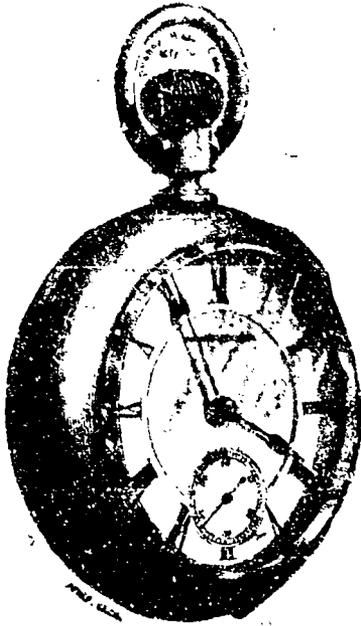


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JULY, 1888.

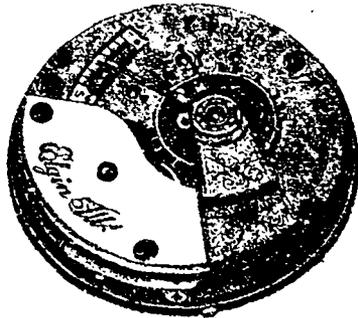
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| 1 Elgin, Waltham or Rockford, 7 jeweled, quick train move. | 7 50 | 12 00 | 18 00 | 28 00 | 46 00 |
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| 3 W. Ellery (Waltham) or Rockford 11 jeweled do. do. | 9 50 | 14 00 | 20 50 | 25 50 | 48 00 |
| 4 Elgin or Hampden, 11 jeweled, nickel do. do. | 10 50 | 15 00 | 21 50 | 26 50 | 49 00 |
| 5 Columbus, Rockford or Springfield, 11 J. nickel do. do. | 11 50 | 16 00 | 22 50 | 27 50 | 50 00 |
| 6 G. M. Wheeler (Elgin), 15 jewels, gilt. Pat. regular move. | 12 50 | 17 00 | 23 50 | 28 50 | 51 00 |
| 7 Waltham or Rockford 15 do. do. (ment) | 13 00 | 17 50 | 24 00 | 29 00 | 51 50 |
| 8 G. M. Wheeler (Elgin) 15 do. nickel do. do. | 13 50 | 18 00 | 24 50 | 29 50 | 52 00 |
| 9 P. S. Bartlett (Waltham) 15 jewels, gilt. do. do. | 14 00 | 18 50 | 25 00 | 30 00 | 52 50 |
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| 13 Waltham, 15 jeweled, nickel do. do. do. | 17 00 | 21 00 | 27 00 | 34 00 | 56 50 |
| 14 Appleton, Tracy & Co., 15 jeweled, gilt do. do. do. | 19 50 | 23 50 | 29 50 | 36 50 | 59 00 |
| 15 H. H. Taylor, 15 jewels, nickel do. do. do. | 19 50 | 23 50 | 29 50 | 36 50 | 59 00 |
| 16 Columbus, Springfield, 15 J. nickel do. do. do. | 20 00 | 24 00 | 30 00 | 37 00 | 59 50 |
| 17 The Jos. P. Wathier, No. 2, 15 J. nickel do. do. do. | 21 00 | 25 00 | 31 00 | 37 00 | 60 00 |
| 18 B. W. Raymond, 15 jewels, gilt do. do. do. | 22 50 | 26 00 | 32 50 | 39 00 | 62 00 |
| 19 Rockford or Springfield, 15 jewels, gilt do. do. do. | 24 00 | 27 50 | 34 00 | 40 50 | 63 50 |
| 20 B. W. Raymond, 15 jewels, nickel do. do. do. | 25 50 | 29 00 | 35 50 | 42 00 | 65 00 |
| 21 Appleton, Tracy & Co., 15 jewels, nickel do. do. do. | 26 50 | 30 00 | 36 50 | 43 00 | 66 00 |
| 22 The Jos. P. Wathier, No. 15 ruby J., do. do. do. | 28 00 | 32 00 | 38 00 | 45 00 | 68 00 |
| 23 Crescent Street (Waltham), 15 ruby J., do. do. do. | 28 00 | 32 00 | 38 00 | 45 00 | 68 00 |
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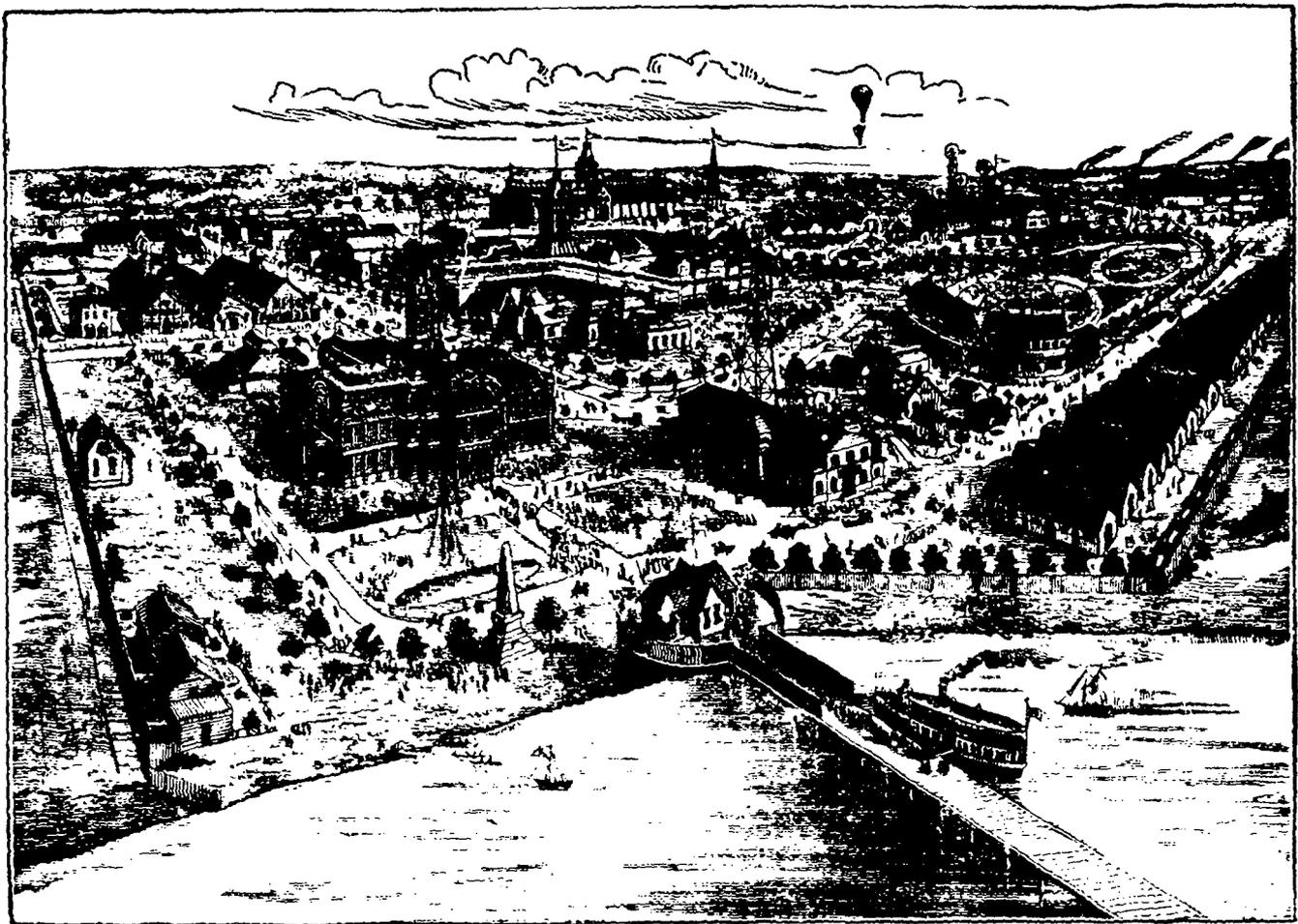
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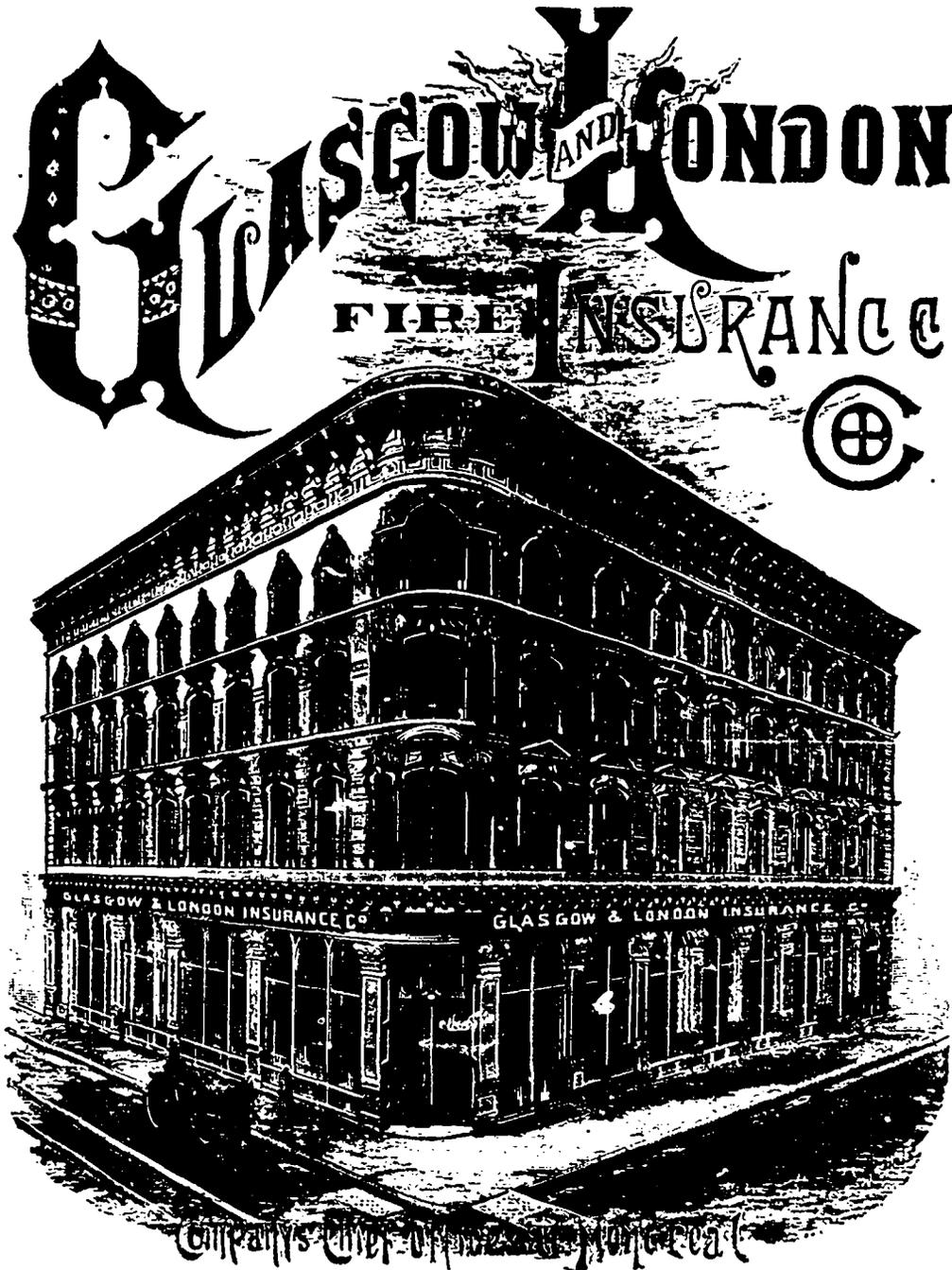
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Vol. III.]

TORONTO, ONT., JULY, 1888.

[No. 7.

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TO OUR READERS.

ACCORDING to promise, we present this month a double number of thirty-two pages. There have been a number of events of more than usual interest in the railway world since our last issue, and a fair chronicle of these events will be found in these pages. The thirty-two page form makes such a handsome paper and affords so much better scope than we usually have for a full record of railway affairs, that we hope soon to make it permanent. The increasing circulation of RAILWAY LIFE and the growing importance of the interest to which it is devoted will, we believe, soon justify this extension.

An old Turkish towel, cut in two lengthwise, beats waste for cleaning brass work in cab; you can get around hot cocks without burning the hands.—*Locomotive Engineer.*

THE projected Siberian Railway is to run from Tomsk to Vladivostock, by way of Mardinsk, to Atchinsk, Krasnojarsk, Nijni Oudinsk, Irkutsk, Posolskoi, Verkne Oudinsk, Nertchinsk, Sretensk, Graftskoport and Nikolskoi. This road will offer extraordinary opportunities to American brakemen, as they already appear to speak the language fluently.—*Railway Age.*

A CORRESPONDENT says while there is no class of railway employes in better position to stand up for their rights, than the dispatching force, there is no body of men so hard worked and so poorly recompensed. An ordinary clerk can command \$100? per month, and this is the highest amount roads in the north-west will pay a dispatcher and a number of them call for 12 hours work a day.

It is rumored that the Vanderbilt interest has secured control of the Duluth South Shore & Atlantic road. This in connection with the Michigan Central and New York Central would give the system a continuous line from New York to Duluth, and the report is not at all improbable. Another report says that the Canadian Pacific company has bought the road, which is also not improbable.

THE fast trains are said to have played the mischief with engineers, according to a railroad man. Almost daily one of these knights of the lever suffers from a paralytic stroke. The rapid time made puts every engineer on such a strain that it is only a question of a few months until the nervous system collapses. There is said to be a train running from St. Paul to Stillwater on the Omaha that is called the hospital train, for every man who runs with it has either had a stroke of paralysis or has been injured in some way or another.—*Exchange.*

ALMOST every traveller on a long journey has either suffered from or caused suffering to

the majority of his fellow-travellers by noisy card playing, and it is high time that a protest was raised against this outrage upon the rights and comfort of others. The question is not concerning the propriety or advisability of social card-playing *per se*. Upon that tastes and opinions differ. But when card-playing carried on by four people becomes an annoyance to twenty or forty other people it passes into the category of nuisances which ought to be abated.—*Railway Age.*

A DESPATCH from Quebec says: An instance of the increasing popularity of the C. P. R. route from Europe to Asia, it may be mentioned that M. Sienkiewics, minister plenipotentiary of the French Republic at Japan, who has been spending a year's vacation in France, arrived here to-day by the SS. *Sarmatian* with his family, and will leave tomorrow for Victoria, B. C., by the C. P. R., en route for Yokohama. Mr. Sienkiewics, who is a Pole by birth, has been since 1859 in the foreign service of France, principally in Smyrna, Bulgaria, Hong Kong and Japan. His present position is worth about \$16,000 a year.

WHEN the volunteers from New England on their way to the defense of Washington in 1861 were prevented from passing through Baltimore by the sympathizers with the South, they chartered a steamer at Philadelphia and landed at Annapolis. The people of that place had run out or destroyed all the locomotives that could be used to convey troops to Washington. One old dilapidated Hinkley locomotive was found, and General Butler, who was in command, called for volunteers to repair it. There were several machinists among the men and they soon put the engine in running order. The lead in this work was taken by Charles S. Homer, who has been for many years an engineer on the Old Colony Railroad and recently died in Providence. For his valuable services at the critical time at Annapolis, General Butler offered Homer a lieutenant's commission, but he declined the honor and served his time as a private soldier.

Canadian Rail Competition.

THE IMPENDING INVESTIGATION INTO TRADE BETWEEN THE UNITED STATES AND CANADA—BEARING OF THE CANADIAN PACIFIC AND GRAND TRUNK RIVALRIES TO AMERICAN LINES.

I.

Two committees of the United States Senate are to investigate the course of trade between this country and the Dominion of Canada during the coming autumn if Congress adjourns soon enough. A special committee will make a general report on the subject of our commercial relations with British America, while the Interstate Commerce Committee is to look into the transportation interests exclusively. An animated discussion on this branch of the subject occurred a few days ago between Senators Gorman and Edmunds. Mr. Gorman antagonized the present comparative freedom of rail communication to and fro between different parts of each country across the other, while Mr. Edmunds defended it.

This subject has gained in importance during the past few months on account of the opening of the Canadian Pacific Company's line from Montreal and the seaboard cities to Minneapolis and St. Paul by way of Sault Ste. Marie. No passenger traffic has so far been engaged in because the two companies chiefly interested, the Canadian Pacific and the Minneapolis, St. Paul & Sault Ste. Marie, prefer not to undertake that branch of business until their new line is in perfect working order. Large shipments of flour from Minneapolis to the east, however, began last winter, and this summer the freight movements in each direction have become very considerable. The distance between Minneapolis and Boston by way of Sault Ste. Marie is appreciably less than by way of Chicago, while between the northwestern metropolis and New York it is about the same either way. An active competitor with the trunk lines and their western connections has thus suddenly come into existence. It cannot be ignored or overawed. All the region west of St. Paul of course shares in whatever changes in the course of traffic result from the opening of the new road.

At the same time the Canadian Pacific's transcontinental line is competing, with some measure of success, with the American Pacific roads for business in either direction between Portland, San Francisco, and other points in California and Oregon and the north Atlantic states. The antagonism between the Canadian road and the Trunk lines to Chicago is thus carried on beyond to those which cross the Rocky mountains. Traffic of all descriptions is likely to be conducted by next year between Boston, Portland and the northwest, through Canada, as advantageously as it is now conducted between those cities, or New York, Philadelphia and Baltimore, and the same interior region by way of Chicago. In the transcontinental traffic the movement of cotton goods going to China and of wool and tea coming east is that most generally heard of. Some of the largest New England manufacturing companies are sending their products to Asia regularly by way of the Canada line to Vancouver and its connections beyond. This business is of course taken from the American

roads. No small part of this year's wool clip in Oregon and California is coming east by the same road. Freights from San Francisco to Boston via Vancouver, on all classes of merchandise are materially less than by the direct roads, while it is quite possible to make nearly as good, if not as good, time. Within a few days a large consignment of wool has been received in Boston from San Francisco by the Canadian road in eighteen days. The Southern Pacific Company would not have brought it much, if any, quicker, so that the difference in freight was clear gain to the shipper, or the receiver, or both. A recent consular report called attention to the arrival of one of the Canadian Pacific's fleet of steamers at Vancouver, in thirteen days and six hours from Yokohama, "with 2,000 tons of freight, mostly for United States ports—San Francisco, Portland, Ore., Baltimore, New York and others." Regular trips are made to and from San Francisco and the Orient. During the last quarter of 1887, moreover, over \$620,000 worth of merchandise from Pacific ports in the United States to eastern points in this country passed through Canada via Vancouver. Large shipments of American merchandise to Japan and China are also made over the Canadian Pacific line. During the past five months of the operation of the Canadian road seven cargoes of tea and other Chinese and Japanese products were brought east over it, largely to American markets, and the directors of the company congratulated themselves on the fact that the trip from ocean to ocean was made in from seven to eight days. This service has been continued and even improved.

II.

The existing possibilities for competition with the American railroads, considerable as they are, will be greatly enlarged by the completion of two extensions of the Canadian Pacific system, which are now under way. A railway is now approaching completion, as nearly as possible in an air line, through the wilderness of northern Maine, for the purpose of connecting Montreal with St. John and Halifax. On the section between the Lachine bridge and Mattawaumkeag the Canadian government is to pay for twenty years a subsidy of \$186,000 per annum. From Mattawaumkeag to the New Brunswick boundary the Canadian Pacific has permanent rights from the Maine Central line. The saving in distance between Montreal and St. John, as compared with the present Intercolonial route, will be 279 miles, and between Montreal and Halifax 101 miles. This "short line" through Maine may not affect American traffic materially, but yet it will be tapped in Maine by one or two north and south roads. The shortening of the distance from Halifax, of course, shortens by just so much the distance from Liverpool to Vancouver, Japan and China and will tend to divert business from New York. It has moreover, been given out this week that the Canadian Pacific Company is about to go ahead with its long contemplated scheme for building from London, Ont., to Detroit. Its through business is now done over the Michigan Central road, west of St. Thomas. Reaching Detroit, the Canadian Pacific will have the same

facilities as the Grand Trunk and Michigan Central for drawing traffic from the entire southwest. This movement is, on some accounts, not less significant than the Minnesota extension. A close compact with the Wabash system is in prospect.

This statement of the situation is necessary for an understanding of Senator Gorman's argument. Mr. Gorman pointed to the fact that the Canadian road will hereafter enjoy obvious advantages in competing for business between the seaboard and the American northwest, as well as for that between England and Asia. He asserted that "except for coercion by some American interests the Canadian Pacific would bankrupt the Northern Pacific the Union Pacific and the Southern Pacific; they cannot compete with it for the through traffic." He declared furthermore that the Canadian companies "are making such rates that our roads cannot possibly carry the goods, whenever it is necessary for them to control traffic as against our interests." He also says that "60,000,000 of Americans" ought no longer to be "outgenerated" and have their business "taken away by their neighbours on the north."

III.

But against this view of the situation Mr. Gorman and those who side with him will find arrayed substantially the whole of the New England and the northwest as well as the Pacific coast. While the competition of the Canadian Pacific may be and unquestionably is the loss of the American trunk-line and the transcontinental stockholders, it is the gain of not a few shippers and receivers of merchandise. Since the opening of the Sault Ste. Marie road all of Massachusetts north and east of Worcester and Springfield, all of New Hampshire and the greater part of Maine have been given Boston rates to and from Minneapolis, St. Paul and all the country beyond. Before this year a shoe manufacturer in Haverhill, for example, who had a case of goods to send to St. Paul, had to pay the local freight, whatever it might be, from Haverhill to Boston, and the Boston rate to the west. This arbitrary rate has now been wholly absorbed. The same thing is true of all shipments of flour and other products from Minneapolis and Dakota points to New England. The territory just described has Boston facilities and Boston rates. At present the Canadian Pacific rates to the northwest are decidedly less than the rates by the Chicago lines. This, like all reductions of charges, is of course gratifying to shippers, as long as it lasts. The competition of the Grand Trunk road with the American lines was earlier and still continues, and is believed to be of great advantage to many parts of New England. Portland, for example, has for many years received freight from the west over the Grand Trunk system, and there, as well as at Boston, any act of Congress that seemed likely to interfere with the present facilities would meet with little approval in the business community.

