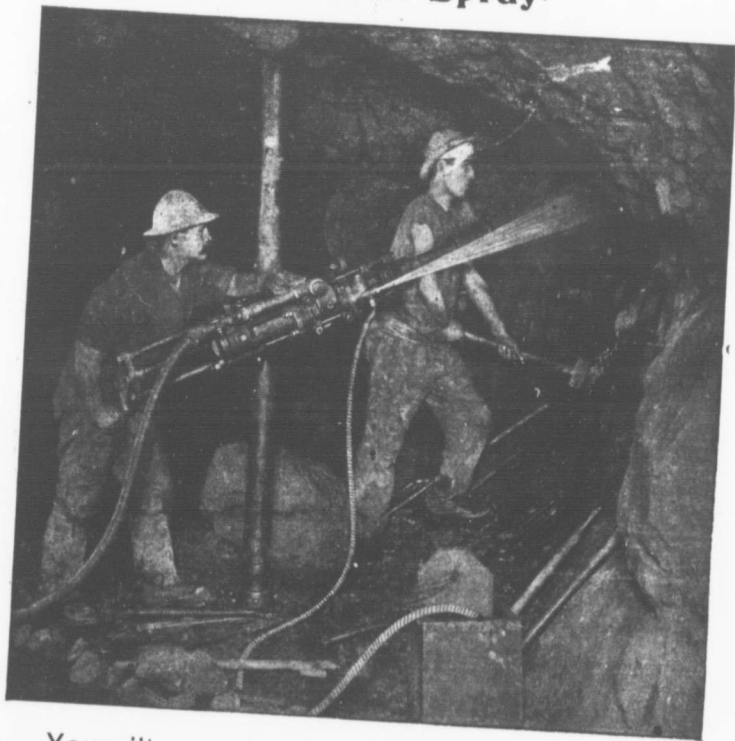


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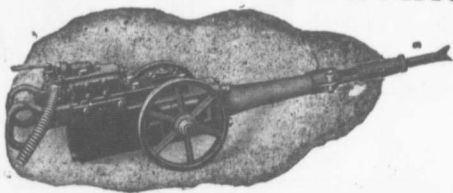
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50	51		54	52
P. M.	A. M.		P. M.	A. M.
3 20	10 40	P. TUPPER JUNCTION	3 45	11 00
3 25	10 35	INVERNESS JUCT	3 55	11 11
3 37	10 23	PORT HANWICKSBURY	4 08	11 20
3 50	10 12	PORT HASTINGS	4 13	A. M.
P. M.	10 02		4 25	
	9 52	TROY	4 38	
	9 44	CREEGRISH	4 50	
	9 37	CRAIGMORE	5 03	
	9 18	JUDIQUE	5 18	
	8 55	CATHERINE'S POND	5 33	
	8 44	PORT HOOD	5 53	
	8 35	GLENGOE	6 04	
	8 4	MAROU	6 28	
	7 50	GLENDYRE	6 48	
	7 40	BLACK RIVER	7 00	
	7 25	STRATHLORNE	7 10	
	7 12	INVERNESS	7 20	
	6 55		7 30	
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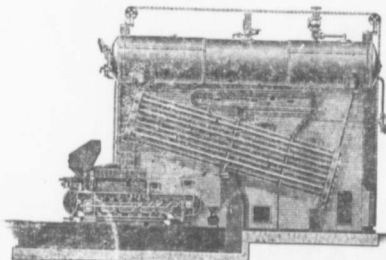
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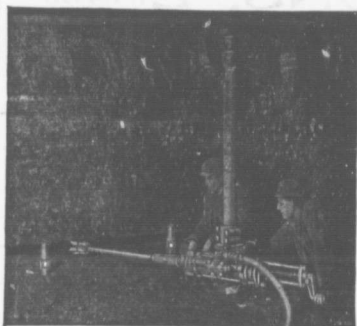
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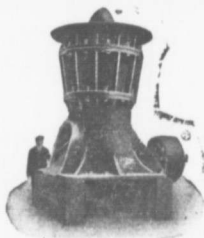
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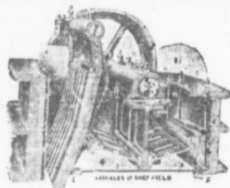
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