The movement of cotton goods to China by the northern route in preference to the southern route, which has been referred to, of course means that freights through Canada are cheaper. Saving at this point is obviously an ad-

vantage to the Maine and New Hampshire cotton mills in their efforts to compete with English manufacturers for the Asiatic market. By parity of reasoning the movement of wool from California eastward by the roundabout Canadian line is proof in itself of the benefits received from the prevailing competition by the Pacific coast wool-growers or the eastern dealers and manufacturers.

Any legislation designed to obstruct the free transportation of merchandise through Canada from one part of the United States to another will thus injure certain American interests as well as Canadian. Mr. Edmunds referred to this matter in speaking of the interest which the Central Vermont Railroad and its southern allies have in the maintenance of the Grand Trunk connection. The same thing is true of the Michigan Central Company, whose outlet to the east, the Canada Southern Division, lies for over 225 miles in the Dominion. For this reason it is taken for granted in some quarters that the Vanderbilt interests will not be thrown with the Pennsylvania and Baltimore & Ohio forces in support of Senator Gorman's declaration of war. But others believe that the Vanderbilts would prefer to sacrifice their holding in the Canada Southern for the sake of relief from the keen rivalry of the Canadian lines. The New York, Lake Erie & Western also has something at stake in the existence of the present free connection with the Grand Trunk system, and for New England business the Fitchburg Company likewise. There would, moreover, doubtless be no little objection at Chicago to any interference with the competition now afforded by the Grand Trunk and its connections. It must, therefore, be seen that interests of vast importance are involved in the proposed investigation in addition to the railroad interests in behalf of which it has been instituted.

A Great South American Railway.

THE feasibility of constructing a great international railway through South America has often been discussed. The advantages to be gained by the construction of such a road are many. Recent advices from South America indicate that the project is gradually taking shape, and by sanguine people a realization of this enterprise is confidently looked forward to. A recent report made by consul Bacon of Montevideo contains a detailed description of the proposed line of travel and the possible means to be employed in accomplishing this result. Of course the contemplated line would not necessarily be owned by one company. As now indicated it will consist of a series of connecting lines running from Buenos Ayres in the Argentine Republic, on the eastern coast of South America, through Paraguay, Bolivia, Peru, and Equador to Bogota, in the United States of Columbia, and thence to the coast either to Carthagena or Panama on the isthmus. At first sight this project appears gigantic, if not impracticable. When, however, it is considered that a large section of the country to be traversed is already surveyed, or the rails actually laid, the reasonable nature of the project becomes more patent.

The actual distance not covered by existing or projected lines is about 2,000 miles. Nearly one-third of the entire distance between Bogota and Buenos Ayres has been connected by rail in the past four years. It is pointed out by the friends of the project that the distance to be covered is not so long as that involved in the building of the Union or Canadian Pacific railways. The need of such a road is said to be fully appreciated in the countries to be traversed, and the liberal concessions are to be made by various governments; large grants of valuable lands will be secured, and railway material will be admitted free of duty, while exemption from taxation for a long period of years is not unlikely. Railway building is now having a boom in South America. The Argentine Republic alone contains twenty railroads in operation, which have cost on an average of \$40,000 per mile to build. At this rate the 2,000 miles to be built in order to complete the line from Bogota to Buenos Ayres could be constructed for \$30,000,000. The country to be opened by the proposed railway is described by consul Bacon as the richest in auriferous wealth of any in the world. In addition to the mineral wealth to be opened up, the agricultural resources of the country are great. Coffee and sugar are produced in immense quantities, and drugs, dyestuffs, quinine and timber of all kinds are found in the region passed through. The development of this enterprise will be a matter of interest to the old and new world.—*Bralstreets.*

Don't Walk on the Track.

THE thing to do then, if possible, is to make the danger apparent in any way that will be effectual. A notice that

A RAILROAD TRACK IS AS DANGEROUS AS A BATTLE-FIELD

might attract attention, but it is not strictly true. If conspicuous notices, somewhat as follows, were pasted on railroad tracks where they are most needed, they would be sure to alarm some persons who expose themselves to danger because they suppose they are safe on a railroad track.

IT IS DANGEROUS TO WALK OR BE ON A RAILROAD TRACK! MORE THAN 5,000 PERSONS ARE KILLED OR SERIOUSLY INJURED EVERY YEAR IN THIS COUNTRY AS A CONSEQUENCE OF EXPOSING THEMSELVES TO SUCH DANGER.

There is no hope that a notice of this or any other kind will prevent the practice of walking on railroad tracks, but it would have the effect of making many persons more cautious who now are very careless, and thus save some lives.—*Railroad Engineering Journal.*

An Absorbing Topic.

THE greedy way in which the Canadian Pacific crosses the boundary and swallows up railways on this side of the line is provoking much comment. Having but recently acquired control of the Soo Line it now gathers to itself the Duluth, South Shore & Atlantic. It

is also hinted that it would be glad to absorb the Milwaukee & Northern. The position of the Canadian Pacific is now very strong in the North-west, and it is certain that it will exercise a potent influence there. If it be true, as has been reported, that the Vanderbilt interests hoped to utilize the Duluth, South Shore & Atlantic as a short route to the grain fields of Minnesota and Dakota, the falling of the coveted line into rival hands will not be pleasant to think upon. But the Canadian Pacific is aggressive, and awake to every advantage. It has now increased its mileage in a very fruitful district and will profit much by the move.—*Railway Register.*

The Twenty-fifth Anniversary, B. L. E.

THE *Monthly Journal* of the Brotherhood of Locomotive Engineers remarks:—We are in receipt of a letter from Bro. John McMinn, C. E., of Detroit Division No. 1, and chairman of the committee of arrangements, announcing the following programme of proceedings in honour of the twenty-fifth anniversary of the inception of the Brotherhood, which will be enjoyed by the members of the B. L. E., their families and friends, in the beautiful city of Detroit, August 17th and 18th.

Friday morning, August 17th, at 9 a. m., a secret session will be held at White's Grand Opera House; in the afternoon, at 2 o'clock, there will be a public meeting; Mayor John Pridgen, Jr., will deliver an address of welcome on behalf of the citizens of Detroit; his excellency Gov. Cyrus G. Luce, in behalf of the State, responded to by our Grand Chief, Bro. P. M. Arthur. Gen. Russell A. Alger, ex-governor of Michigan; congressman Wm. G. Mayberry, commissioner of labor, John W. McGrath, and others, will also deliver addresses.

The musical selections for this grand treat will be of the highest order, and will be a very enjoyable feature of the occasion.

In the evening a complimentary moonlight excursion will be enjoyed on Detroit river and Lake St. Clair, visiting Island Park and Belle Isle.

On Saturday, August 18th, there will be a complimentary excursion to the famous Oakland House, passing through Lake St. Clair and the new ship canal, touching at the renowned St. Clair Flats; giving all a day-light view of some of the most romantic scenery on the continent.

A cordial invitation is extended to all members of our Brotherhood to be present with their families. Hotel accommodations have been secured at reduced rates. The Wayne, opposite the M. C. depot, has been selected as the headquarters for the several committees. All brothers will be welcomed there and have accommodations assigned them.

The following roads will furnish transportation as follows: M. C. R. R. will carry members of the Brotherhood and their families upon application to E. C. Brown, General Superintendent at Detroit, by the proper officer of the road by which the applicant is employed; the Grand Trunk system west of Detroit and the St. Clair river, including the Detroit, Grand Haven and Milwaukee, by applying to

H. Roberts, Esq., Mechanical Superintendent of Machinery at Detroit, by the superintendent or proper officer of the road employing the applicant; the Wabash, St. Louis & Pacific will furnish transportation to members and their families on application to Supt. J. S. Goodrich Chicago, Ill., by the proper officers of the road by which the brothers are employed.

Nothing will be left undone to make the occasion one that will ever be fresh in the memories of all who may be so fortunate as to be present, so long as this life may last.

Detroit welcomes you. Go and lay aside the busy cares of the road and with wife and family enjoy a day of recreation.

A Delusion.

We know nothing of the proposed federation of railway employes other than we have seen in print. The intimation, however, by some of our exchanges, that such a federation would be unlawful, is incorrect. It must first be decided that all sorts of organizations and combinations of men are unlawful. This will never be. If the present organizations are lawful, then an organization that shall represent several classes of railway employes will be lawful. If it is lawful for the firemen or the engineers to stop work simultaneously—and it is decided that there is no power vested in the government to compel men to work against their will—then it is lawful for the engineers, the firemen, the brakemen and the switchmen, to stop work simultaneously. Should every railway employe in North America determine to stop work, all the machinery of all the governments, State and National, would not be sufficiently strong to compel a single brakeman or switchman to resume work; but if there should be an act of violence, then to suppress that violence and bring the perpetrator to justice, the law-preserving and enforcing power must be supported by the full strength of our sixty millions of people.

Let us be warned in time. We have said and we repeat, that we are just entering upon a strike era. Strikes will continue to increase in number and magnitude. It is too late to discuss their good or bad effects. We have them as the inevitable logic of the times. Let no one delude himself with the hope that the government will ever come to the aid of incompetent managers with a sort of shot gun policy, to compel men to work for them, after they fail to secure their services upon terms mutually satisfactory to both parties. Certainly some of the writers of the strike literature of the present day, seem to sadly misconceive the spirit of our institutions. Our whole government must be revolutionized before the humblest laborer in the land can be imprisoned for refusing to labor for a certain party against his will.

The second issue of *The Gripsock*, of St. John, N.B., is at hand. The new journal is a monthly devoted to the interests of travellers in the Maritime Provinces. There is a combination of spice and fact in *The Gripsock* which proves that the men who conduct it understand modern journalism and intend to make the journal a success.

The Northern Pacific in Manitoba.

THE agreement between the Manitoba Government and the Northern Pacific road, by which the latter is guaranteed the right to construct and operate a line of railway in the province, has been signed and its general terms made public at Winnipeg, where the negotiations have just been concluded. The agreement as signed is only a provisional one, but contains a stipulation that the government will convene the legislature on August 28th, and submit an Act confirming its provisions, this being necessary in view of the fact that the charter of the Northern Pacific Company only confers upon it the right to construct and operate roads in the United States. Of course the fact is well known that the government has long been desirous of making some arrangement for the extension and operation of its Winnipeg branches, and as the Dakota Extension of the Northern Pacific road already reaches the border of the province of Pembina, and that company was free from any of the entangling alliances affecting others operating in the same territory, the negotiations, now satisfactorily terminated, were begun with it. The agreement, according to the advices received from Winnipeg, provides for the building of an extension to Portage on the line of the Canadian Pacific, which is next year to be continued to Brandon in the western part of the province, and also on the line of the competing road. This work is to be begun at once and to be continued in the name of the Manitoba Government, the operations being conducted under the directions of Chief Engineer Kendrick of the Northern Pacific. No special provision is made for the building of other branches, as the Government takes the ground that in securing competition to Brandon, all its pledges have been redeemed. The point is made, however, that once in the territory the Northern Pacific will be able to advantageously extend the lines into paying districts which are not now satisfactorily supplied with traffic facilities. One of the stipulations provides for the maintenance of maximum rates on grain and certain other classes of freight from the province to Lake Superior at Duluth, whence a competitive line to Eastern Canada will be secured via the Wisconsin Central and Grand Trunk roads. This maximum rate is claimed to be lower than the tariff of the Canadian Pacific to Port Arthur, the competitive lake point. In consideration of the building and operation of the line, the Government guarantees \$6,000 per mile, at five per cent. for a period of twenty-five years. The foothold which the Northern Pacific thus gains in Manitoba is an important one, as it practically opens up a new source of traffic income, the possibilities of which may not readily be measured.—*Railroad Record*.

The Telegraph in Congress.

THE bill which the Senate has passed with respect to the use of telegraph lines constructed along railroads which have received bonds or land subsidies from the general government, provides that existing contracts between certain of these roads and the Western Union

Company, under which the latter company is given exclusive control of all telegraph business over the lines of these roads, shall be at once cancelled and that the railroad companies shall forthwith operate the telegraph lines which they own on their own account and shall make rates which are just and uniform to all competing companies and make no discriminations between competing telegraph companies which desire to use their lines as a means of connection between the Atlantic and the Pacific coasts. Mr. Anderson, of Kansas, introduced in the House early in the session the bill which passed the House, and which, with some slight amendments proposed by the Interstate Commerce Committee, has now passed the Senate. This bill in effect places the entire telegraph system which runs along the line of all railroads subsidized by the government under the jurisdiction of the Inter-state Commerce Commission.

The bill "to regulate commerce carried on by telegraph," reported to the Senate by Senator Platt, of Connecticut, includes in its provisions all telegraph lines doing an Inter-state business. It provides that all charges made for telegraph service shall be reasonable and just, and discrimination between persons or places is prohibited. The bill further provides for publicity of rates, and forbids pooling. The telegraphs are put under the jurisdiction of the Inter-state Commerce Commission. The Commission is authorized to require annual reports from telegraph companies subject to the act, to fix the time and prescribe the manner in which such report shall be made, and to require from such companies specific answers to all questions upon which the Commission may need information. Such annual reports shall show in detail the amount of capital stock issued, the amounts paid therefor, and the manner of payment for the same; the dividends paid, the surplus fund, if any, and the number of stockholders; the funded and floating debts and the interest paid thereon; the cost and value of the company's property, franchises and equipment, the number of employees and the salaries paid each class, the earnings, the amounts expended for improvements each year, how expended and the character of such improvements; the earnings and receipts from each branch of the business and from all sources; the operating and other expenses; the balances of profit and loss and a complete exhibit of the financial operations of the company each year, including an annual balance sheet.

Such reports shall also contain such information in relation to rates or regulations concerning recovery, transmission or delivery messages or agreements, arrangements or contracts with other telegraph companies as the commission may require; and the said commission may, within its discretion, for the purpose of enabling it the better to carry out the purposes of this act, prescribe (if in the opinion of the Commission it is practicable to prescribe such uniformity and methods of keeping accounts), a period of time within which all telegraph companies subject to the provisions of this act shall have, as near as may be, a uniform system of accounts and the manner in which such accounts shall be kept.—*Railroad Gazette*.

Station Agents' Association.

THE spreading interest in the Railway Station Agents' Association is fast dissipating every doubt of ultimate triumph. The plain talk during the last few months through the columns of the *Journal* upon certain imperfections and mistakes, while exerting more or less uncertain influence, is, nevertheless, disclosing a most gratifying fidelity to our cause, and giving bold relief to the strength of purpose and stability of the leading members. Our intelligent men are becoming known as proof against petty discouragements. Their fixed determination to bring the Association up to a high degree of excellency, a determination evident from several communications this month, and in other recent issues of the *Journal*, is bringing about universal confidence, and enthusing the fraternity to action. As a consequence of this, three new Divisions now dawn upon us, older jurisdictions are employing better systems of work, while much of our unorganized territory is being canvassed with renewed vigor. This growing interest and activity on the part of the members, and the cool judgment of officers, are bringing the realization of our principal objects within very short range. Our insurance department is well under way. We may safely predict that within a few months' time every station agent of North America will have the privilege of holding a life policy in an indemnity association created by his own fraternity, upon the soundest basis, and with advantages unsurpassed by any other mutual organization of the service. Several Divisions are contemplating a local fund for assisting needy members, with an ultimate view of making it part of the general system of the Association. Let us, therefore, not be weary in well doing, for in due season we shall reap if we faint not.—*Station Agents' Journal*.

The Oil Pipe Line to Chicago.

THE Standard Oil Company is laying two lines of pipe from the Lima oil fields to Chicago, a distance of 210 miles, one 8 in. and another 6 in. in diameter, to deliver 10,000 barrels of oil per day. It is said that only one pump will be used on the 8 in. pipe line, showing a marked increase in the power and duty obtained from pumps since oil pipe lines were initiated, as at that time 5 miles was about the maximum distance at which pumps were spaced. The 8 in. line is intended to convey crude oil for furnace and manufacturing use, and the 6 in. pipe for what is called stove oil for domestic consumption.

It was proposed to have the line completed by July 1. The storage tanks will be located at Hegeswich, near the lake, which will be a point of distribution both by water to other lake ports and by pipe lines to large consumers and to separate centres of tankage, from which smaller consumers and the domestic consumption will be supplied by waggons. The *Western Manufacturer* gives a table of comparative values of coal and oil, based on the results of many experiments, showing that for steam making three and one-quarter barrels of crude Ohio oil are equal to a ton of ordinary bituminous coal.—*Railway Gazette*.

It Made the Engineer Cry.

"YES, indeed, we have some queer incidents happen to us," said the engineer. "I was running along one afternoon pretty lively when I approached a little village where the track cuts through the streets. I slacked up a little, but was still making good speed, when suddenly, about 20 rods ahead of me, a little girl not more than three years old toddled on to the track. There was no way to save her, it was impossible to stop or even slack in that distance, as my train was heavy and the grade descending. In ten seconds it would have been all over, and after reversing and applying the brake, I shut my eyes, I didn't want to see any more. As we slowed down my fireman stuck his head out of the cab window to see what I had stopped for, when he laughed and shouted at me, 'Jim, look here!' I looked, and there was a great big black Newfoundland dog holding that little girl in his mouth, leisurely walking toward the house where she evidently belonged. She was kicking and crying, so that I knew she wasn't hurt, and the dog had saved her. My fireman thought it funny and kept on laughing, but I cried. I just couldn't help it. I have a little girl of my own at home."

Miscellaneous.

INTERESTING railway relics have just found their way into a provincial reference library in the shape of a volume of early prospectuses of local railways. Some of the provisions in the prospectuses sound rather strange now. The Birmingham and Liverpool Railroad Company, 1824, promises "to transport heavy goods at the rate of at least twelve miles an hour," and states that "passengers may also travel with perfect security at the rate of at least twelve miles an hour, but to this the Company will not pledge themselves." The same Company in 1830 informs the public that "engines with passengers have frequently been known to exceed the velocity of thirty miles per hour, but a rate of from ten to twenty miles per hour has been established as safe in operation and certain of attainment. This extraordinary rapidity is accompanied with a motion so gentle and easy as to excite no alarm, even in the most timid." "The London and Birmingham Railway Company's plan," issued in 1832, shows that the journey from Birmingham to Coventry may be accomplished in one hour, and that from Birmingham to London in five hours and a half; and their prospectus, issued in 1833, states that their ordinary rate of travelling was from fifteen to twenty miles per hour.

THE Northern Pacific Company having recently completed a bridge over the Columbia river at Pasco, W. T., now has an unbroken rail line from Lake Superior to Puget Sound, obviating the tedious and expensive transfer of trains by boat across the mighty Columbia. The completion of this bridge and of the great Cascade tunnel are important achievements accomplished by the Northern Pacific this year and they enable the company to handle its re-

markably increasing business with greater celerity and less expense than before.

ONE of the French railways has inaugurated a service of "light trains" which has proved quite successful. These trains, which carry passengers without baggage, are composed of one or two corridor carriages (instead of the ordinary compartment plan) without a brake van, drawn by a miniature locomotive. There are but two employees—a driver and a conductor—on the train, which stops at stations, level crossings, or any intermediate point on the journey, and is thus emphatically an accommodation train. Traffic must be light on a railway that can carry on such service.—*Railway Age*.

IF there's ever a war in this country again I think the greatest army will be made up of the railway men. In the first place, they are strong physically. In the second place they have learned obedience, and have learned to obey all orders without questioning them. This wasn't so in the late war, for then men had to be taught obedience, and there lesson was a bitter one sometimes. But, as I was saying, the railway men will make a grand army. They, above all other things, are insured to a life of irregularity. They are used to fatigue and the hardships of long hours of work without rest. This irregularity of life, which all railroad men know is a fact, more than anything else will make them the best soldiers in the world, but I hope they will never be called upon to shoulder a gun.—*Gen. W. T. Sherman*.

EXCEPTING the engineer, conductor or trainmen, few people have any idea of the vexation and annoyance which those in charge of a train, passenger or freight, are compelled to submit to on account of tramps. A prominent official of the Missouri Pacific, in talking about the matter, says that fully 50,000 of these worthless characters are plodding along the railroads of the country. They are a constant menace to the safety of travelers, as well as the property of the companies. Some of them do not hesitate to turn switches if they can find them unlocked, and many accidents, were the truth known, would be charged up to them. They fire bridges, depots and fences, and not only steal from cars, but make way with heavy lots of iron. One of their favorite practices is to steal hand cars to help them along in their journey.—*Omaha Republican*.

HON. CHAUNCEY DEFEW, as in a recent speech, said: "The lawyer, the doctor, the merchant, the blacksmith, the shoemaker, and members of every profession and trade except one are eligible for official positions of trust and responsibility. The exception appears to be the employee of a railroad corporation. Somehow or other the railroad man is tabooed. I notice that people are always glad to have a railroad man locate in their town. They are enterprising and help build up the community. But the moment one of them becomes a candidate for office the cry is raised that he is a railroad man and cannot be trusted. Is there anything dishonorable in the business? Is it a badge of dishonor to be connected with a railroad? For my part, I have been a railroad man for twenty-five years, and, far from being ashamed of my position, am rather inclined to be proud of it."



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W. B. CAMPBELL, ¹ Publishers.
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CHANGES IN THE C. P. R. DIRECTORATE.

WE take advantage of the lateness of preparing this page for the press to refer to the changes made in the directorate of the Canadian Pacific Railway at the meeting of the directors held in Montreal on the 6th of August. The effect of these changes had been already discounted before they were made, and consequently there is less attention paid to them by the daily press than their importance deserves. The facts, however, have been so widely published in the press that it is hardly necessary, so far as they are concerned, to speak of them at length. Sir George Stephen resigns as president, while still remaining a member of the directorate and of the executive committee, and his place is taken by Mr. Van Horne. Mr. Levi P. Morton, who has been a member of the directorate for some time past, has also resigned. The place of vice-president, vacated by the promotion of Mr.

Van Horne, has not yet been filled. The resignation of Mr. Morton, it is generally understood, is due to the fact that he is the republican candidate for the presidency of the United States, and his party managers deem it necessary that he should be wholly and ostentatiously American and have "no connection with the party over the way."

The changes regarding the presidency of the road have decidedly nonplussed the daily press. They know not what to make of them. For fear of showing ignorance, therefore, they remain silent. It is evident from the little they do say that there are the widest possible differences among them as to the effect upon the road as a Canadian institution. Some hold that this is the first marked step in the direction of Americanizing the institution, making it subordinate to the immense interests which are being acquired in the United States. Others hold that Mr. Van Horne, having more complete control of the management than ever before, will be able to direct the traffic of a great portion of the continent toward Canadian channels, and that the result of the change must be more and more in this direction, especially as Sir George Stephen, than whom no better financier lives, will be free to direct the great financial interest of the concern in Europe. The probability is that the Canadian Pacific people are not themselves decided upon this question. The road owes the government nothing except to run the line in the North-West until the year 2001, as provided for in the contract. The Canadian Pacific is not a government institution in any sense, but a purely private enterprise. It has received public support in the past, but this is true likewise of almost every railway in America, and it would be as fair to speak of the Union Pacific as an American Government institution as to say that the Canadian Pacific in any sense belongs to or is under obligation to the government of the Dominion. Being, then, a purely private enterprise, it is not unreasonable to believe that it will be run for the benefit of its owners. Whether that benefit can best be achieved by having the Canadian Pacific dog wag the tail of its great interests on the other side of the line or *vice versa*, we do not know, and, with the most profound respect for the newspapers, the C. P. R. management, and others who may have opinions

on the subject, we ask leave to say that we do not believe anybody else knows either. The problem is too complicated a one and too many of the factors are yet wholly or almost wholly unknown for any person to have worked out a solution that will be at all certain to stand the test of time.

On some things, however, all can agree. Under the presidency of Sir George Stephen a work was carried out in five years which good authorities declared that no combination of money, brain and muscle, could carry out in ten. The records of the world in railway building have been not merely beaten but distanced. And more than this financing, which would have staggered or overwhelmed any but the very ablest mind, has been carried on with apparently little effort and with a uniformity of success which the bitterest opponents (and they were many) could not but admire however much they might dislike to see it. Under his presidency the problem, which had threatened to involve Canada in an almost endless political turmoil and keep her back in the path of progress for a generation or more, has been happily settled, and the nation can give its attention to other questions which, but for this man's pluck and magnificent ability, would have had to stand aside for an indefinite period. Another point that will not be doubted is that there is now at the head of the Canadian Pacific Railway interest a man who is perfect Napoleon of railway affairs. Rising from the lowest ranks as Napoleon rose, he is acquainted with every detail of the varied work carried on under his supervision. Possessed of phenomenal capacity for learning, he sees the railway problem from many points of view at the same time, and that from an elevation which none but he has attained. His management of the Canadian Pacific system has been a succession of triumphs. Now that the problems with which Stephen was especially competent to deal have been nearly all solved, Van Horne assumes control of the property at a time when its possibilities are simply incalculable. He has done well hitherto. It is reasonable to suppose that with greater powers he will rise to the responsibilities which those greater powers bring. All will unite in wishing him continued good fortune in his career, coupled with the hope that the

noble institution, of which he is the head, may remain always as it is now—an incalculable advantage and a source of pride to the Dominion of Canada.

THE MANITOBA BARGAIN.

IN another column we publish a summary of the bargain made by Premier Greenway on behalf of the Manitoba Government with the Northern Pacific Railway, together with an explanation of the same by the *Winnipeg Free Press*, the organ (if there is one) of the Government.

The bargain is what might be expected under the circumstances. Premier Greenway is pledged to secure competition with the Canadian Pacific Railway and thus to reduce the charges upon freight inward and outward, which, whether just or not, are undoubtedly a disadvantage to the Province. The Northern Pacific seems to be the only corporation willing to undertake the work. It is in Greenway's favor that something like war is now being carried on between the Canadian Pacific and the Northern Pacific, making the latter corporation more anxious than it otherwise would be to extend its lines to the Canadian North West, and so retaliate for the exceedingly lively work of the Canadian concern on the American side. Mr. Greenway undoubtedly got better terms because of that fact than he otherwise would. But Mr. Greenway has been only a short time at the head of a government and the men with whom he negotiated have been a long time at the head of a railway. Their chances in the negotiation were better than his, and an investigation of the bargain will, we think, indicate that they made use of their greater skill. In the document there is generally to be found a very decided "shall" in the case of the duties imposed upon the Government, while the company's duties are hedged behind a more or less clearly defined "if." Although the Government hedges the position of the people about with a great many apparent safeguards yet it is not clear that the company is bound to enter upon aggressive competition with its rival.

The power that the people of Manitoba have to depend upon after all for the competition that they want is the rivalry between the companies and the eligibility of the country from a railway

point of view. But if the exigencies of Mr. Greenway's position had not been so great as to make it necessary for him to do *something* at once, the real result that the people want—genuine competition—would have come more surely and, in the end, more satisfactorily in the natural course of events through the attractions of the country to railway companies. Mr. Greenway did a big thing in removing the political and legal barriers in the way of railway competition, but it will not be found to the advantage of the province in the end that he had to go into the market and buy that competition almost immediately upon assuming power.

Under the circumstances the bargain is about as good a one as could have been expected, but the benefit to the people will flow, not from the bargain itself, but from the natural rivalry of the two roads which has made a bargain of any kind possible.

"THE CANADIAN PACIFIC MINOTAUR."

SUCH is the heading over an article in the *Wall Street News* of New York respecting the excitable Senator Cullom's proposal to investigate the Canadian Pacific in regard to its effect upon the railways of the United States. The resolution which Hon. Mr. Cullom has presented to the Senate is given elsewhere. As will be seen by the following interview it is evident that the worthy Senator has a mind cut on the bias or else his digestion of late has not been of the best. His direful picture of what will occur in the future is too much like a made-up bogey to have the effect of frightening people which he evidently thinks it ought to have. Here is what the *New York Herald's* Washington correspondent says:

Senator Cullom feels that the time is coming when Canada's presence on our northern border will be a standing menace to our peace and prosperity. The Illinois Senator is not an alarmist, nor is he given to sensationalism of any description. He is, on the contrary, one of the most clear headed and conservative men in public life; but he thinks we have reason to fear Canada's growing greatness both from a numerical as well as a material standpoint.

"It was for this reason," said Senator Cullom today, "that I introduced my resolution on Friday last to investigate and report upon the number of railways in this country which are owned or indirectly controlled by the Canadian Pacific and Grand

Trunk railways. I think when the facts be come known it will surprise some of our people to learn how much of the carrying trade to this country is diverted from its legitimate channels through these foreign agencies.

"Already, I am told, nearly fifty per cent. of the merchandise brought from China and Japan to America is carried by a line of subsidized English steamers to Vancouver's Island. There it is transferred to the Canadian Pacific railway and carried as far east as practicable and then reshipped to its destination by American lines. All this is working an injury to our transcontinental railways, and it ought to be remedied. These steamship and railway lines can unbid us. They are subsidized by the British Government, and if they can divert our commerce from its regular channels they propose to do it until they have driven us out of the market when they will remain masters of the situation.

"More than this, their influence with certain lines of American railways, mainly, I suppose, because of their large interest therein, is such that they are able to freeze out many new enterprises of this character which might otherwise come into competition with them. This, it strikes me, is carrying their impudence a little too far. It is these and kindred facts which we propose to thoroughly investigate. If Congress does not adjourn soon our investigations will be necessarily postponed until next spring. I think we ought to begin at Halifax and continue our trip along the Canadian border to San Francisco, gathering all the information we can regarding the matter under consideration.

"Why is it, Senator," queried your correspondent, "that you are afraid of Canada with its meagre population of five million people, which we can overshadow with our sixty millions of people?"

"It isn't the present," continued the Senator, "it is the future I am considering. England is doing everything she can to build up the Dominion of Canada. How many years will it be, think you, before Canada's five million people will become twenty five million? Our interests are diametrically opposed to each other. Sooner or later they will clash, and when they do trouble will follow, for it is not in the nature of things that we can live on in harmony for ever. When that time comes Canada must either absorb the United States or we must absorb Canada, and I leave you to judge which of the two will be done."

In the discussion of the question in the Senate, it became evident that there were personal and party considerations involved, some senators having interests which were injuriously affected by Canadian Pacific competition, and the Democrats being anxious to make it appear that the Republican majority in the Senate was responsible for not compelling interference in this case. Moreover, it is the Chicago interest, which is injured by the Sault route, that is doing

the most of the complaining. The American press and people may be trusted to see through these little games that the monopolists of various kinds are trying to play. For instance, the New York *Herald*, commenting on the despatch quoted above, says:

The resolution which Senator Cullom, of Illinois, introduced yesterday into the Senate, as we understand it, contemplates a policy of resistance upon the part of our government to the successful rivalry of the Canadian railways in the matter of the transcontinental Asiatic trade. The action is proposed in answer to the avowal that we are allowing a subsidized British line to deprive our American roads of business.

The American Pacific railways were subsidized by the government in a magnificent manner. Millions upon millions, in bonds, money, privileges, lands, were bestowed upon their projectors to the end that they should do what the Canadian road is said to be doing—namely, carry freight at fair rates and maintain for us this Asiatic trade. What has become of those subsidies, and why is it that the government is implored to do over again what it has already done with princely lavish hand?

This is the vital point in the inquiry proposed by Senator Cullom.

This is indeed the question. It is an easy statement to make that the Canadian Pacific is a Government road or one supported by the Government, and to quote the round figures of its subsidies to impress the minds of the ignorant with the extent of the subsidy. But no subsidy ever was granted to any road by any government without conditions which the railway company was bound to fulfil. The extent of the subsidy cannot be known without considering, not merely what the company received, but what it was bound to give in return. Looking at it from this point of view the great trans-continental roads of the United States have received quite as much public money as that of Canada and should be able to hold their own in the present contest if they are managed with equal ability, and the laws under which they work are equally just. Whether the fault is in lack of ability on the part of the management or lack of justice on the part of the laws, the remedy is not in legislating against the Canadian Pacific or against Canada, but in changes far more easily within the power of the American people.

In the meantime, the Canadian Pacific, while promoting its own interests, is creating much needed railway competition.

THE FASTEST LONG-RUN ON RECORD.

BECAUSE the British railway managers have been slow to adopt the baggage-check system, the Pullman car and other ideas which now form essential features of American railroading, we are too apt to feel that the railways of the Old World are behind the age in everything, and that their trains go crawling along over the country like potato-bugs on a gravel road. Your Englishman generally takes his own way about anything he has in hand, but he quite as generally "gits thar" as the slangists of to-day have it. The latest development of railway work in England is the cutting down of the time between London and Edinburgh. The marvellous performance of a London & North-Western railway train in covering this distance—four hundred miles—in seven hours and fifty-two minutes is one which stands among the railway marvels of to-day. And the beauty of it is that this is no mere exhibition spurt, but a regular trip of a regular train travelling under a schedule which it has to work up to every day. And, still further, the beauty of it is that these Englishmen propose in their own matter-of-fact way to still further cut the time down to seven hours and thirty minutes.

This remarkable run is barely ahead of another on the Great Northern road, on which the famous "Flying Scotchman" has for years been making the distance between the English and Scottish capitals in nine hours or so. The rivalry of the North-Western or "West Coast" line has led to a genuine race for Edinburgh, in which the West Coast line has so far come out a trifle ahead. The "Flying Scotchman" was the fastest train in the world until its present rival entered the race and its schedule time for the whole distance was nine hours. The present trip is thus made in one hour and eight minutes less than the "Scotchman's" time and, if the further cut is made, a full hour and a half will be saved. This is a marvellous performance and may well attract the attention it does throughout the railway world. The following description of the trip on the West Coast line is taken from the cable despatches:

In company with Assistant-Superintendent Turnbull, of the West Coast line, and Wm. Asworth, railway expert of the London Times, I entered a first-class compartment at Euston this morning just before ten o'clock.

The West Coast was the better line to go by. It only had to get through in the same time to win, as its long route compels it to make one mile per hour more than the "Scotchman." The two trains pulled out at the same moment; the "Scotchman" from King's Cross and the West Coast from Euston. We could not time the rival train, but we were sufficiently interested in keeping view of our own iron horse, as that capable animal probably travelled faster than any locomotive ever did before for a continuous run. The engine had a single pair of driving wheels 7 feet 6 inches in diameter and weighed 27 tons. It burned 24 pounds of coal per mile during the run. The tender, loaded, weighed 25 tons. Behind it were four coaches filled with passengers, making a weight of 20 tons each, or 80 tons in all. We started slowly. The run to Tring was up grade, the steepest portion being a rise of 1 foot in 70. This distance, 31½ miles, was covered in 40 minutes. Once over the hill the engineer woke up and began to show his mettle. The speed was increased steadily until our hair began to stand on end. Telegraph poles began to seem like fence posts and the roadside a medley of objects hard to distinguish. Mile post after mile post was registered at 50 seconds by our watches, and the 15 miles from Tring to Blehley took exactly 12½ minutes, with a speed varying 72 miles, and as we flew over the flat land the spirits of the party naturally heightened by the novel experience after the first tendency to hang on to something wore off. Rugby, 82½ miles from Euston, was passed in 92 minutes, and Tamworth, 110 miles was reached in two hours. From Tamworth to Crew took 58 minutes for 48 miles, and we ran into the latter station at 12.58, two minutes ahead of the schedule time. This run of 158 miles, without a halt, in 2 hours 58 minutes, is the longest known to any schedule. Water was, of course, taken in from the track. We ran into Edinburgh at 5.52 o'clock, 8 minutes under the schedule. The 110 miles from Carlisle had been covered in 104 minutes over a pass 1,015 feet high, and this run is simply unprecedented in railroad annals. The entire distance covered was 400 miles, and the actual time, excluding stops, was 7 hours and 25 minutes, an average of 53 53.80 miles per hour. We had beaten the "Flying Scotchman" seven minutes in time and eight miles in distance. It is now said that the Great Northern will cut to 7½ hours.

AN INGENIOUS SWINDLE.

THE announcement made some time ago that an agent of the Chinese Government had arrived in America with authority to employ many men for Chinese railways just opened, caused a good deal of flutter among railway employes. The railroad press warned the people at the time to be careful as this was probably a mere confidence game. It now turns out that this view was the

correct one. Mr. F. A. Bee, Chinese Consul at San Francisco has written a letter to Mr. Arthur, Grand Chief of the Brotherhood of Locomotive Engineers, thoroughly exposing the whole fraud. It appears that the ingenious and unprincipled rascal who "put up the game" claimed to land from China at Victoria, B.C., and the probability is that he actually did do so, as he started from that point, moving first south-east and afterwards south west, carrying on very considerable swindling operations as he went. He gave glowing accounts of the prospects for engineers, firemen and others in the Flowery Kingdom, and not merely induced many men to engage with him as the agent of the Chinese Government, but actually succeeded in drawing from many of them deposits of \$15 each, presumably as a "guarantee of good faith." But the guarantee and good faith were all on one side. He seems to have been quite heartless in his swindling, for he not only took the money of his dupes but induced some of them to leave good positions in Texas and other states and go to San Francisco on the representation that a company of men would sail under his charge on a given day for the scene of their employment in China. It is feared by Mr. Bee that some men have actually sailed for China, paying their own fare. There are no railways in China, and none authorized to be constructed except one or two local lines of no importance, so that the swindle is made out of whole cloth. The Locomotive Engineers' *Monthly Journal* publishes Mr. Bee's letter and states that several swindlers have followed the first and, judging by the reports received at the chief offices of the Order, they have been remarkably successful.

It is wonderful how long these swindles last, but it is to be hoped that the railway men of Canada will have been thoroughly warned in time to prevent the sharpers from taking advantage of them.

THE TRAFFIC OUTLOOK.

WITHIN the past few weeks the outlook for the season has vastly improved. The crop reports, it is true, have not at any time been particularly unfavorable except in Ontario, but as this province contains about half the people of the Dominion, and considerably more than

half the wealth, the bad reports here meant, had they been realized, a bad time for the Dominion generally. But the most unfavorable prospect, even in this province, has been narrowed down to a comparatively small section of country. In that section, it is true,—the southern part of the Bay of Quinte region—the result of the season's operations seems to have been disaster, nothing less. In a considerable portion of Eastern Ontario the crops will be light, as light as last year or perhaps a shade worse, but the majority of the farmers in that region will have more to sell this year than last. In the western part of Ontario the returns will show a favorable comparison with those of last year. From Quebec and the Maritime Provinces the reports are generally satisfactory. In Manitoba and the North-west, unless some untoward circumstances arise at the last moment, the magnificent yield of last year will be duplicated with additions. The stuff to be hauled this year will probably be greater than last so far as Canada is concerned. The rates, it is to be expected, will continue to tend downward as they have done for years past, but the change within a year will probably be immaterial, and the traffic receipts, therefore, may expect to increase rather than the reverse.

CANADIAN RAILWAY STATISTICS.

THE Statistical Abstract and Record for the year 1887 has just been issued. This useful work, published by the Department of Agriculture of the Dominion, is now in its third year. The article dealing with the subject of railways, while not so full as railway men might think desirable, is a solid piece of valuable information. Some facts culled from it will be of interest to those of our readers to whom the work may not be readily available.

The railway mileage completed in the Dominion on 30th June, 1887, was 12,332 miles, of which 11,691 miles were then operated. The total paid-up capital from all sources amounted to \$683,773,191, made up in the following proportion: Ordinary share capital, 33 per cent., bonded debt, 28 per cent., Dominion Government aid, 19 per cent., preference share capital, 14 per cent., Provincial Government aid, 3 per cent., municipal aid, 2 per cent., "other

sources," one-fifth of one per cent. In the year ending 30th June, 1887, with 11,691 miles in operation, the number of passengers carried was 10,698,638, and the tons of freight, 16,356,335. The earnings were \$38,812,010, and the working expenses \$27,621,683. The average earnings per mile were \$3,322, being an increase of \$216 per mile as compared with the previous year, while the increase in working expenses was \$197 per mile. Of the business done, the largest traffic on any system was that on the Grand Trunk, which carried 5,080,638 passengers and 6,458,053 tons of freight. The Canadian Pacific carried 1,949,215 passengers and 2,118,319 tons of freight. But the Canada Southern, which is a very small line as compared with the other two, while it had only 475,870 passengers, carried no less than 2,580,895 tons of freight. This is a magnificent showing for the Canada Southern line. The government lines—the Intercolonial and the Prince Edward Island Railways—are credited with 1,112,851 passengers and 1,196,607 tons of freight. The proportion of receipts and expenses on the different lines was as follows: Grand Trunk, 69 per cent., Canadian Pacific, 68 per cent., Canada Southern, 57 per cent., government railways 111 per cent., a deficit on the government lines of about \$325,000.

Other extracts from this valuable book will be given from time to time.

CANADIAN RAILWAY LAW.

WE have received from Mr. E. P. Hartney, Examiner of Private Bills for the House of Commons of Canada, a copy of the Railway Act passed last session, as indexed by himself. This publication is an exceedingly valuable one to railway men as the present Act is a consolidation and covers the law by which the railways of Canada are governed. In the form in which it is now presented it is most convenient. Nothing is more difficult than the making of an index, but Mr. Hartney seems to have succeeded in it admirably. With the volume he has prepared it is a simple matter to turn to any desired provision of the somewhat cumbrous and complicated outcome of the work of Parliament.

We have to thank Mr. Hartney also for a copy of the "Model Bill," as it is

called, for the incorporation of railways. For years the necessity of some better system in chartering railways has been recognized. The only people who profited by the old system were the lawyers and the lobbyists. Every railway charter had to be separately prepared and every lawyer, it was found, had his own views as to what the Bill ought to cover and how it should be drawn. The time of the Railway Committee (whose members include almost half of those in the House of Commons), was taken up with considering the details of every Bill on every point. As there were many points common to every Bill, and as the applications for charters showed no sign of falling off, the plan in use in other countries was plainly the one to be adopted to frame a skeleton Bill which should be a guide to draughtsmen of future railway charters. But this was further improved upon by the provisions of the Model Bill common to all railways, being made part of the general Act. The Model Bill is now an affair of only two pages of print, easily filled out and easily considered when filled out. The person who wants a charter for a railway next year will be able to get it with far less delay and far less worry than in former years.

COMPETITION IN MANITOBA.

THE principal work of the Greenway administration in Manitoba, now that it has been returned with a practically unanimous legislature at its back, is to carry out its promises and secure competition with the Canadian Pacific Railway of such a character as to be a real benefit to the Province. The present situation in Manitoba is simply another presentation of the world-wide question of railway competition, which has been the object of a continuous struggle in civilized communities almost ever since the locomotive was invented. And, if it has proven so difficult and complex a problem throughout the world, it is hardly likely that it will yield at once to the solution proposed by Mr. Greenway and his colleagues. The question is not by any means so simple a one as many of the people in the East seem to think. The running of a railway from within the Province line to a connection with a railway on the boundary does not, as so many seem to think, of itself settle the question. For a monopoly of thirty miles

of rail is, for all practical purposes, as complete a monopoly as though that thirty miles were multiplied by a hundred. Even supposing that the Red River Valley line is built from the border to Winnipeg and the connection made with the Manitoba North-Western at Portage la Prairie, the competition afforded will affect only those portions of the country where there are actually the tracks of the two railways, that is to say, from the border to Portage la Prairie via Winnipeg. Even granting that the Manitoba North-Western has a choice of roads from the Province, there is no guarantee possible that they will not take the benefit of it themselves instead of giving it to the farmers along their line. Indeed, if they act upon the ordinary rule of railway management, this is exactly what they will do. The remainder of the Province will be in exactly the same relation to the Canadian Pacific as before. It is not impossible that, if the Canadian Pacific believes that it is unfairly injured by the action of the Government, it may find it necessary to make up losses at competitive points by charging higher rates at those where competition is impossible. In doing this it would simply be doing what railway managers have done since the locomotive was invented. If this were done, the Government would find itself in the position of giving a bonus to one part of the Province at the expense of the rest. To say nothing of the unpleasantness of such a thing, it is manifestly a very poor solution of the competition problem.

THE INDUSTRIAL EXHIBITION.

CANADA'S Great Fair, as the Toronto Industrial Exhibition is generally admitted to be, will be held this year from the 10th to the 22nd of September. This Exhibition is known throughout America as the very best annual fair on the continent. There are others that surpass it in some special attractions: there are exhibitions to commemorate some special occasion or to "boom" some particular branch of trade which may attract people from greater distances. But there is no fair intended to illustrate the progress and development of any country that can compare in completeness and perfection of arrangements with that held every year in Toronto. The reason for this lies on the surface. Toronto has the good fortune

to have within its borders public-spirited citizens who devote time and care and great business abilities to the work of making the exhibition a success. And this association of citizens has for its head Mr. J. J. Withrow, a man for whom the adjective "level-headed" seems to have been made, so accurately does it describe him. Mr. Withrow started the exhibition some ten years ago in the face of tremendous opposition and he has remained the chief officer of the institution since then. Another singular piece of good fortune is that the Association secured the professional services as manager of Mr. H. J. Hill, whose natural abilities Mr. Withrow had the discernment to see. Mr. Hill has been the motive power of the exhibition and has developed talents which has caused him to take a front rank among the fair managers of the world. He has the capacity for managing details and he uses his capacity to such advantage that even in the Great Industrial Exhibition there are fewer delays, hitches and annoyances than usually occur at a county fair.

This year the exhibition promises to be more attractive than ever. The list of exhibitors extends with every year, for producers of wealth in every form recognize the business advantage of having their goods displayed where thousands of people come to see them. The list of special attractions also includes many features of deep interest. With fine weather the Industrial Exhibition of 1888 will be the greatest of the great series held under the auspices of the Toronto Industrial Exhibition.

Editorial Notes.

HON. J. H. POPE, Minister of Railways, who has been ill since the early part of last session of Parliament has, in great part, recovered his health.

A DESPATCH from Manitoba states that the delay at Ottawa in gazetting the proposed changes in wheat grading has caused some of the grain buyers to decide to ship to Duluth to gain the advantage of the Duluth grading. Now that the grades have been announced, however, they have given general satisfaction.

THE announcement that the surveyors have started to survey the line for the

extension of the Canadian Pacific's Woodstock and London line to Windsor will be received with general satisfaction. The delay in this work and in the other branches of the Canadian Pacific in Ontario does not seem to be very well understood.

MENTION has been made in RAILWAY LIFE more than once of the May Reverse Lever Latch, the patent of which is controlled by Messrs. Whittlesey & Wright, of Washington. This valuable invention is coming more and more into favor. Twenty-six engines, now being built for the Central railroad of Georgia at the Dickson Locomotive Works, will be equipped with the new appliance.

THE *Globe* of this city proposes that borings for natural gas should be made here, and argues from the geological formation displayed in this region that gas could be struck at a comparatively short distance. If there is any ground for hoping for success here it is to be hoped that capitalists will soon make the venture. The advantages of a discovery of natural gas in the case of a city like Toronto cannot be over-estimated.

ACCORDING to an exceptionally well-printed announcement received at this office, the third annual exhibition of the Central Saskatchewan Agricultural Society will be held at Saskatoon, the capital of the Temperance Colony, on 3rd October next. "Book to Moosejaw Station, C. P. R." is the direction given. The prize list covers a large number of classes, and with the promise of good crops in the North West the exhibition should be a great success.

SPEAKING of the size of the Canadian Pacific steamers on the Lake Superior route, a correspondent of the *Empire*, of this city, says:

"Toronto people look upon the Montreal line boats, the Corsican and the Corinthian, as pretty fair-sized vessels, and the Empress of India as real large. You could hang one of them up to one end of the Athabasca and scarcely make her dip in the water. The Chicora would look like a toy alongside the Alberta, and the Macassa would about do for the yawl of the new Algoma now building."

THERE is a new thing under the sun at Sioux City, at least there will be on the 24th of September next and for some time thereafter. This institution

is none else than a corn palace, "a temple to Mundanium," as the prospectus says. The experiments in this line made last year were so successful that the business men of Sioux City have formed a joint stock company to make a palace this year and for many years to come on such a scale as to make this the eighth wonder of the world. There will be a grand festival from the 24th September to the 6th October, and excursion rates will be arranged from all parts of the continent to Sioux City for the occasion. Canadians visiting the great West should time their visit so as to take in this interesting event.

THE most interesting phase of the railway situation at present is the duel going on between the two gigantic corporations, the Northern Pacific and the Canadian Pacific. The Northern Pacific evidently feels the competition of its great rival in the United States and intends to carry the war into Canada by dividing, as well as it can, the North-West traffic with the Canadian Pacific. This is the meaning of the willingness of the Northern Pacific to enter Manitoba, using the new Red River Valley line as a connection. The only wonder is, under the circumstances, that they do not go into the work more actively, but we in Canada are so accustomed to the great push and enterprise of our great railway corporations that the methods on the other side naturally seem slow.

THE announcement, made on apparently good authority, that the Canadian Pacific had secured control of both the Minneapolis and Sault Ste. Marie line and the Duluth, South Shore and Atlantic, thus having in its own hands both the approaches to the Sault from the American side, has caused no little commotion in the exceedingly small but influential circle of railway management. It is, moreover, looked upon as a practical difficulty by a large section of shippers in the United States. So grave they consider the danger to be, that Senator Cullom of the American Senate has been prevailed upon to give notice of motion directing the Inter State Commerce Committee to report whether any legislation is necessary to protect American railway interests. The text of this resolution is given elsewhere. Up to this writing it has not been discussed.

Its terms are too vague and general to permit of comment in the absence of further explanation from those who suggest it.

THE American railway journals are returning to the subject of the Inter State law and the general interference of the law makers and the law enforcers with the actions of the railways. Some exceedingly grievous cases are mentioned. For instance, the Wisconsin Central, which is spoken of as a well-managed concern, had succeeded in getting its line and its traffic into good shape after a large expenditure. The management calculated on a combination of local and through business (St. Paul to Chicago) which would pay handsome returns on the investment made. But their line is longer than some others reaching the same terminal points, and as the "long and short-haul" clause makes it imperative to charge equal relative rates on all traffic, the Wisconsin Central finds itself compelled, not only to take through traffic at the prices of its rivals having shorter lines, but compelled also to scale its local rates down in proportion. Consequently it can pay no dividend. This is only one instance of many. The indications are that some united effort will be made to secure changes in the laws or else some railway companies will abandon in disgust some of their minor lines. In the meantime railway building is paralyzed in some of the western states.

WE confess that we are not prepared to join the general shout of "Anarchy!" "Outrage!" which is being raised over the alleged use of dynamite by strikers on the Chicago, Burlington & Quincy Railroad. There is too much Pinkerton about the business altogether. The Pinkerton detectives may have their use, just as carbolic acid has its use, but as an institution they are rather high flavored to be pleasant, and even at the best they are evidence of the existence of a bad state of affairs. It is a recognized fact among jurists that even public peace officers are prone to seek rather the conviction of the party they have arrested than the rendering of a fair and just verdict. This is still more true of such people as Pinkerton's irresponsible employes. It would not take a very clever man of the class to which these so-called officers belong to lead some hot-

headed individuals, engaged in such a strike as the present one, to commit some outrage by dynamite or otherwise. It is perfectly true that the man who is thus led astray (if such there was), should bear the responsibility of his acts, but the trouble is that the effort is persistently made to make the Brotherhood of Locomotive Engineers and organized labor generally share that responsibility with him. If there are only one or two dynamiters there will be comparatively little trouble in dealing with them, and in the name of all that is decent let the howl of "Conspiracy!" be kept down until something more trustworthy than the insinuations of hired detectives of the Pinkerton order is made public before saddling thousands of men with the responsibility for attempted destruction of life and property.

A Shrewd Dead-Beat.

THE roadmasters of the Chesapeake & Ohio, from Louisville to Memphis, are the victims this time. A decently dressed fellow left Louisville one day this week claiming to have been sent out by the authorities for the purpose of inspecting the road-bed, says the *Tipson Record*. His mode of travelling was by the haul car. He telegraphed the roadmasters of the different divisions to hold themselves in readiness, and together they carefully examined the entire line. J. P. Smith, who has charge of this division of the road, also received a telegram from the aforesaid inspector to the effect that he must be ready to convey him to the next section on his arrival here. Mr. Smith was absent at the time the man passed here and did not see him, but some of the men in his (Smith's) employ were at the depot with the car and carried out the instructions of the telegram. Having suspicions about the fellow, Smith telegraphed to the authorities at Louisville for information, when an answer was received that no such man had been sent out and they knew nothing of him. He was a shrewd dead-beat, and under the disguise of inspecting the road-bed, beat his way over the line. He informed the agent at Kerrville that he intended to pull down the depot at that place and put up another and more costly building, and actually employed carpenters and bricklayers for the purpose. He was very choice about his fare, claiming that he could not eat ordinary food and he always had the best that could be found. When he contracted bills he gave an order on the Chesapeake & Ohio Railroad to have them cashed.—Nothing was heard of him after he reached Memphis. —*Memphis Appeal*.

VANDEBILT pays his cook \$10,000 a year, and his engineers \$3 a day each. Difference between a cook and an engineer, \$8,905.—*Solid Muldown*.

Contributed.

OVER THE G. T. R. TO BURK'S FALLS.

FOUR WEEKS' SOJOURN IN THE LAKE DISTRICT OF THE MAGNETAWAN.

MUSKOKA, the "land of clear skies," with its pure atmosphere and exhilarating breezes, is pre-eminently the health-seeker's paradise, while at the same time it can lay claim to being the sportsman's home. Standing at an altitude of 100 feet above the level of Lake Ontario, it can readily be understood why Muskoka offers inducements to the summer tourist who may wish to enjoy a few weeks' rest and recreation and admire the sylvan attractions of this northern retreat, while to the sportsman it offers an extensive field of operations both for rod and gun, which can hardly be surpassed.

Muskoka abounds in rivers, lakes and islands, of every size and shape, the scenery of which is both charming and picturesque. The eye never seems to tire of nature while feasting on such panoramic beauty. Although pen and pencil have, time and again, depicted the charming scenery of this northern clime, yet repetition never appears to be out of place, for the imagination can always be touched by ruralistic descriptions of lake and woodland to be seen along the route.

Having made preparations necessary for their outing, the writer, in company with his family and a few friends, left the Union Station, Toronto, by G. T. R., at 11 p.m. on Friday, July 13th. After a journey of about 171 miles northward, Burk's Falls, a thriving place on the Northern & Pacific Junction Branch, was reached at 6 a.m. the following day.

The Northern & Pacific Junction Railway, which extends from Gravenhurst to North Bay, a distance of 116 miles, received a bonus of \$12,000 per mile from the Dominion Government. The road is exceptionally well built and the bridges solidly constructed; quick time and good connections are made with the C. P. R. for Manitoba and all parts in the North-West Territories. Passenger traffic on this line was first opened in July, 1886, the road being then under control of the Northern & North-Western management. The

Grand Trunk has recently acquired control of both systems.

Resuming our travel, a drive of three-quarters of a mile from the Burk's Falls station brought us to the "Burk House," where we partook of a hearty breakfast. This house is a credit to its proprietor, D. F. Burk, who has spared no expense in making it first-class in every respect.

The first impression formed in the mind of the visitor to Burk's Falls is the numerous hills upon which the village is built. Considerable enterprise prevails. It is from this point that the building of the projected G. T. R. line to the Sault will commence.

At Burk's Falls our party went on board the steamer *Wenonah* (first-born), which was built by the Muskoka and Nipissing Navigation Company to do service on the Magnetawan River Division. A description of this steamer was given to the readers of RAILWAY LIFE about the time she was launched during the early navigation season of 1886. The *Wenonah* is a combined paddle and screw steamer, having been built on a new principle from designs of Mr. A. P. Cockburn, the general manager of the Muskoka and Nipissing Navigation Company. This feature in lake and river transit was intended to meet the quick turns and sharp curves of the tortuous Magnetawan River, and to overcome the difficulty arising when the steamer has to come in close contact with logs which often block the river. When both propelling forces are at work the boat is capable of maintaining a speed of thirteen miles an hour.

The *Wenonah* is 96 feet long, 17 feet 9 in. beam, 27 feet over all, has 7 feet depth of hold, and draws 4 feet 6 in. of water. She is nicely fitted up. Her commander is Capt. William Kennedy, a courteous and obliging officer.

At 7 a.m. our journey down the Magnetawan began. The morning dawned beautifully and the waters of the smooth-flowing stream seemed to arouse our expectations to the highest point. The scenery along this route is both picturesque and charming—crowding closely to the water's edge, the tall, graceful cones of spruce, balsam, and hemlock, and the feathery fronds of the tamarac greet the eye of the beholder at every turn; while the sweet water-lilies rest their heads on the calm surface of the stream. Word-painting seems to convey only an

inadequate idea in depicting the grandeur of the scene as the steamer moves along. Naturally on the look-out for wild game the writer observed four porcupines, two cranes and one deer during his journey down this river. After a most enjoyable sail of nineteen miles, which occupied about two hours' time, Lake Cecebe (wild duck), with all its enchanting loveliness came in view. This is a delightful sheet of water eight miles long and about two miles broad, interspersed with islands.

Here our party repaired to the "Cecebe House," which is pleasantly situated on the north side of the lake, and commands a good view of the surroundings. This new resort has been opened with a view of accommodating tourists in the Magnetawan district, and is adapted to people who prefer retirement to hotel lodging.

A special feature of this house, and worthy of note, are the terms, which are most liberal and considerably lower than the prices charged by other resorts on Lakes Muskoka, Rosseau and Joseph. A good table is kept; and every arrangement is made for the convenience and comfort of its patrons. Boats can be hired with or without guides at moderate rates. There is a post office in the building, and a tri-weekly mail on Tuesdays, Thursdays and Saturdays. There are good bathing facilities on this side of the lake, with a long, sandy beach. Mr. Wm. A. Cowan, the proprietor, is a jovial person and uses every endeavor towards making his guests perfectly comfortable. Having received the best of attention during our stay here, it will always be a pleasant reminder of our Muskoka trip to recall the happy hours spent at the "Cecebe House."

Cecebe Lake is the centre of a famous fishing and hunting district. Here the disciples of Izaak Walton get a good opportunity to display their knowledge of the piscatorial art, as the lake teems with bass and pickerel; while the hunter will find it a good headquarters, the place abounding with deer. We were successful in our fishing excursions, the sport being fine and the catch generally a good one, as many as thirty good-sized fish having been caught in two hours' time. Our efforts seemed to be rewarded most while using the troll, your correspondent once having landed a 10 lb. pickerel, measuring 32 inches, and a perfect beauty. A lady in our party

caught one 9 lb. pickerel, one 7 lb. pickerel and one 1 lb. bass, besides a number of smaller ones. The writer is aware that some allowance is generally made for fish stories, but in this case there is no discount asked; they will go at par. Although comparative strangers, we soon became acquainted with the finny tribe by "dropping them a line" once in a while.

We visited Horn Lake, a pretty sheet of water situated some three miles distant from Cecebe, in a north-easterly direction. The water is clear and deep and the scenery grand. An old camper told your correspondent that he had caught trout in this lake weighing from 14 to 16 lbs. Deer make their appearance in the vicinity, and smaller game are to be had in season.

Following the water course from Cecebe the village of Magnetawan, some seven miles distant, is reached. One of the sights on the route worth seeing is "Guy's Cliff," a huge granite rock which stands about 100 feet above the level of the lake, with large trees growing out from the crevices and projecting over the precipice. This natural wonder inspires the onlooker with awe and admiration.

The government have built a substantial lock at Magnetawan which permits the steamer to descend into Ahmic Lake (beaver), a beautiful stretch of water with charming scenery. Ahmic Harbor, the end of the steamer's journey, is situated at the foot of the lake and is considered a very pretty spot.

The distance from Burk's Falls to Ahmic Harbor is forty miles, and the steamer makes the round trip in a day, leaving Burk's Falls (on arrival of the train from Toronto), at 7 a.m., returning at 5 p.m. This is a delightful water trip, and will well repay the sight-seer and pleasure-seeker, and fulfil every expectation from a scenic point of view, besides adding a zest to the appetite never before experienced.

After a most enjoyable outing of four weeks, during which time boating, bathing and fishing were freely indulged in, we retraced our steps homeward, much improved both in body and mind; and as we recount each adventure and dwell on the pleasant memories of Cecebe, we look back with a sense of joy on our trip to Muskoka, the "land of clear skies."

N. B.

MANITOBA AND THE NORTHERN PACIFIC.

THE AGREEMENT LATELY CONCLUDED BY PREMIER GREENWAY.

The full text of the agreement between the Manitoba Government and the Northern Pacific was published in the *Manitoba Free Press*, the liberal organ, on the 3rd of August. The following is the summary of it, which appeared in the *Eastern Press*, together with an explanation by the *Free Press*.

The government agrees to have an act put through the legislature incorporating the "Northern Pacific and Manitoba Railway Company." The charter shall provide for five directors, one of whom shall be the railway commissioner of the province, and another nominated from year to year by the lieutenant-governor. As soon as this legislation is passed the main agreement will be signed. It provides that the government shall complete the Red River Valley Railway to the south bank of the Assiniboine at Winnipeg by the 27th August and then sell the same and rolling stock to the company for \$720,000 to be paid by the delivery of first mortgage bonds, at the full value of the said company on the said line payable in twenty-five years at 5 per cent. interest, the government to pay for the construction of a bridge across the Assiniboine at Winnipeg not exceeding \$40,000 and for one at or near the Portage at the same figure, the government to secure at once the right of way for extension to Portage la Prairie and to advance a sum not exceeding \$400,000 for the construction and equipment of that extension, the said sum to be repaid by the company before May 1st, 1889, when the government will convey to the company the right of way and the railway constructed. The company covenants to construct a railway from a point on the Red River Valley Railway at or near Morris to Brandon within one year from the 1st of November next, and to construct twenty miles of the said railway on or before the 1st of December. It is agreed that legal authority be obtained for issuing mortgage bonds to the extent of not more than \$16,000 per mile for each mile of said lines for the purpose of acquiring, equipping and maintaining the same. The government will guarantee interest at the rate of 5 per cent. per annum for twenty-five years on bonds of the company to the extent of \$6,400 per mile for each mile of said railway, said guarantee bonds to be delivered to the company as follows: For every \$40,000 actually expended on the Red River Valley Railway, and in equipment, organization, acquiring of terminal grounds, constructing terminal track, etc., by the company, which will be in excess of said \$720,000, for which mortgage bonds are to be given to the commissioner, the commissioner agrees to hand over to the company an equal amount in value of the guaranteed bonds, the whole amount of the guaranteed bonds so handed over in connection with the Red River Valley road not to exceed \$20,000. In connection with the line from Winnipeg to Portage la Prairie the commissioner agrees to deliver to the company guaranteed bonds to

the extent of \$6,400 per mile upon the company repaying to the commission the said sum of \$100,000, or such less amount as the commissioner may have paid out, as provided in section 4 of the agreement. In connection with the line from Morris to Brandon, on the completion of each twenty miles thereof the commissioner agrees to hand over to the company guaranteed bonds to the extent of \$6,400 per mile. The company is to hand to the commissioner unguaranteed bonds to the extent of \$4,000 per mile, providing the construction cost of the road does not exceed \$12,000 per mile. The effect of this is intended to be that where construction and equipment of the line cost less than \$16,000 per mile, the commissioner will retain in his hands in unguaranteed bonds the difference between the cost as aforesaid and the \$16,000 per mile, and when the line costs more than \$16,000 per mile the commissioner will deliver to the company the overplus of the cost above \$16,000 in accumulated unguaranteed bonds in the hands of the commissioner. The gross earnings of the company are to be applied: first, in paying the cost of operation and maintenance; second, in paying interest on the unguaranteed bonds so retained and handed over; third, in paying interest on the guaranteed bonds. Clause fifteen provides that no pooling arrangement shall be entered into between the company and the Canadian Pacific Railway and the St. Paul, Minneapolis and Manitoba, and that no stock shall be sold to either of these corporations. The company is to be exempted from taxation until the earnings are sufficient to pay operating and maintaining expenses. The company agrees to allow any railway company except the Canadian Pacific Railway and the St. Paul, Minneapolis and Manitoba running powers over its lines at reasonable rates, which shall, if necessary, be fixed by arbitration. If the company shall fail to complete any of the said lines for a period of one year after the time mentioned or to operate the same or any of them for a period of six months at any time the railway commissioner may take possession thereof and operate the same for the benefit of whom it may concern. It is further mutually agreed that the Lieutenant-Governor-in-Council shall have full power from time to time to fix, regulate, and determine all freight rates and charges over the railway, and it shall not be lawful for the company to make any rate or charge not so provided for. The agreement takes effect as if it had been executed on July 27.

The government organ's explanation is as follows: The more complicated portion of the contract with Messrs. Oakes, Kendrick & McNaught, is that which regulates the financial arrangements proposed to be made between the company and the province. In order that the public may be able to pass a judgment upon this, as upon any other portions of the agreement, it is necessary to rid it of the technical language in which it is clothed, and present it as simply and briefly as possible.

Upon the completion of the Red River Valley Railway, less the building and terminal

tracks at Winnipeg, it will be sold with its rolling stock to the company for \$720,000 of the bonds of the company on the line, the principal payable in twenty-five years, with interest in the meantime at 5 per cent. yearly. These bonds are described as "first mortgage" bonds in the contract, but as only one issue of bonds is authorized, they are only first mortgage bonds; we believe, in the same sense that the remainder of the total issue of \$16,000 a mile on all the lines consists of first mortgage bonds. The \$720,000 of bonds of the company must be taken at their "face value." If the actual value is equal to the face value and the line to the boundary pays the cost of its operation and maintenance and there is still enough of the gross earnings left to pay the interest on the \$720,000 yearly, at 5 per cent., the province will lose nothing on this portion of the arrangement. But will the bonds realize their face value? The limitation of the total bond issue on all the lines to \$16,000 per mile, and the further provision empowering the Government to cancel unguaranteed bonds not represented in the actual cost and in certain specified expenditure, must be remembered in this connection. Will the railway pay interest? As the Red River Valley Railway is not a colonization road, but an important traffic outlet it is not impossible. As the bridge over the Assiniboine at Winnipeg is to be paid for by the province and given to the company as a bonus, the interest on the \$40,000, or lesser sum that it may cost, will be paid by the province annually—a matter of \$2,000 a year.

On the Portage link for right of way and all purposes, the province contracts to pay "on behalf of the company," not more than \$400,000 in all. The company undertakes to repay this amount in cash by the 1st May next. Should payment be made as provided, the province would be out nothing so far as the transaction is concerned but the interest to date on the \$400,000. The bridge over the Portage link, near Portage la Prairie, may cost \$40,000 or a little more, and could call for interest amounting annually to \$20,000.

The total bond issue on all the lines is limited to \$16,000 per mile and on \$6,400 per mile of this the Government guarantees 5 per cent. interest for 25 years. This guarantee extends to every mile on Red River Valley Railroad, the Portage link and the road from Morris to Brandon. The total amount guaranteed on the Red River Valley Railroad is limited to \$320,000, whereas at \$6,400 a mile for 65 miles it would be \$416,000. The contradiction is only apparent, however, for the difference of \$90,000 not expended on the Red River Valley Railroad is distributed over the road from Morris to Brandon. The guarantee bonds for the Portage link will be delivered when the company has repaid the \$400,000 or less sum expended by the Government in the construction of the road. The guaranteed bonds on the line from Morris to Brandon are to be handed over to the company, a portion with the completion of each twenty miles.

Clauses 10 and 11 of the contract provide the mode of delivering the guaranteed bonds. To the Red River Valley Railroad, \$40,000 of the guaranteed bonds will be delivered for

every \$40,000 actually expended above \$720,000, the price due the province, the total delivery not to exceed \$320,000. To the Portage link, \$6,400 per mile of guaranteed bonds will be handed over on the condition that \$4,000 per mile of unguaranteed bonds is handed by the company to the province for every \$6,400 of guaranteed bonds received. The guaranteed bonds for the line from Morris to Brandon are to be delivered on the same condition, but in proportionate parts on completion of each 20 miles. The \$4,000 of unguaranteed bonds can, however, only be handed over when no more than \$12,000 of the \$16,000 of the total issue of bonds per mile has been used in construction and equipment. The object of the Government in this is to get back all unguaranteed bonds which have not been actually required in the cost of the road. When the line costs less than \$16,000 a mile unguaranteed bonds will be called in to the extent of the difference, and when it is more the extra cost will be met from the unguaranteed bonds called in. All unguaranteed bonds not actually required in the work, the construction of elevators or the \$500 extra per mile allowed in the computation of the company's expenditure will be cancelled, the Government's object in providing this machinery being to limit the issue of unguaranteed bonds, because with the limitation of their interest, consuming power, the chances of a proportion of the gross earnings remaining over to relieve the Government from paying the interest on the guaranteed bonds are increased. It must be remembered that the Government guarantees to pay the interest on \$6,400 per mile of the whole system in the event only of the road not being able to meet the interest on their own account. By retaining the power to revise and re-let contracts made by the company the Government is able to prevent jobbing and to provide that the bonds issued will represent work as actually accomplished.

The United States and the C. P. E. Bugaboo.

The following despatch, from Washington, appeared in the daily papers dated 25th July:

A gentleman called on Senator Cullom this morning with a resolution prepared to be introduced in the Senate. It was based on a paragraph in the New York *Tribune* of the 12th ult., telling of the purchase of the Duluth, South Shore & Atlantic Railway by the Canadian Pacific. Senator Cullom, after some conversation with this gentleman, agreed to introduce the resolution and he did introduce it. It is as follows:

Whereas, it is publicly announced that the Minneapolis, Sault Ste. Marie & Atlantic Railway, a line running from Minneapolis to Sault Ste. Marie, has passed under the control and ownership of the Canadian Pacific Railway Company, or of the directors of the said Canadian Pacific Railway Company acting for and in its interest; and whereas it is also alleged that the control of the Duluth, South Shore & Atlantic Railway, a line running from Duluth to Sault Ste. Marie, has also passed into the control of the said Canadian Pacific Railway Company, or the directors of the said Canadian Pacific Railway act-

ing for and in its interests, and whereas the said two lines of railway control all the approaches to the bridge over the St. Mary's River on the boundary line between the United States and Canada, the ownership of which bridge is also alleged to be in the said Canadian Pacific Railway Company; and whereas, the said Canadian Pacific Railway Company owns the only line reaching the said Sault Ste. Marie from the Canadian side, and by virtue of the monopoly of the ownership of the American lines controlling the approaches to said bridge and of the ownership of said bridge said Canadian Pacific Railway Company, it is alleged, is enabled in effect to ignore and defeat the operations of the Inter-State Commerce Law in letter and in spirit; and whereas, said Canadian Pacific Railway Company is not only a foreign corporation but one built wholly and operated in the interest of a foreign government, and the money used in the purchase and control of said American lines, it is alleged, is furnished either directly by said government or obtained by its credit, and is used as above recited; therefore,

Resolved, That the Committee on Inter-State Commerce be and is hereby directed to inquire into the matters hereinbefore referred to, and as to whether any legislation is necessary to protect the interests of the people of the United States, and to prevent the diversion of commerce from its natural and legitimate channels, and to prevent the monopolizing of traffic by a foreign corporation, and to report to the Senate by bill or otherwise.

Senator Morgan asked that the resolution go over till to-morrow, as he desired to offer an amendment to it. This was agreed to.

In this connection, the following, from the *Railway Age*, will be of interest:

The Canadian Pacific Company has undoubtedly purchased control of the Duluth, South Shore & Atlantic Railway, extending from Sault Ste. Marie and the Straits of Mackinaw, to a connection with the Northern Pacific for Duluth. By this purchase the Canadian Pacific has added about 400 miles to its great system, giving it a direct line from Quebec and Montreal through Canada and along the south shore of Lake Superior, practically to the western end of the lake. The Grand Trunk Railway Company has for some time contemplated an extension to Sault Ste. Marie, where it expected to make a connection with the Duluth, South Shore & Atlantic jointly with the Canadian Pacific, but this purchase by its great rival seems to shut the Grand Trunk out from competition in the North-west, unless it should make an alliance or extension via Chicago, as it undertook to do some years ago. The ambition of the Canadian Pacific Company does not stop with a line to Duluth. It is back of a road on which construction has commenced which will connect with its "Soo" line and run south-westerly via Winona, Minn., to Omaha, thus giving it a connection with the Union Pacific and the great west and bringing it still further into competition with the railways of the United States. The management of the Canadian Pacific has of late shown a greater disposition to co-operate with the lines in this country in maintaining reasonable rates and has made an agreement in regard to transcontinental business, which it had been carrying at astonishingly unprofitable figures. At the same time the singular fact remains that the railways of the United States are hampered by the Inter-State Com-

merce Law from meeting competition which this and other Canadian roads may see fit to inaugurate, and hence it is not unreasonable that the continued forward movement of the Canadian Pacific in various directions into territory in this country already occupied should be viewed with some apprehension. At the very time, too, when this company, rendered powerful and aggressive by enormous subsidies from the Canadian Government, is making these aggressive movements, popular prejudice in the United States is being more and more stirred up against "subsidized" railways, and efforts are being made to cripple some of our lines which in times past received government aid.

To Bridge the British Channel.

THE scheme of constructing a bridge over the English Channel has just been completed. It has been worked out by the Creusot engineers and M. Hersent, ex-president of the Society of Civil Engineers. The progress of metallurgy makes the construction possible. The height allowed for the bridge over the channel would allow large steamers and sailing vessels to pass freely. It would support four railway lines, besides a road for carriages and footpaths. This will be satisfactory for those who dread sea sickness. The only trouble left them will be that of choosing their mode of locomotion—whether by railway carriage, omnibus, cab or velocipede. Places of refuge, watch houses and alarm bells will be placed on each pile, with a powerful light.

The authors of this gigantic scheme believe that the foundations may be constructed by means of compressed air diving bells. The bridge will cost 800,000,000 francs, its metallic weight will amount to 2,000,000 tons, and it might be constructed in six years. The scheme will shortly be submitted for examination to an international technical committee. When this examination has been completed the Channel Bridge Society will apply for a concession to the French and English Governments, from which it will ask for no subsidy. Under these conditions the concession might be easily granted and the works immediately begun. In a few years the commerce of the two nations would be benefited from the simplification introduced into their relations by the execution of a work which might be considered as one of the most important of the century.—*Paris Temps*.

The Power of Organization.

LET the roadmaster, the master mechanic, the car builder, the train dispatcher, the trainmaster, or even the division superintendent, present a plea for a better salary; let him show that his duties are very responsible, that his labor is very hard, and that to properly perform his duties he must possess ability and experience of a much higher order than is possessed by other classes of employees, even possibly his own subordinates, who may receive as large or a larger salary than he does, but are represented by the labor

unions, and what is the result? He is often told that if he does not like his present position he is at liberty to resign, that there are plenty of men ready to take his place. He may even be informed that his services are no longer needed. He is snubbed, humiliated and insulted, his only offence being that he has presumed to request that consideration which he believes his deserts entitle him to, and at all events such consideration as is accorded to others in less responsible positions. He has forgotten that no powerful labor union, with its lowering front, stands at his back to enforce his demands, or if he remembers, he probably also remembers that his management has always denounced the labor unions, and thinks it would be only too glad to recognize the just deserts of those who stood aloof from the unions.

But let the committee representing the powerful labor union make its appearance at the door of the general manager's office. It is received with marked consideration. No humble petition is now presented. "We demand" is the language of the committee. And this demand is usually promptly granted, or if it cannot be granted, the fullest explanations are given, and the committee is made to feel that it racks the very soul of the manager to be unable to accede to its wishes.

Now, is it strange that our insulted, humiliated, snubbed master mechanic, roadmaster, train dispatcher, trainmaster, or even division superintendent, who has noted the distinguished reception given the committee of the great labor union, should turn his secret thoughts to another powerful labor union, which should represent his own class? The incessant prating he has heard about every man being his own master, and independent of the labor unions, is all well enough in theory, but just now it does not seem to work out in practice. When he finds his employees who are represented in the labor unions receiving larger salaries than he gets himself, and treated with consideration, while he is humiliated and snubbed, there seems to be a sudden hitch in his theory of manly independence.

The railway managements are responsible for the railway labor unions. They encourage their growth and hold out the strongest possible inducements for the organization of others. We have written very plainly here, but have stated only the truth—that which is known to be the truth by every man in railway employ.—*Railway Service Gazette*.

A New Sault Line.

THE Sault Ste. Marie & South Western, a new Wisconsin company, is said to have completed negotiations in New York and Montreal for the placing of between \$6,000,000 and \$7,000,000 of bonds, and the construction of the Wisconsin part of the road is to be commenced this summer. The road will be bonded \$20,000 per mile. This project has been known in railroad circles and to the general public as "Foster's road," but it is said that the Sault Ste. Marie & South Western is to be built in the main by Eastern and

Canadian capital and is to constitute a link connecting the Union Pacific and the Canadian Pacific, giving the former, by a combination now being negotiated, a short line eastward to tidewater from the Missouri and giving the Canadian Pacific entrance to a south western field. It will run from Rhineland on the Minneapolis, Sault Ste. Marie & Atlantic by way of Merrill, through Marathon and Clark counties, striking the St. Paul, Minneapolis & Omaha at Fairchild, thence to the Mississippi, from the Mississippi to Eyota, Minn., whence two routes have been surveyed, one to Sioux City and one to Council Bluffs, to join the Union Pacific.

New Brunswick Railways.

THE *Empire*, of this city, on the 7th inst., contained a long and interesting article giving a full description of the railways of New Brunswick. Space can be found here for only a portion of this excellent contribution to the literature of the railways of the Dominion:

To the little town of St. Andrews, New Brunswick, is due the honor which attaches to the birthplace of the first railway project ever undertaken in British America, and one of the first to be suggested on the Western Continent. John Wilson, of Chumcook, a pretty lakeside farm near the town, was wiser than his generation; and when he heard that Stephenson had solved the problem of steam locomotion by land, began at once to reflect upon the possibilities which such a system of transportation open before a town like St. Andrews, with a broad, deep harbor, open at all seasons of the year, and near the eastern extremity of the British Dominions in America. Stephenson's railway was opened in 1825, and in 1827 John Wilson began to talk about a railway from St. Andrews to Quebec. In 1828 he called his fellow-townsmen together to see what could be done about it. The result, after a few years of delay, was the launching of the St. Andrews and Quebec Railway Company, to build a road between these places across the territory subsequently ceded to the State of Maine by the Ashburton Treaty. English capital was freely subscribed, provincial aid was given to some extent, and work was begun, with this result: that everybody who put any money into the enterprise lost it; the contractors were all ruined, and a hundred miles of road were built, through the most uninviting country in all Eastern Canada. When the highway between the towns of Woodstock, N. B., and Houlton, Me., was reached, the money or the patience of the stockholders, perhaps both, gave out, operations were suspended, and the first inter-colonial railway terminated in a cul-de-sac.

Meanwhile the ambitious people at the head of affairs in New Brunswick were agitating a much more imposing scheme—nothing less than a "European and North American railway," which was to carry all the travel between the two continents, the idea being much the same forty years ago as it is to-day, namely, that steamships would land their passengers at some eastern port in the Maritime Provinces, to be carried west by rail. To aid in such a result a railway was built from St. John to

Shediac, on the Straits of Northumberland, and, when completed, it was dubbed with the high-sounding name given above, which was intended as prophetic of its business.

A few years before Confederation a genuine "boom" in railway construction began, under the stimulus of what was known as the "Lobster Act," from some fancied resemblance between the subsidized lines and the claws of a lobster. By this Act a subsidy of \$10,000 a mile was given to certain lines of road. Later the Province gave 10,000 acres of land as a subsidy to the New Brunswick railway. On the expiration of the first general subsidy Act, a second was passed, putting the amount of provincial aid at \$5,000 a mile; and when this expired, a third Act was passed, reducing the subsidy to \$3,000 a mile. Every road provided for under these several Acts has been built or is in course of construction; and there are now in operation in the Province, including the Intercolonial, 1,248 miles of railway, representing an outlay of probably \$30,000,000, or over \$1,000 per head for every man, woman and child of the population during the period of railway construction. Of the several roads the Intercolonial may be first considered. Of this road 354 miles are within New Brunswick, not including any of the branch lines. Coming down from Quebec via the picturesque Metapedia Valley, the I. C. R. crosses the Restigouche, famous for its salmon fishery, and enters New Brunswick. The first station of importance is Campbellton, a division headquarters of the road and an ambitious place, which sees in the wide extent of fertile farming lands in the neighborhood and the vast forests of spruce and cedar and hardwood upon the Restigouche and its tributaries, the material for great and substantial prosperity. Campbellton is a seaport. In fact the whole estuary of the Restigouche is a splendid harbor in which, for a distance of eighteen miles, vessels of the largest class find ample water and safe anchorage. The Bonaventure Railway, running along the picturesque north shore of the Bay Chaleur, unites with the Intercolonial just as it crosses the Restigouche.

The fame of Dalhousie, the next town as we go southward, is too well known to require much comment. Looking out upon the lovely land-locked sea, which Jacques Cartier discovered and dubbed with its somewhat inappropriate name, it is the *beau ideal* of a summer resort, enjoying a wide and ever-growing popularity. It is also quite needless to speak of the glory of the Restigouche salmon fishing. Its praises have been sounded by royalty, by men of wealth and great enterprise, by pleasure-seekers, by a hundred newspaper writers. It is better I should pass on and speak of places less widely known, and so we come to Bathurst, after running through a long stretch of excellent country and crossing about a score of not unimportant rivers. To the west of the railway in this part of the route is little else but forest; yet it cannot be too often told that this great uncleared tract is of the highest fertility.

Within the bounds of Restigouche County alone are fully a million acres of the finest upland soil in the world, and it is nearly all unoccupied. Upon just such land are located

the splendid farming districts of Jacksontown, New Brunswick, and Aroostook, Maine, the latter famed for its fertility all over the United States. When it shall have been intersected by a railway the great Restigouche wilderness will become one of the most valuable sections of the Dominion. The forest growth is chiefly of hardwoods, for which there is a steadily growing demand; but there is also an incalculable amount of cedar and not a little spruce. Just before reaching Bathurst the character of the country changes. We pass out of the upper silurian area into the chain of agoic rocks, which surround the coal measures. Through these hills of granite and porphyry flows the Nepsiquit river, at the mouth of which stands the town of Bathurst. Its course is through a wild, and from an agricultural point of view, not a valuable country, but one that contains much excellent lumber. The river itself in its lower part is famous for salmon, and in the upper portion of its course for trout. It may be mentioned here that all along the coast of New Brunswick are rivers wherein as fine a day's sport can be had as one can desire in catching large and lively sea trout. The principal occupation of the people of Bathurst is lumbering and fishing. This is the headquarters of Mr. Kennedy P. Burns, M. P., a man who, though yet young, has already made his mark in the business world, and is likely to attain much greater prominence. In this vicinity also is the junction with the I. C. R. of the Caraquet Railway, of which road Mr. Burns is the principal owner. More of this railway in its turn; at present it is sufficient to say that Gloucester County, through the principal settlements of which it runs, is rapidly increasing in population, and the railway must become an important feeder to the Intercolonial. Passing along southward, through an uninteresting country, we reach Newcastle, the shiretown of Northumberland, standing on the north bank of the Miramichi River. This great river, with its innumerable tributaries, drains a wide expanse of country with only a fringe of settlement on its borders. Enormous quantities of lumber have been brought down its branches, and untold quantities remain uncut. The outlet of the Miramichi is a broad sheet of water, affording one of the finest summer harbors on the coast. Upon the north, as has been stated, stands Newcastle, with about 4,000 inhabitants, while on the other bank and about five miles nearer the sea is Chatham, a town of 5,000 inhabitants. Douglstown, Derby, Milerton, and other villages are near at hand, the whole forming a thriving community. From Derby siding the Indiantown branch of the Intercolonial Railway runs fourteen miles up the South-west Miramichi, meeting at its terminus with the Northern and Western Railway. A few miles to the south of Newcastle, Chatham Junction is reached, whence the Chatham railway, nine miles long, will carry you to the town of that name, and the Northern and Western will furnish you a road 110 miles long to Fredericton, the Capital of the Province. The lumber business of the Miramichi ports is larger than the whole lumber trade of Nova Scotia. A hundred million superficial feet a year being an average output.

Chatham is the great centre of the frozen fish trade, of which thousands of tons are sent in refrigerator cars to the United States. There is a very extensive hemlock extract factory at Millerton, and the largest pulp mill in America has just been completed at Chatham. This latter town is also the headquarters of a goodly part of the Prince Edward Island trade.

Straight almost as an arrow the I. C. R. stretches southward, passing through the new and progressive settlements of Rogerville and Acadieville, and at forty miles from Chatham junction reaching Kent junction, where the Kent Northern railway turns off to the east, thence along through the rapidly progressing settlements of Kent County to Moncton, headquarters of the railway and the most ambitious town in the Maritime Provinces. I hesitate about disposing of Moncton in a paragraph, and yet space forbids me to give more to it. It has a population of about 7,000 people and they are as enterprising a lot as you can find anywhere. If they have any fault it is that they go ahead a little faster than prudence justifies; but with an abundance of courage temporary disappointment only fires their ambition to new efforts. While the presence of the railway workshops, no doubt, has added greatly to the prosperity of Moncton, it would be a town of importance without them, for it is the centre of a truly excellent country, most thoroughly progressive in an agricultural point of view.

Before passing on, a word or two may be said as to the 185 miles of the Intercolonial Railway which lie between Moncton and the Metapedia. Every one knows the great opposition there was to the construction of the railway by this route, and to many on both sides of politics it seemed an error by which Canadian interests were sacrificed to imaginative Imperial considerations. For some years there seemed to be good ground to believe it was a serious mistake; but of late an era of progress has set in, and a local traffic is being developed far in excess of the most sanguine expectations; and having regard to the unutilized wealth in forest, farms and fisheries, it is safe to foretell at an early day such a material advance in the prosperity of all this district that men will wonder how the expediency of constructing the railway by this route could ever have been questioned.

From Moncton the Intercolonial Railway pursues its southern course to Nova Scotia. This distance to the boundary line is 43 miles, and there is little doubt that in this part of its course the road traverses one of the most fertile, wealthy and progressive parts of Canada.

"The noble county of Westmoreland," as its people love to call it, is fast hastening to the front in point of population among the counties of New Brunswick; St. John alone exceeds it. Its glory is its agriculture, a solid basis upon which to found prosperity; but it is also the seat of important manufacturing industries, while at Memramcook and Sackville are colleges of great fame, the former a French Catholic institution, the latter a Methodist. Both have done great work, and if I say that St. Joseph's work is the most evident, it is only because it had no rival in

its peculiar field. It is impossible to measure the good this institution has done for the French people of New Brunswick. The Sackville institutions for male and female students have for years been doing excellent service and their graduates occupy the highest positions in the land. At Sackville the passenger on the I. C. R. gets a fine view, if it happens to be daylight, of the great Tantramar Marsh. No words of praise are extravagant when applied to this matchless tract, reaching in miles in every direction, and all under excellent cultivation. This marsh land, of which there are in New Brunswick and Nova Scotia about one hundred thousand acres, has been reclaimed from the sea by extensive dykes, some of these structures being more than two centuries old. The soil is composed of a fine silt, carried down by the rivers to the sea, and by the tide deposited here at the head of the Bay of Fundy. The advantage of reclaiming these marshes early attracted the attention of the French settlers, so much so that in 1670 the intendant of the colony complained to the King of France that the people raised such fine crops and fed such magnificent cattle on the dyked lands that they altogether neglected the rich uplands. If I were to make a guess at the value of these dyked lands of New Brunswick and Nova Scotia, I should put it at least \$20,000,000.

From Tamsee Junction, a short distance from Moncton, a branch of the I. C. R. extends twelve miles to Shediac, a little town on Northumberland Straits, where considerable business from Prince Edward Island centres. From Sackville a railway extends to the east to Cape Tormentine, also on the straits, a distance of about thirty miles. This, though an independent line, is a feeder of growing importance to the I. C. R. Without following the I. C. R. into Nova Scotia, we retrace our steps to Moncton and thence go westward to St. John. The distance is 89 miles, and the whole through a beautiful and prosperous country. Salisbury, Petitecodiac, Sussex, Hampton, Rothesay and other towns have grown up along the road, and far and wide on either side cleared farms extend. The local traffic which this section gives to the road is very great and constantly on the increase. Undoubtedly the most beautiful spot on the line is Sussex, nearly midway between St. John and Moncton. It is in the very heart of a rich and highly cultivated district and is progressing with steady strides. Rothesay is a lovely village nine miles from St. John on the banks of the broad Kennebecasis, and is the summer residence of a large number of city people, whose handsome villas crown the low hills in the neighborhood. In this part of its route the I. C. R. is joined by several railways. At Moncton is one terminus of the Moncton and Buctouche Railway. At Petitecodiac is the junction of the Albert Railway, a road some forty miles in length, extending down to the Bay of Fundy coast. From Petitecodiac the Elgin and Petitecodiac Railway extends to the south, and the Havelock Railway to the north. Neither of these roads is lengthy, but they carry considerable freight to the I. C. R. At Norton is the junction of the Central Railway, which ex-

tends from the head of the Grand Lake, up in the centre of the province. This road is only now nearing completion. It will no doubt add largely to the business of the Intercolonial, as the district which it intersects has no other means of railway communication. At Hampton is one terminus of the St. Martin's and Upham Railway, the other terminus being at the harbor of St. Martin's, thirty miles distant on the Bay of Fundy shore. Through all this section of country, between Moncton and St. John, are the signs of thrift and progress. No better evidence is wanted than the appearance of the people themselves as they crowd the trains which are constantly moving to and fro. It is undoubtedly one of the fairest regions in Canada.

After an excellent description of the several minor roads of the province, the correspondent enters upon the following summary:

The proposed roads are many. The York and Carleton is to run from Cross Creek on the N. and W. R. to the Tobique River, 90 miles; the Restigouche and Victoria Colonization, from Campbellton on the I. C. R. to Grand Falls on the N. B. R., a distance of about 100 miles; the Centreville, from Woodstock on the N. B. R. up to the village of Centreville, 22 miles; the Foreston, from Hatland on the N. B. R. to Foreston on the south-west Miramichi; the St. Francis, from Edmundston on the N. B. R. up to St. John, 40 miles; the St. John Valley, from Fredericton down the St. John for 60 miles, and others. Probably every one of these lines will be completed and in operation within ten years. I will close with a tabulated statement of the roads and their mileage:

| COMPLETED ROADS. | |
|---|--------|
| | Miles. |
| Intercolonial (in New Brunswick) | 368 |
| New Brunswick | 443 |
| Northern and Western | 117 |
| Caracquet | 70 |
| Grand Southern | 80 |
| Moncton and Buctouche | 30 |
| Sackville and Cape Tormentine | 30 |
| Albert | 45 |
| Elgin and Petitecodiac | 14 |
| Havelock | 12 |
| St. Martin's and Upham | 30 |
| Kent Northern | 27 |
| Chatham | 9 |
| St. John bridge and railway | 3 |
| Total mileage in operation | 1,248 |
| ROADS UNDER CONSTRUCTION. | |
| Central | 90 |
| Albert Southern | 12 |
| Fredericton and Woodstock | 63 |
| Tobique Valley | 30 |
| Total under construction | 195 |
| CHARTERED ROADS NOT YET BEGUN. | |
| York and Carleton | 90 |
| Restigouche and Victoria | 100 |
| Centreville | 22 |
| Foreston | 30 |
| St. Francis | 40 |
| St. John Valley | 60 |
| Total chartered roads not yet begun | 342 |

Not a bad showing this for a province with less than 350,000 population.

Effect of Grangerism on Railway Building.

THE movement in several states at the present time to enact and enforce odious laws, having no other purpose than to injure the railroads, is a revival of the old granger legislation which in 1874 caused so much damage not only to the railroads but to the country. It seems to be a pet fancy of the demagogue that people are anxious to invest money in railroad enterprises merely for the satisfaction of being a part owner of a railroad; that relentless warfare can be waged against the railroads and not affect unfavorably projected railroad enterprises. In short, the demagogue assumes that railroads will be built anyway, no matter if state legislatures will force them into bankruptcy as soon as they are in operation.

Our experience with the granger laws has taught a very different lesson. Capital will not go into enterprises which are known to be doomed to bankruptcy. States which make a business of crippling the railroads are not the field for prolific railroad building. It has been fully demonstrated that, from the standpoint of policy, a state can afford to ruin its railroads only when its transportation needs have been fully supplied, and it may be questioned if it can afford to do it even then. In 1873 the agitation for granger legislation began, and in 1874 laws were enacted which threatened the very existence of many of the railroads. The effect of this crusade was quickly seen in the decreased mileage of new railroads in the country. We give the miles of railroad constructed and in operation in each year from 1868 to 1875, inclusive.

| | Miles in Operation. | New Mileage. |
|------|---------------------|--------------|
| 1868 | 42,229 | 2,979 |
| 1869 | 46,844 | 4,615 |
| 1870 | 52,914 | 6,070 |
| 1871 | 60,293 | 7,379 |
| 1872 | 66,171 | 5,878 |
| 1873 | 70,268 | 7,940 |
| 1874 | 72,385 | 2,117 |
| 1875 | 74,096 | 1,711 |

In 1874, when the granger laws were enacted, railroad construction had fallen off so that only 2,117 miles were built, or only about 50 per cent. of the mileage constructed in 1873, and only about 30 per cent. of the new mileage laid in 1871. In 1875 construction was still smaller, and, with the exception of the war period, was smaller than any year since 1850, with the exception of 1854 and 1855. Of the effect of granger legislation upon railroad building in the states where it flourished there can be no doubt. The following table shows the number of miles of road constructed in the three granger states—Wisconsin, Illinois and Minnesota—for the years mentioned:

| | Wisconsin. | Illinois. | Minnesota. |
|------|------------|-----------|------------|
| 1871 | 200 | 1,081 | 520 |
| 1872 | 153 | 457 | 294 |
| 1873 | 482 | 228 | 44 |
| 1874 | 186 | 170 | 40 |
| 1875 | 20 | 350 | ... |
| 1876 | 70 | 176 | 30 |
| 1877 | 165 | 49 | 174 |

In Wisconsin, the leader of the crusade against the railroads, we find that railroad construction almost entirely ceased as soon as the anti-railroad laws were passed. From 482 miles in 1873 construction fell to 20 miles in 1875. In Illinois the new mileage fell from 1,081 miles in 1871. In Minnesota it fell from 530 miles in 1871 to 170 miles in 1874, and to 49 miles in 1877. In Minnesota it fell from 520 miles in 1871 to 40 miles in 1874, and to nothing in 1875. That history is repeating itself is evident in the fact that not a mile of railroad is reported to have been built in the state of Iowa in the five months since January 1. The effect of the anti-railroad agitation of last year is already seen.—*Daily Indicator.*

Track Laying This Year.

THE *Railway Age*, the best informed journal on the subject of track laying has the following editorial:

Contrary to the general expectation at the commencement of the year, and in spite of the uncertainty and danger in regard to railway investments which the action of national and state authorities have caused, the work of adding to the railway mileage of the country has continued to go on at a rapid rate and the aggregate of track laid during the past six months now proves to be actually greater than has ever been reported in the same period with the exception of last year, when our record for the first half showed 3,754 miles laid, the total for the year reaching almost 13,000. Our detailed record by roads summarized gives the following statement of main line, not including sidings or other tracks, laid in the United States between January 1 and July 1, 1888:

| TRACK LAID FROM JANUARY 1 TO JULY 1, 1888. | | | TRACK LAID FROM JANUARY 1 TO JULY 1, 1887. | | |
|--|------------|--------|--|------------|--------|
| States. | No. Lines. | Miles. | States. | No. Lines. | Miles. |
| Maine | 1 | 40 | Ohio | 1 | 63 |
| Massachusetts | 1 | 7 | Michigan | 1 | 96 |
| Connecticut | 1 | 7 | Illinois | 3 | 153 |
| New York | 1 | 22 | Wisconsin | 6 | 115 |
| New Jersey | 1 | 2 | Minnesota | 3 | 46 |
| Pennsylvania | 5 | 23 | Nebraska | 4 | 76 |
| Delaware | 2 | 15 | Kansas | 7 | 295 |
| West Virginia | 1 | 10 | Missouri | 6 | 131 |
| Virginia | 5 | 79 | Indian Ter. | 3 | 87 |
| North Carolina | 9 | 79 | Arkansas | 3 | 41 |
| South Carolina | 8 | 110 | Texas | 8 | 179 |
| Georgia | 7 | 295 | Colorado | 4 | 48 |
| Florida | 5 | 72 | Wyoming | 1 | 25 |
| Alabama | 8 | 151 | Montana | 4 | 84 |
| Mississippi | 2 | 27 | California | 25 | 397 |
| Louisiana | 3 | 60 | New Mexico | 1 | 83 |
| Tennessee | 6 | 143 | Oregon | 1 | 17 |
| Kentucky | 5 | 177 | Washington Ter | 5 | 45 |
| Total in 36 States..... | | | 168 | 3,320 | |

It will be seen that already in the first half of the year, including several months of winter weather, over 3,300 miles of new track have been laid. This is only about 400 miles less than the amount reported for the first half of 1887. It lacks less than 300 miles of equalling the entire mileage laid in 1885, and is only 500 miles short of the total new mileage of 1884. These figures certainly do not bear out the predictions made so freely at the opening of the year that the extraordinary railway building of 1887 would be followed by an almost, if not quite, complete stoppage of new construction. The total here given shows an increase of 1,049 miles to the mileage reported for June first, a very large addition to be recorded in a single month.

Not only is the mileage already laid surprisingly large but the number of lines which furnish it forms a noteworthy fact. While the 3,754 miles reported for the first six months of 1887 were laid on 136 lines the 3,320 miles built thus far this year represent 168 lines—taking the footings of the separate lines in each state. That is to say the mileage built in the past six months averages less than 20 miles to each line. This indicates what is to be a characteristic of railway construction this year, that it will be made up by the building of a great number of comparatively short roads instead of being composed to a large degree of long lines built by a few companies. An examination of the records, road by road, shows this to be the case, only two lines thus far since January 1 having added more than 100 miles of track each, and only ten others exceeding 50 miles each. The table also shows that the work is widely distributed, lying in 36 of the states and territories.

California still leads the country this year in activity of new construction, almost 400 miles having already been laid on 25 different lines. The work in this state is being carried on almost entirely by the Southern Pacific, Atchison, Topeka & Santa Fe systems, the former especially being still very active in pushing out new branches, while the Atchison is at present mainly content in finishing up lines for some time in progress. When the Atchison company is ready to push a line to San Francisco, as it certainly intends to do ere long, it will add between four and five hundred miles in this work. The states of Kansas and Georgia come next in point of activity, each of them so far appearing to have added 295 miles of new track upon seven different lines. The work in Kansas reported on is mainly the extension of the Rock Island system which was nearly completed in that state last year. But there are a great number of new enterprises awaiting a more favorable time for inauguration. Texas shows 179 miles already added by eight lines, Kentucky 177 by five lines and Alabama 174 by eight lines. Illinois has added 155 miles, Tennessee 143, Missouri 131, Wisconsin 115 and South Carolina 110. From the other states and territories thus far the new mileage returned is considerably smaller, and eleven of them have not yet reported any additions, these New Hampshire, Vermont, Rhode Island, Maryland, Indiana, Dakota, Iowa, Nevada, Idaho, Utah and Arizona. In several of these, however, construction is now going on and they will make a considerable addition of mileage before the end of the year.

While the amount of track actually laid in the last six months is very large, and under ordinary conditions would indicate that something like 10,000 miles would be laid during the year, there has been a change of conditions which just now does not make it probable that this proportion will be carried out, although the work actually under way will necessitate the addition of thousands of miles more in the next six months. Of the 168 lines here reported upon about 70 are uncompleted and on nearly all of these work is actively in progress. There are also a great

many lines upon which grading has for some time been going on and which will soon commence track-laying. But as has already been intimated, most of the great companies which to a large extent pushed the remarkable work of construction last year are at present doing little. Rate wars, the hampering effect of the Inter-state Commerce Law and the threatening attitude and destructive action of the authorities in various states have influenced them to diminish their outlays for the present, although nearly all of them have large schemes of ultimate extensions still in view. The Atchison, Missouri Pacific, North-Western, Burlington and Milwaukee & St. Paul at present are doing little. The Rock Island is still pushing its extensions to Denver and through the Indian Territory toward the gulf. The Manitoba and Northern Pacific are planning or building a number of extensions in the North-West, and the Union Pacific is one of those which have numerous lines in prospect when times favor.

In the south much activity is still witnessed and a number of lines of moderate length but of much local importance are being steadily constructed, while most of the states in the west have local lines in progress. There is still room for and need of tens of thousands of miles more of railway, but as long as people of Iowa, Nebraska, Minnesota and several other states maintain the hostile and dishonest attitude toward railway interests which they are now exhibiting through their representatives there will be little safety in investing money in railway building, and a steady falling off in the amount of work under way and in new projects may be expected until public sentiment returns to season.

Continuous Steam Heating.

THE *Railroad Gazette* says: As might be expected, one of the most interesting discussions at the Master Car-Builders' Convention was on the subject of continuous steam heating. It seemed to be generally acknowledged that the results given by the various systems used were fairly satisfactory. It was also noticeable, that while no reference was made to the difficulty of heating cars should the engine be stalled or break down on the road, numerous speakers stated that they had made arrangements for keeping the cars heated while they were standing at stations, junctions and terminal points. It seems to be a very general practice to keep the cars warm throughout the whole winter, and to couple them up to a stationary boiler when the cars are standing and the locomotive is not available. None of the speakers appeared to have found any difficulty in carrying this into effect, while no complaint was made that the quantity of steam used in heating formed an appreciable tax on the steaming power of the locomotive.

Mr. Blackall, of the Delaware & Hudson, and other speakers, described the arrangements which they used for preventing the drip or condensation freezing on the track at stations, and it appeared that this objection to continuous steam heating had been overcome by means of very simple appliances.

The principal difficulty mentioned by any of the speakers appeared to be caused by condensation, and its subsequent freezing in and about the pipes and couplers, though this difficulty did not appear to be generally felt. One speaker recommended that the main pipe be placed near the roof, as his experience had led him to believe that in a very cold climate difficulty would always be felt from the accumulation of condensation in pipes and couplings placed beneath the level of the floor of the car. He urged, and with considerable truth, that where the main pipe was near the roof, the whole course of the condensation was downward, always tending to keep the main pipe clear of water, and to maintain a free circulation throughout the length of the train.

This, of course, is an important point, especially with long trains, for it is of the first importance that the circulation in the main pipe should be unimpaired. If the pipes in one car are blocked, that car only is affected, but if the main pipe is waterlogged the whole train is imperfectly heated and a high pressure is necessary to maintain any circulation. It seems, however, from the statements of various speakers, that even in a very cold climate it is perfectly possible to maintain a circulation with pipes placed in the usual manner, underneath the floor of the car.

The best arrangement for the main pipes must, however, be determined before an interchangeable system of coupling can be agreed upon. So far three different methods of arranging the main pipes have been proposed. The method most generally used is one pipe in which the coupling is beneath the platform of the car, and the pipe itself is either underneath or a few inches above the floor; only one line of pipe being used. The second method, which has many points to commend it, is to use two lines of pipe forming a circuit running the length of the train; the steam from the engine running through one line of pipes to the rear end of the train and returning thence by another line of pipes to the tender. The third system which has been often proposed, and which has been largely used in Russia and the north-east of Europe, and is now being put in operation on the Chicago, Milwaukee & St. Paul, is the "overhead" system, where the coupling is placed near the platform hoods.

It is obvious that even if one particular form of continuous steam-heating coupler were in general use, cars piped on these different methods could not be readily interchanged. A car with one line of pipe could not be readily coupled with one with two lines of pipe, and though it may be possible to couple two lines of pipe in one coupler having two passages, a car with a coupler underneath the platform could not be coupled to a car where the coupling was some 7 ft. higher. This question of a uniform interchangeable coupler will doubtless receive considerable attention, for its importance was very fully recognized by all the speakers at the convention.

But little was said in the discussion about traps, but some valuable information on this

point may be found in a table accompanying the report of the Master Car-Builders' Committee on Steam Heating.

It appears that in a great number of cases traps have not proved satisfactory, though they are in general use; for out of 32 replies to the question as to the manner in which the water from condensation in main steam and in heating pipes is disposed of, 26 replies stated traps, three stated that it is returned to the locomotive; two use a reservoir under the car, and one uses drip valves with a small opening.

Traps, as stated above, were used in 26 cases; but in 10 the results were unsatisfactory; in 12 cases the kind of trap that gave the best results is named, but no note is made as to whether its performance was absolutely rather than comparatively satisfactory; in three cases no information was given as to the manner in which the trap acted, and only in one case is it specifically stated that a trap acted in a perfectly satisfactory manner. One reply states "no trap found reliable; expansion rod found most desirable." This kind of trap appears to have been in most general use.

One of the most difficult problems in continuous steam heating is the regulation of temperature. The table appended to the committee's report shows that this is in nearly all cases effected by valves. In reply to the question whether these valves required constant attention, 29 replies were received. In 12 cases little or no attention was required; in 12 other cases the amount of attention required is not very definitely stated, and 5 replies state positively that constant attention was required. In one case the regulation was automatic and had required no attention in three months. The comfort of railroad travelling would be immensely increased if a tolerably even temperature could be maintained by some simple and efficient apparatus, easily understood and not likely to get out of order. It is, however, very desirable that the regulation of temperature should be accompanied by some improvement in the ventilation of cars. Few systems of steam heating seem to have made any provision for ventilation, though the discomfort and ill health produced by foul air, no doubt, exceed all the bad effects of riding in a cold car. The discomfort of a low temperature is at once recognized, and the cause of it is apparent; therefore, cars are seldom inadequately heated. But the effects of bad air are more subtle, its existence is not so obvious, and inadequate ventilation is not only common, but it is, we may safely say, the rule. It is to be hoped, therefore, that the subject will receive more attention from the makers and inventors of systems of steam heating. The introduction of steam pipes in a car gives an excellent opportunity for admitting and warming a plentiful supply of pure air, and this fact should not be lost sight of amid the various difficulties attending the introduction of a reasonably perfect system of continuous steam heating.

THE North-West Coal and Navigation Company's line, connecting the Lethbridge mines with the Canadian Pacific, is to be made a broad gauge road, so they say.

The Cause of a Failure of Brakes.

A RAILROAD noted for the good condition of its rolling stock equipment and for the strict adherence to rules regulating the movement of trains, had a serious and serious accident, which was classed under that of "brake failures." At a grade crossing where a known stop had to be made a freight train was standing over the main line when a passenger train came along, and instead of making the regular stop, which never was omitted even when no train obstructed the track, it kept on with practically undiminished speed; and cut the freight train in two. Fortunately the engine struck between two of the cars and threw them apart, and passed through with so little damage that she was able to proceed with the train. The engineer was an old, careful man, accustomed to the run he was on, and he reported that he applied the brake at the usual place, and it failed to work. It had worked satisfactorily in the first portion of the run, and after the accident happened the brake showed no appearance of any defect, and landed the train to the end of the division without evidence of anything being out of order.

As usual, the engineer was suspended and an investigation instituted. The brake was carefully examined on all the cars constituting the train, and nothing being found wrong the division superintendent decided that the blame lay with the engineer. It happened that the general superintendent was well acquainted with the engineer and had so much confidence in the care and judgment of the man that he ordered a special investigation after it had been decided by the division authorities to saddle the engineer with the blame. A meeting of old engineers was called in the office of the general superintendent to discuss the case. They were all anxious to exonerate the man on the rack; but when they were taken separately and questioned about how they thought the accident could have happened, they invariably concluded that the engineer got a little excited and turned the valve lever the wrong way.

This did not suit the general superintendent, and he placed the matter in the hands of the road foreman of engines, a smart, intelligent young man noted for the thoroughness of his work and the persistency of his methods. This officer, after examining the brakes on all the cars and their connections, thoroughly turned his attention to the brake mechanism on the engine. Here he found that an old three way cock was used as an engineer's valve, which had the stop so badly worn that after applying the brake full, the handle would turn round a little more and release the brake. The engineer seeing the danger ahead had turned the lever round as far as it would go, with the result that he released the brake after applying it.

The moral of this accident is that the brake mechanism should be maintained as nearly perfect as possible, it appears to point to the advantage of having the train men so drilled that they would pull open the conductor's valve when a call was made for brakes by the engineer. - *Car and Locomotive Builder.*

Narrow Gauge Roads.

It is not often that so much information is given upon an interesting subject as in the following article which is taken from the *Railroad Gazette*:

The recent completion of a 2 ft. gauge line in Colorado recalls the commencement of the movement in favor of narrow gauge roads. The line in Colorado runs some 10 miles from Black Hawk to a mining region, and is chiefly engaged in carrying ore, and a considerable excursion traffic is expected. It, therefore, closely resembles its first prototype.

It will be remembered that the narrow gauge controversy was first started about 20 years ago by the success of the Festiniog Railroad, a little Welsh line of 1 ft. 11½ in. gauge. The success of this line was attributed to the gauge, but unfortunate and costly imitations of it afterwards proved that it was due to the exceptional nature of a traffic peculiarly suitable for an extremely narrow gauge. Carrying roofing slates down hill was an easy and remunerative task for the Festiniog, as slates are heavy for their bulk, and can afford high rates per ton. The line, though utterly unable to deal with bulky freight, or to run at anything but a very moderate speed, paid very well, and created a wave of enthusiasm in favor of narrow gauge lines. This feeling was encouraged by the strenuous advocacy of the late R. F. Fairlie, the inventor of the double-bogie locomotives by which the line was worked. Mr. Fairlie was aided by Mr. C. E. Spooner, the principal officer of the miniature road, and the novelty of seeing an engine of peculiar construction draw a long string of cars up a miniature track, winding up a tortuous Welsh valley, situated amongst most romantic mountain scenery, appeared to substantiate the arguments of Messrs. Fairlie and Spooner, and attracted the attention of enthusiastic inventors, Russian princes, and sanguine capitalists toward the shortcomings of the 4 ft. 8½ in. gauge and the manifold advantages to be secured by a reduction to 3 ft. 9 in. or some lesser distance. Millions of money were put into the narrow gauge craze, everything about the standard gauge was too heavy, and in future rolling stock must be made of the lightest and most flimsy construction, and the paying load must bear a larger proportion to the dead weight of the train. The advocates of narrow gauge pleaded that these advantages could only be secured by their system, and showed drawings and even photographs of twenty-ton cars which weighed 5 tons. The apparent saving in weight enlisted the support of stockholders and capitalists, and thousands of miles of narrow gauge line were constructed, especially in this country, France, India and most of the British Colonies. With one exception, all the leading technical and engineering papers of the world were in favor of narrow gauge. The exception was the *Railroad Gazette*. The subsequent story of the narrow gauge hardly needs retelling. It was soon found that, in homely language, a donkey cannot do a horse's work. The light weight engines and cars needed constant repairs and were soon worn out. The slow speed, the cramped capacity of the cars, the insufficient grate surface of

the engines, and the cost and annoyance of transshipping freight at transfer points combined to render it impossible for narrow gauge roads to compete with those of standard gauge. Rails weighing 30 to 40 lbs. per yard were also found to be a mistake, while the saving of a few inches in the length of the ties proved infinitesimal. Narrow gauge railroads have been found utterly inapplicable to a large and general main line business, and it is generally conceded that they are only advisable under exceptional circumstances, and where the traffic is never likely to be large and the lines are isolated and no connection with lines of standard gauge is probable. Consequently in this country there is now no considerable narrow gauge road. The standard gauge reigns supreme, and any departure from it is relegated to its proper use, small isolated local lines, where cheapness of first cost is the paramount consideration and no transfer of freight is needed.

The experience in other countries has been very similar, and in only three of the British Colonies, New Zealand, the Cape and Queensland, is the narrow gauge used for main lines to the exclusion of a wider gauge. In France and India, and to a lesser extent in other countries, an extensive system of cheap narrow gauge lines is used as an adjunct to the standard gauge lines. But even for this purpose it is now generally recognized that a line of light and cheap construction, but of standard gauge, can be built and worked as cheaply as a narrow gauge, and further, is free from the disadvantages of needing special rolling stock and arrangements for transfer and transshipment at junction points.

The Brotherhood of Locomotive Engineers.

DETROIT is the birth place of the Brotherhood of Locomotive Engineers, this order having been organized there August 17, 1863. It will, therefore, be a quarter of a century old August 17 of this year, and this notable event it is proposed to celebrate in a style commensurate with its importance. A grand anniversary celebration will be held, in which it is expected fully 5,000 engineers from all parts of the United States and Canada will participate. By the way, in referring to the Brotherhood just now, some curious thoughts suggest themselves. Many persons predicted that if the Brotherhood was defeated in the C. B. & Q. strike it would die. Those same persons now vehemently assert that the Brotherhood has been defeated. Is the Brotherhood now dead or dying? Was the Brotherhood really defeated on the C. B. & Q.? Was the C. B. & Q. management victorious? An editorial article published in the *Gazette* when the strike was first inaugurated would present some points of interest now. The so-called victory of the C. B. & Q. management means its death—or the utter and hopeless financial ruin of the road. The so-called defeat of the Brotherhood seems to add new life and new vigor to the organization.

When the latter day prophets raise up their voices and bray, they seem to prophesy by contraries.—*Railway Service Gazette.*

A Canadian on Railroad Commissions.

THE desirability of a railroad commission for Canada was the subject of a paper recently read before the Canadian Society of Civil Engineers, by A. T. Drummond, C. E. Railroads in Canada are now supervised by a Committee of the Privy Council, and the object of Mr. Drummond's paper seems to be to show the necessity of a board selected with more especial reference to fitness for dealing with railroad questions. He takes for his text a comparison of the statistics of accidents in the United States and in Canada, though, as might be expected, he is unable to make any accurate deductions from the records, on account of their well-known imperfections, and in the discussion which followed the reading of the paper the claim that Canadian railroad travel is more dangerous than on roads of the United States was challenged, though we do not gather from the reading of the paper that Mr. Drummond made such a claim.

The larger part of Mr. Drummond's paper is taken up with a systematic statement of the subjects which should engage the attention of a railroad commission. All the most important branches are stated in detail, together with brief references to the facts of experience, chiefly in the United States, which go to show the necessity of state supervision. Mr. Drummond shows a very intimate acquaintance with the best American practice in the various mechanical lines. He begins with guard rails, advocating them on all bridges, and detailing the merits of the Lathimer re-railing device very clearly. He also advocates guard timbers on "all embankments exceeding a certain height," but what that height should be he does not say. The necessity of bridge inspection is clearly pointed out and the methods of the New York State commissioners commended as better than those of any other state. The safe height for overhead bridges is discussed and reference made to action taken in Ohio and Connecticut. Power brakes and automatic couplers on freight cars, and railings on freight car roofs, are intelligently discussed in the light of the latest results of practice and experiment in the United States. In speaking of passenger cars, the importance of having axes, poils and other tools on each car, of testing wheels every 10 miles, and of providing air brakes for every car in a passenger train is shown. Electric light is claimed to be the only safe light for cars in passenger trains. Continuous steam heating is advocated at length, and safety appliances for upper berths in sleeping cars are touched upon. The St. Thomas disaster of last summer is used as an argument for compelling railroads to furnish seating accommodations for all passengers. The laws of Massachusetts concerning locomotive boilers and safety valves, and their inspection, are referred to as necessary in all countries. Foot-guards to protect trainmen's feet from danger from frogs are recommended. The necessity of substituting overhead bridges or subways for highway grade crossings is shown, and the rigid requirement of gates, where this change is impossible, is advocated. Interlocking signals at railroad grade crossings are mentioned,

and the necessity of making and enforcing stringent laws against walking on the track is recommended. The securing of employees against overwork, and their punishment for intemperance, as well as prohibiting the sale or use of liquors on railroad premises, are mentioned as auxiliary means of securing freedom from accidents. Although the Committee of the Privy Council has considerable authority, the fact that the members are not specially selected as railroad experts and that they have numerous other duties, has worked to deter people from applying to it for redress of grievances even where such application would have been an effective remedy.

Mr. Drummond, in conclusion, sums up the duties of a railroad commission as follows:

(1) To consider every application for a railroad charter and report to parliament on the necessity for the same and on the *bona fides* of the applicants and on their ability to construct the railroad. (2) To promote the health and comfort of passengers, as in ventilation and other sanitary essentials in cars and station buildings. (3) To secure safety for passengers and employees by regular inspections, by examining into the causes of accidents, and by investigating and, if necessary, directing the adoption of improvements, which would tend to insure safety. (4) To prevent excessive or unreasonable discriminating rates, and to see that railroads afford reasonable facilities to the public for traffic, as in station buildings, and in the location of such buildings and of the tracks. (5) To regulate questions between municipalities and the railroads, as in matters of taxation and level crossings. (6) To determine differences between different railroads, as in railroad crossings, interchange of freight and, possibly, competition in rates. (7) To obtain accurate and full statistics of the construction, equipment and results of operating of each railroad.

—*Railroad Gazette.*

Naming Locomotives.

"LOCOMOTIVES," said the railroad man, "are oftener numbered than named nowadays. The great trunk lines of the country number their engines, but some of the New England lines still continue to both name and number. Localities are conciliated by naming engines after them, and the directors feel flattered of course to see their names on majestic express or monster freight engines. Then there are individuals locally influential whom the corporation wishes to please, and they are honored. Sometimes these men are 'kickers,' and the road doesn't like to be kicked, and names the locomotive to soften their asperities. Some man who owns some pleasure resort on the road wants its name put on a locomotive as an advertisement of that place, and as his interest is a good deal of the road's interest, he generally has his wish gratified. There is a sort of unwritten custom for localities and individuals to give clocks or ornaments to the engines named after them. Different roads have different ideas and methods. The Providence names its shifting engines after characters in Dickens, suggestive of qualities that

will be called into play. There is the 'Pancks,' that goes about pulling; the 'Mieawber,' that waits for something to turn up, etc. The Eastern road once ran on Shakespeare some years ago, and gave its machines such names as Coriolanus, King Lear, Othello, Macbeth, Tempest, Hamlet, etc., thus making its trains propaganda of Shakespeare study. *Boston Transcript.*

Women as Sleeping-Car Conductors.

THERE is a rumor in the air that women are soon to be admitted into the glorious fraternity of sleeping-car conductors. I am going to apply for a position, and do you know what I am going to do, my dear? In the first place, I am going to keep all the ventilators open, and the man who dares object, out he goes into the smoker! Then I am going to enact the role of Herod to the beardless babes who peddle books. There won't be one left in all the land to tell the tale of his taking off, when I have been conductor just one month. The boy who always approaches me with literature of the Zola brand, and asks me if I have read "Mr. Barnes, of New York," and tells me that I look like the woman who bought "The Ordeal of a Coquette" on the last trip, and alternates his dreadful books with proffers of chewing gum, will be the first victim. Then I shall labor with the female passenger who thinks the toilet-room was constructed for her especial use and nobody else's, and convince her of her mistake. My porters shall be instructed to let down the top berth at their peril, when not occupied, and pilgrims from near and far shall fall upon my neck, and embrace me for this signal act of beneficent service. The man who chews tobacco and expectorates shall be put in chains and cast out of doors as we merrily fly through the land, and the sneaking, insinuating "masher" shall accompany him in fragments. Only let me get my appointment, and I'll show you what a woman can do to ameliorate the torture of sleeping-car travel. What does a man know of the needs of wayfaring men and women? What does he know of aired sheets and the banishment of those awful antediluvian blankets, and the dissemination of minute comforts? But, then, after all, when we come to think of it, much will depend upon the woman in charge. When I remember the female grenadiers who do service in depot waiting-rooms and on many steamers, I am inclined to think that, perhaps, the change would not bring unalloyed bliss. —*Ambler, in Chicago Evening Journal.*

Cost of Railroads.

THE following is from the *Railway Age*:—The question is frequently asked, what is the cost of constructing a mile of railway, and one of the monthly magazines answers it by saying: "At the present time, \$30,000." Both the question and answer are quite vague. The character of railway construction varies so widely that the attempt to give an average, without limitations as to locality, borders on the absurd. Many miles of railway in the

west have been built for as little as \$7,000 or \$9,000 per mile, while on the other hand many have cost from \$50,000 to \$100,000 per mile. Taking western roads in comparatively level country \$20,000 is perhaps a fair estimate of the average cost of construction, not including terminal facilities or equipment. The report of the Denver & Rio Grande Railway, just issued, gives some examples of the cost of building a railway in mountainous regions. The expense of building three extensions is stated, from which we condense the following results:

| | Miles. | Total cost. | Average per mile. |
|-------------------------|--------|-------------|-------------------|
| Glenwood extension..... | 61.29 | \$2,917,767 | \$47,623 |
| Aspen extension..... | 41.21 | 1,135,063 | 27,579 |
| Dunay extension..... | 35.78 | 597,162 | 16,698 |
| Totals..... | 141.28 | \$4,650,000 | \$32,921 |

Although all these lines lie in a mountainous region it will be seen that the cost varies from \$45,372 down to \$16,689 per mile, while the average for the entire 141 miles is a little less than \$33,000 per mile. Probably there was no expense whatever for right of way or terminals—items which form a very great addition to the average cost of railways in thickly settled regions.

Ventilation of Cars.

In the course of an excellent article on the above subject, the *Railroad Gazette* says:—The introduction of systems of continuous train-heating will modify the problem of ventilation and open a new field for ingenuity. It will do away with the present systems of passing the incoming air through a heating chamber, and it will also do away with the advantage now got from the independent heater in exhausting the vitiated air. A heater in a car ventilates somewhat by constantly drawing off from near the floor more or less air. Even the slight circulation thus induced will be lacking in a car heated by a continuous circulating system, either of steam or hot water. "Every school-boy knows" that the air of a tight room heated by steam pipes soon gets excessively disagreeable, and that in this particular even the "air tight" stove is pleasanter than a steam radiator. Moreover, in a car supplied with a long system of hot steam pipes it is probable that bad odors will often arise from the organic particles constantly falling on them. If, then, the ventilation of cars is not satisfactory now, it is likely to be even less so when the "deadly car stove" goes.

The designer who takes up the matter now under the new conditions will find some fundamental facts pretty well established by the most recent experience. It is evident, for example, that the arrangements for securing circulation of air should be, as far as possible, beyond the control of passengers, at least so long as the obstreperous minority rules and the complacent majority submits. But this will in turn require trainmen of judgment and the use of thermometers in the cars. If brakemen are to ventilate without interference, their acts, like a railroad commissioner's, must command approval because just. It is tolerably evident, also, that it is impracticable to

introduce fresh air in considerable volume by means of end transoms or sashes, for it will fall in a cold shower at some part of the car. It goes without saying that it will not answer to admit cold air in large streams along the floor. But evidently it will not answer to trust to opening doors at stations and to the small streams of air entering at various unavoidable crevices. Some special provision must be made for taking it in in adequate volume. This is particularly true of sleeping cars and of well built cars generally, running on trains which make infrequent stops.

There remain two possible methods. The incoming stream of air may be broken up and diffused uniformly through the car, discharging, perhaps, in very small streams behind or under the heating pipes. Or it may be taken into a chamber provided with a coil, and then warmed before it is let into the body of the car. Colonel Mann's well-known "nose" is arranged on the latter plan, a heater being used in the chamber instead of the coil of pipe. It is generally understood that this apparatus does its work satisfactorily, and we know of no reason why it is not more used except the cost and the prevailing belief that the public would not appreciate pure air so much as inlaid and polished panels, crushed strawberry plush upholstery and vestibules with plate-glass sides. But in the absence of rock ballast it is plain that ventilation is only half accomplished unless the incoming air is washed. No dry screen has yet been invented that will let in air and keep out dust. Col. Mann's ice chamber is a delightful luxury in summer and is well worth its cost; but if cost be an obstacle, the wet excelsior without the low temperature would probably be a decided improvement over the present method of catching the black dust on cambrie handkerchiefs. And if the American travelling public is willing to pay for the luxuries in velvet, mahogany and gold that are provided for it on every hand, it certainly should, in consistency, be willing to pay something for undefiled air.

We have not dwelt on the sanitary importance of better ventilation. To most of those who travel it is apparent enough, and no argument would enlighten the minority who persist in having ventilators closed and suffer from headaches and various symptoms of partial asphyxia without knowing why. The state commissioner who suggested these remarks ventured the statement that more passengers are killed by bad air than are burned by fires set by stoves or heaters in wrecked cars. Very likely this is true, but it is one of those things which one may believe without being able to prove it. Unfortunately for those who survive, the victims of bad air die singly and unnoticed, like the tramp and other trespassers on the track, and "public opinion" takes no note of them.

COMMENTING on the election W. D. of Mr. Matthews, of this city, to the directorate of the Canadian Pacific, the *Canadian Gazette* says: Mr. Matthews holds an influential commercial position in Toronto, and his presence on the board will be something like a bond that the railway requirements of Toronto trade will receive due attention.

Origin of the Locomotive Cab.

THERE is considerable conflict of authority as to who was the first designer of a locomotive cab, and on what road it was first applied. David Matthews claims to have been the first master mechanic to equip a locomotive with a means of sheltering the men engaged in operating the locomotive; but his claim has been vigorously disputed by those who ought to be regarded as authority on this particular claim. Unless the matter be soon settled by the few men able to testify from their own recollection about it, the question of who first applied the cab to a locomotive will pass into endless uncertainty.

The necessity for having a cab to shelter the man handling the locomotive was not recognized for years after railroads first came into operation. The need for protecting engine-men from the weather was not regarded as being more urgent than that of sheltering stage coach drivers and others whose occupation exposed them at all times to the weather. When the proposal was first made in Britain to protect engine-men from the weather it met with noisy opposition as being calculated to enervate a highly worthy class of men, and the argument was considered so forcible that very little attention has been bestowed upon means of protecting engine-men from the heat of summer and the rain and snow of winter up to the present day. Probably the same arguments had some force on this side of the Atlantic, for the application of improvements designed to shelter the engine-men made little progress till about ten years after the first American railroad was opened for traffic. Crude appliances were introduced on different roads to shelter engine-men, and old men are found connected with most northern pioneer railroads who insist that their road was the first to use a locomotive cab, but the idea progressed so slowly that as late as 1847 Sellers' steep grade locomotive was illustrated with nothing more than the boiler head to shelter the engine-men.

Having lately heard it asserted that the Boston & Albany Railroad Company were the first to adopt the cab as a recognized attachment of the locomotive, we addressed a letter to Mr. A. B. Underhill, Superintendent of Motive Power of the road, asking for particulars, and received an answer from which we give the following extract:

"I have been seeking the information you ask about locomotive cabs. One of our old men says the first cab he remembers was on engine 'Tartar,' and consisted of corner posts covered with canvas. The work was done by Engineer Ellis. By the way, we have his son and grandson, both engineers on this road to-day. This was done in the winter of 1838-39. An old conductor says we had engines with and without cabs in the year 1840, but he cannot remember the first application. There are a number of our old men who remember engines without cabs, but cannot fix the dates."

If any of our readers are in possession of authentic information about where the first locomotive cabs were used they would confer a favor by sending us particulars.—*Car and Locomotive Builder.*

Speed and Safety.

It is well known that special trains carrying railway presidents, directors, owners and officers, run faster than even the fastest regular trains, and experts say the danger is no more, if not less. The only difference seems to be that if an accident does occur the splinters are smaller, or the smash-up more complete at forty miles an hour than at twenty. The *North American Review* for the current month has an article, or a series of papers by sea captains and experts as to the safety on fast or slow ocean steamers, and the general opinion is to the same effect as in railways—that speed is the safest in the long run. As a great many people who read the journal cross, or expect to cross the Atlantic, we give a summary of the opinions of these practical men. We take Captain Samuel Brooks, of the steamship *Arizona*, who has crossed the ocean 585 times, as embodying the position of all in favor of fast ships. He says:

First—If you have danger to encounter the sooner you get over it the better, and if one steamer takes seven and another ten days to cross the Atlantic, it is evident that you have three more days of risk in the slower ship.

Second—A fast steamer will run through a gale of wind and reach fine weather much quicker than a slow one, and the same holds good in regard to banks of fog. Unless there is ice in the vicinity, I always maintain that it is the safest plan to run through a fog bank as speedily as you can.

The Recklessness of Bridge Workmen.

To a novice watching the erection of the immense braces and girders under the skilful manipulation of the workers, hardly anything strikes him so forcibly as the wonderful agility and seemingly dare-devil recklessness of the men as they crawl along the girders high over the boiling current, leap from timber to timber, run along narrow planking, now stooping down to lift a heavy weight, now peering over the edge without seeking any support for their hands, going hand over hand along the braces with as little nervousness as if on solid earth.

"Oh, they are used to all that," said a superintendent. "We have to exercise more care to restrain them from killing themselves through carelessness than from any other source of danger. I remember when working at the big cantilever bridge across the Niagara, when the two cantilever arms had approached within fifty feet of each other from opposite sides of the gulf, a keen rivalry as to who should be the first to cross sprang up among the men. A plank, fifty-five feet long, connected the two arms, leaving about two and a half feet of support at each end. Strict orders were issued that no one should attempt to cross the plank upon penalty of instant dismissal.

"At the noon hour I suddenly heard a great shout from the men, who were all starting up. Raising my eyes I saw a man step on the end of that plank, stop a minute and look down into the whirlpool below. I

knew he was going to try to cross and I shouted to him, but he was too high up to hear. Deliberately he walked out until he reached the middle of the plank. It sagged far down with his weight until I could see light between the two short supporting ends and the cantilevers on which they rested. He saw the end in front of him do this, hesitated and looked back to see how the other end was. I thought he was going to turn. He stooped, grasped both edges of the plank with his hands, and throwing his feet up, stood on his head, kicking his legs in the air, cracking his heels together and yelling to the terrified lookers-on. This he did in about a minute—it seemed to me like forty. Then he let his feet down, stood up, waved his hat, and trotted along the plank to the other side, slid down one of the braces head first, hand over hand, and regained the ground. We discharged him, of course, but what did he care? He got all the glory, his fellows envied him and he could command work anywhere."

—*New York Letter in Pittsburgh Telegraph.*

Another Electrical Marvel.

THE telantograph is a new invention by Prof. Elisha Gray, which promises to supplant the telephone. "I have already tested it," says Prof. Gray, "to my own satisfaction over and over again. By my invention you can sit down in your office in Chicago, take a pencil in your hand, write a message to me, and as your pencil moves a pencil here in my laboratory moves simultaneously and forms the same letters and words in the same way. What you write in Chicago is instantly reproduced here in fac-simile. You may write in any language, use a code or cipher, no matter, a fac-simile is produced here. If you wish to draw a picture it is the same, the picture is reproduced here. The artist of your newspaper can, by this device, telegraph his pictures of a railway wreck or other occurrence just as a reporter telegraphs his description in words. The two pencils move synchronously, and there is no reason why a circuit of five hundred miles cannot be worked as easily as one of ten miles.

Going Mighty Fast.

WE were going west on the Great Western Division of the Grand Trunk, and the night was chilly for the latter end of May. "Hi! porter," said the commercial man in the bunk overhead, "can't you give us another blanket? It's duced cool to-night." "Ain't got another blanket, boss." "Well just see what you can do for a fellow," said the c. m., putting his hand out through the curtains with a quarter in it. "Dunno, boss, but I'll do what I kin." There was scarcely a perceptible pause in the porter's measured tread as he passed our section 15 minutes later, but the curtains parted and a blanket went through the opening as if it had been shot out of a canon. "Thought I felt somebody carrying off part of my bedclothes last night," said the passenger in the further end of the car, as he worked himself into his boots in the

morning. "Dunno, boss; went mighty fas' las' night, making up time; probably run from under um." — *Ex.*

The Greatest Electric Railway.

THE *Electrical World* has a long account of the electrical railway at Richmond, W. Va., which, it is claimed, solves the problem of rapid transit for the large cities. A part of the device is similar to that in use at Windsor, Ont., and nothing need be said about it here. The following is a condensation of the *World's* description of the railway and its working:

The electric circuit consists of two parts—the overhead and the ground circuits, each being of compound character. Along the curb stones at distances of 125 feet are 30-foot poles inserted into the ground a distance of 5 feet. These poles carry the main circuit, which extends throughout the entire length of the road, and is of copper wire three-sixteenths of an inch in diameter. This is the main conductor. The "working conductor," of the same size as the main conductor, is carried over the centre of the track at a distance of about 18 feet from the ground on insulators supported by span-wires running across from pole to pole, and provided with additional insulators at their ends. The whole structure is very light looking. This working conductor is connected to the main line at intervals of 500 feet by short branch wires. The main conductor is itself supplied at four widely separated points by feeders from the central station.

This being the first electric railway plant of any magnitude installed on a comprehensive scale, and complete in all respects, the operating expenses are a subject of much interest. A long experience and accurately gathered statistics have fully demonstrated that the depreciation on dynamos is far less than on any other class of machinery; also that high-speed engines have been charged with a higher rate of depreciation than is their due. To this then we may add that the perfection of the steam plant installation adds largely to its economy. The small consumption of fuel and the low cost of other items of operating expenses are a source of much gratification to the directors of the company. A conservative estimate based on actual statistics, gathered from central stations for some years, places the cost of a horse-power per year applied to the car at not more than \$35, estimating 720 hours per month.

The dynamos are six in number, all connected in multiple arc, feeding into a "bus" line. One side of the "bus" is connected to the ground, and to the other side are connected the feeders. Each dynamo is of 40,000 watts capacity, and is wound for a potential of 500 volts.

Owing to the character of the soil and lack of pavement the road-bed was found to be a source of much trouble; a good portion of the track being laid in mud and clay streets, which in moist weather unsettle the curves, throws the track out of gauge, and permits the accumulation of more or less soil on the

rails. Steep grades of 10 per cent., and sharp curves of 27 feet radius, combined with a 7 per cent. grade, and with the outer rail of the curve nearly 3 inches lower than the inside rail, have been found to be difficulties of no mean importance to overcome.

Before this road was put in operation numerous street car experts did not hesitate to state that the grades and curves were obstacles which could not be successfully overcome, but the spectacle of a car loaded with forty people running up a ten per cent. grade at a high rate of speed, and the wheels giving a remarkably perfect adhesion to the rails, is something that convinces the most sceptical person. All adverse prophecies have failed and the actual demonstration is sufficient to satisfy the most critical street railway man of the entire feasibility of the electric system under any and all conditions of practical every day use.

This road is by far the most important and extensive electric railway enterprise ever undertaken, and has involved more difficulties and a greater variety of obstacles to the successful application of self propelled cars, as well as to the employment of electricity, than were ever before attempted. Returns for the week ending May 9 showed an average of 20 cars out per day, running 1,548 miles, or nearly eighty miles each, and carrying 7,378 passengers, at a total cost per car for road operating expenses of \$1.98, and of \$1.48 for station expenses. In other words, the cost of operating, except official and salary charges, taxes and insurance, is only \$3.46 per car per day on an 80 mile run, and this is stated by Mr. E. P. Harris, the well known street car expert, to be only 40 per cent. of the cost of operation by horses with the same number of cars, with the additional advantage that, in point of fact, the road with animal power, for the same work, would require not less than 25 cars, with a stable equipment of from 275 to 300 horses.

Growth of the far North-West.

ONE result of the opening of the Canadian Pacific Railway has been the more rapid development of British Columbia. Direct communication is doing not a little to stimulate exploration and investment as well as to bind that distant part of the Dominion to the Atlantic provinces. For lack of deep water at Port Moody, the railway company established its permanent terminus at Vancouver, just before the opening of the transcontinental line, and a town of 6,000 to 8,000 inhabitants has already grown up there. The real estate is this spring assessed for taxes at about \$1,500,000, a gain of 40 per cent. within six months. With daily trains to and from the east and regular steamship service on Puget Sound and the Pacific Ocean, the prospects for growth are excellent. Railroad connection with Washington and Oregon is only a question of time. There is already some inquiry from tourists for excursion rates to the Pacific coast, going by the Northern Pacific or some southern line and returning by the Canadian Pacific, *vice versa*, and the volume of com-

petitive freight traffic through British Columbia is large enough to annoy the American lines a great deal.

The output of bituminous coal is steadily increasing. Very much the same opposition to Chinese labor that appears in the Pacific States is raised in British Columbia also, and yet there, as on this side of the line, the Asiatics are found to be exceedingly valuable help in mining, road-making and other heavy work. It has been the practice of many white miners to employ Chinese as helpers in shovelling and loading cars. Those who are fortunate enough to clear \$4 to \$5 a day for their output find it to their advantage to get the heavy work done by others at \$1 or \$1.25 a day. On the Island of Vancouver the opening of new coal mines goes steadily forward. This is 300 miles long and rich in mineral deposits. But at present interest in coal mining centres in the anthracite beds at Banff, in the interior, east of the mountains, in the Canadian National Park region. While its quality is so far somewhat uncertain, the Banff coal is unquestionably fairly good anthracite. It appears likely to improve as the workings are extended, and it is not impossible that it may prove to be, what it is claimed to be, nearly as good as Lehigh coal. The discovery of genuine anthracite in the Rocky Mountains is, at all events, a matter of deep interest to a large area of country both in the Dominion and the United States. Shipments of considerable size have already been made through Vancouver.

Navigation interests have from the first, from necessities of the isolated situation of the settlements, received careful attention. Three large steamers make semi weekly trips between Vancouver and Seattle, with full freights as a rule. There are also weekly steamers to and from San Francisco. The five large vessels on the Pacific, in connection with the railway, are sufficient to establish a regular service between Vancouver and Yokohama and Hong Kong, with arrivals every three weeks. The time from Yokohama runs under fourteen days. The shipments of merchandise from California and Oregon to the eastern states via the Canadian Pacific route have so far consisted principally of wool, fruit, beans, coffee and hops, wool comprising two thirds of the whole amount. — *Bradstreet's*.

Order of Railway Telegraphers.

FULLY two hundred delegates and visitors attended the annual meeting of the Grand Division O. R. T., in this city on the 20th, 21st and 22nd of last month. The telegraphers opened up with an imposing parade, headed by an excellent band of music. A public meeting was then held at Tomlinson Hall, where an address of welcome on behalf of the city was read by Oscar McCulloch. The annual address of Grand officers followed, and were heartily and enthusiastically received. The business session was held in Odd-fellows' Hall. The new officers elected are A. D. Thurston, Grand Chief Telegrapher; A. Johnson, Assistant Grand Chief Telegrapher; S. O. Fox,

Grand Secretary and Treasurer; F. M. Moore, Grand Senior Telegrapher; T. C. Eddy, Grand Junior Telegrapher; E. E. Barner, Grand Inside Sentinel; and J. E. Gibson, Grand Outside Sentinel. — *Station Agents' Journal (Indianapolis)*.

Coal and Brains.

A YOUNG fireman whose sole idea was to shovel on as much coal as possible at every possible opportunity filled the fire-box up solid so badly on one occasion that his train arrived several hours late for want of steam. The engineer had tried remonstrance in vain, and concluded that some other method than precept was necessary.

"Mike," said he, "take that scoop into the blacksmith shop and tell the boss blacksmith to give her a good bit less lead."

The engineer's face was as calm as a summer sea, and looked as if it might have been a masterpiece of Michael Angelo moulded in the best Spanish mahogany.

Mike took the shovel into the blacksmith's shop and repeated his order. The boss Vulcan cut off about four inches from the edge of the scoop. Mike carried it back and asked the engineer how it would suit.

"All right," said the runner, "that was the trouble; she'd steam to-night."

She did. Mike could not get more coal into the fire-box than she would burn, work as hard as he would, and after a few trips he got weak enough to tumble to the fact that a little judgment mixed with the coal was a good thing for a fire, and that, when he knew how, it was easy work to keep an engine hot with a scoop having any amount of "lead," provided he did not work it in the corner all the time.

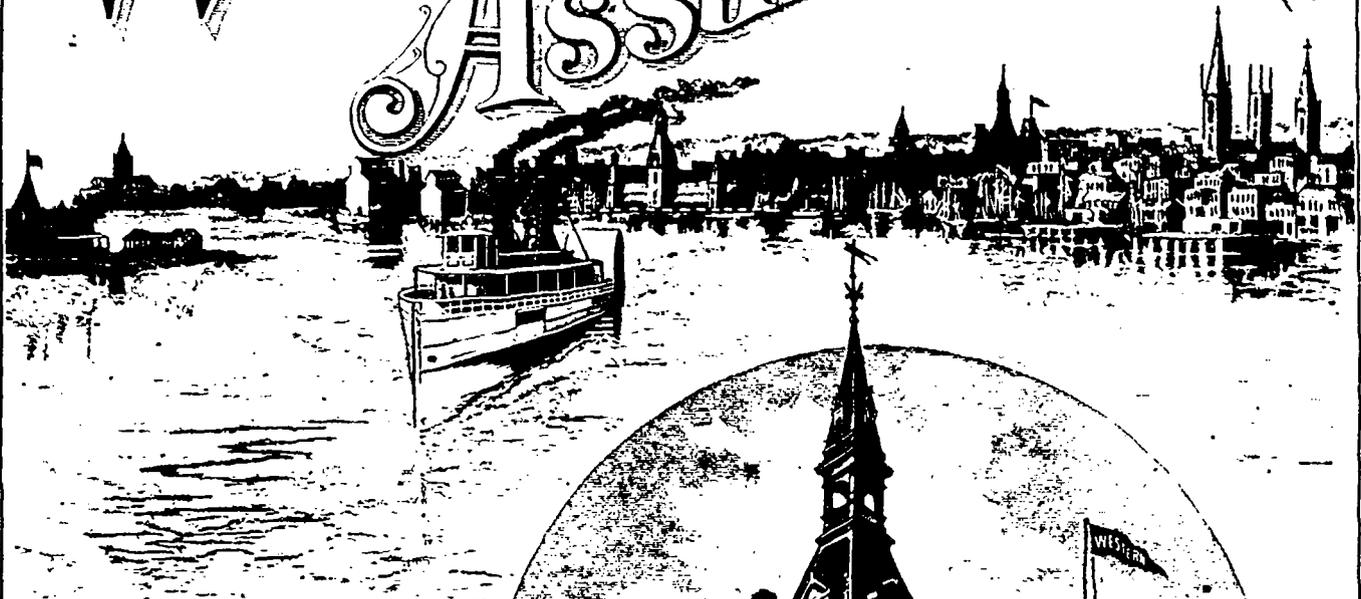
— *Locomotive Engineer*.

Shall Trains Run on Sunday.

IN my opinion, there is no valid excuse for railroad traffic on Sunday, either for mails, passengers or freights. Our great marts of trade are closed. Our banks are closed. The factories, great and small, are closed. Legislative halls are closed. And in the name of all that is good, why should not traffic on our railroads rest with all the other business activities? None of the great interests referred to are paralyzed by resting one day in seven, nor would any follow the suspension of railroad traffic. Is the transmission of mails on Sunday a necessity? The best and most successful business men I have ever known never open their mails on Sunday. If there ever was a necessity for Sunday mail service, it ceased with the telegram. If there ever was a necessity for moving perishable articles on Sunday, it has been removed by the refrigerator car. I don't care now, however, to anticipate what excuses railroad managers may make for Sabbath desecration. Before now I have challenged them to justify their management. When that challenge is accepted, I believe it can be successfully met by men of practical experience.

A. S. D. in *Railway and Steamboat Gazette*.

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AN ACCURATE PICTURE OF THE TRAIN PASSING DUNDAS STATION (FROM A PHOTOGRAPH).

THE "GLOBE" SPECIAL TRAIN.

ON the 3rd of August next, *The Globe* Special early train to London will have been running every lawful day for seventeen months. This train, as is well known, rushes through from Toronto to London over the Southern Division of the Grand Trunk, carrying a large portion of the issue of the daily *Globe* for distribution throughout Western Ontario.

Those who are familiar with the Province of Ontario know what others can see by glancing at the map, that the Southern Division of the Grand Trunk forms an artery of traffic from which branch the veins north and south. Consequently, by traversing this main line at an early hour in the morning, all the branch lines are passed in time to leave papers to be carried out by the early trains to all the places upon these branch lines, in the majority of cases hours earlier than the other papers, which come by the regular trains. The magnitude of this enterprise was pointed out in *RAILWAY LIFE* shortly after the Special train began to run. It was stated at that time that it was a bold experiment, the success of which was doubted by many people at the beginning. It was a conjunction of the very best work of two of the greatest factors of modern progress, the newspaper and the railway. The work involved difficulties which do not affect the ordinary work of either, and a very slight mistake in the arrangements, or in carrying them out, meant all the difference between success and the most disastrous and disheartening failure.

The result has been a success which must be as gratifying to the authorities of the Grand Trunk as it certainly is to Canada's most enterprising newspaper, *The Globe*. The mere fact that the train has been kept running every day for fifteen months, the mere fact that the contract made with the Grand Trunk has been renewed, is, in itself, proof that the results have been satisfactory. The facilities for distribution thus perfected will bring the metropolitan daily within the reach of many who cannot make use of a paper that comes late in the day. The merchant and manufacturer can read his daily paper before the rush of the day's business begins, and thus the vast fund of information which every issue contains will be made to tell directly in improving methods of doing business. With his market quotations and world's news before him, the merchant in even a small town is equipped with one of the very best appliances for business which a man of the city possesses.

It is with no little pride that Canadians, and Toronto people particu-

larly, may contemplate the achievement of success by this new departure in railroading and newspaper work. It is another proof that in enterprise and administrative ability and executive skill we have men here who are the equals of any. In this connection railway men will read with especial pleasure what *The Globe* says about the way the work has been done. In a special article on the anniversary of the Special's existence, *The Globe* said: "The results of the undertaking have proved the wisdom of its origination, and the courage and enterprise of those upon whom it devolved to carry the scheme into effect. The efforts of *The Globe* Company and *The Globe* employes were nobly seconded by the Grand Trunk management and the brave and trusty crew of *The Globe* Special train. There has been no avoidable hitch anywhere. The arrangements have been all that could be desired."

Coming from such an influential source, this is high praise indeed, but not more than the Company, the officers, and the crew of the train deserve. *The Globe* Special train has been so great a success that it is now a permanent institution; and the hope of *RAILWAY LIFE* is that the next stride forward that *The Globe* makes, whatever it may be, may yield as great a return of good to the country at large, and to *The Globe* itself.

The above cut is an accurate picture of the Engine and Car used upon this train.

The Engine, No. 702, has 6 feet 2 inch driving wheels and was specially fitted up for this service as was also the Car No. 601.

The time leaving Toronto is 3.55 a. m., but as a stop is made at the Queen's Wharf for orders, the actual time of leaving the City is 4 o'clock. The run over the branch to the Junction Cut, thirty-seven miles, is made in forty-three minutes which includes the stop at Burlington Crossing; fully five minutes delay occurs at this Cut in transferring papers to engine for Hamilton and places served by early train from that point. The next stop is Paris where water is taken, at Governor's Road another stop is made, crossing the Chicago Express, which generally occupies from five to eight minutes, from here the train runs to London without further delay, reaching that important centre at 6.35 a. m.

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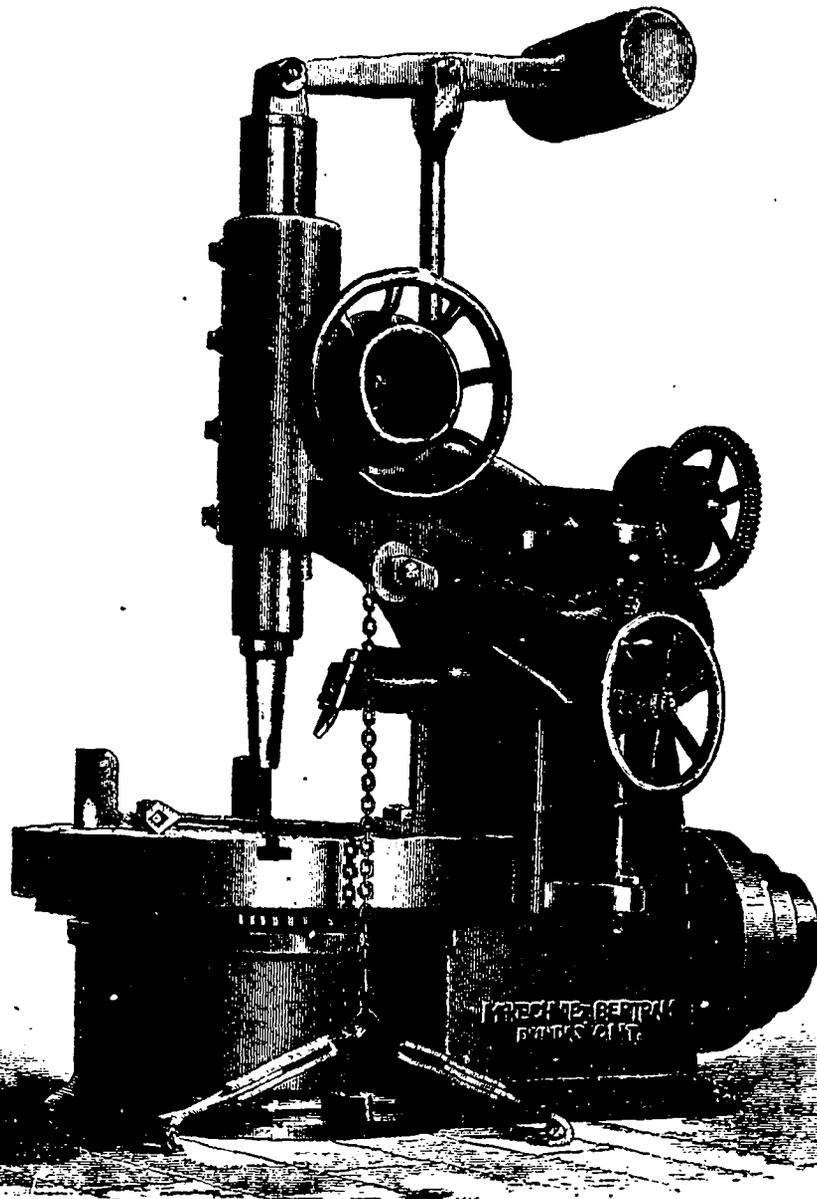
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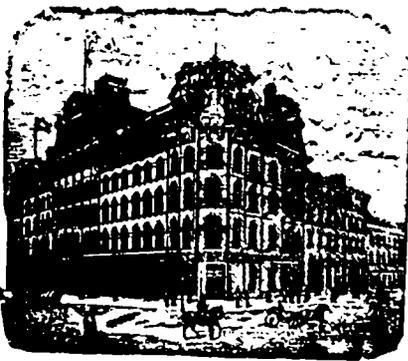
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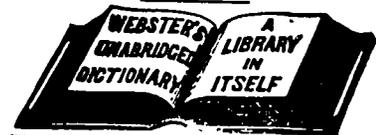
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